



REPORT NO.

177

**PARLIAMENT OF INDIA
RAJYA SABHA**

**DEPARTMENT-RELATED PARLIAMENTARY STANDING
COMMITTEE ON HEALTH AND FAMILY WELFARE**

ONE HUNDRED SEVENTY SEVENTH REPORT

ON

**“PREVALENCE OF CHRONIC KIDNEY DISEASE IN INDIA-
PREVENTION, DIAGNOSIS, TREATMENT AND MANAGEMENT”**

PERTAINING TO

MINISTRY OF HEALTH AND FAMILY WELFARE

(Presented to the Rajya Sabha on 7th August 2026)

(Laid on the Table of Lok Sabha on 7th August 2026)

भारतीय संसद, राज्य सभा



**PARLIAMENT OF INDIA,
RAJYA SABHA**

**Rajya Sabha Secretariat, New Delhi
August, 2026/ Shravan, 1948 (SAKA)**

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**to be appended at later stage*

COMPOSITION OF THE COMMITTEE

(2025-26)

1. Prof. Ram Gopal Yadav - Chairman

RAJYA SABHA

2. Shri Rajib Bhattacharjee
3. Shri Niranjan Bishi
4. Shri Babubhai Jesangbhai Desai
5. Dr. Ajeet Madhavrao Gopchade
6. Shri Shambhu Sharan Patel
7. Shri B. Parthasaradhi Reddy
8. Shri Ashok Singh
9. Shri Harbhajan Singh
10. Shri Rameswar Teli

LOK SABHA

11. Shri Ramvir Singh Bidhuri
12. Dr. Vinod Kumar Bind
13. Ms Iqra Choudhary
14. Shri Mukeshkumar Chandrakaant Dalal
15. Shri Sanjay Uttamrao Deshmukh
16. Dr. Bachhav Shobha Dinesh
17. Dr. Dharamvira Gandhi
18. Dr. Kadiyam Kavya
19. Dr. Prabha Mallikarjun
20. Dr. C. N. Manjunath
21. Shri Balya Mama Suresh Gopinath Mhatre
22. Dr. Rajesh Mishra
23. Shrimati Aparajita Sarangi
24. Dr. Sharmila Sarkar
25. Dr. Hemant Vishnu Savara
26. Dr. Byreddy Shabari
27. Dr. Mahesh Sharma
28. Dr. Rani Srikumar
29. Shri Parimal Suklabaidya
30. Dr. Alok Kumar Suman
31. Mrs. Ruchi Vira

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SECRETARIAT

- | | |
|---------------------------|-----------------------------|
| 1. Shri K.S. Somashekhar | Secretary |
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| 4. Shri Vivek Chandra | Deputy Secretary |
| 5. Smt. Renu Sreekanth. | Under Secretary |
| 6. Shri Ravi Yadav | Security Assistant Grade- I |

* Nominated w.e.f 03.06.2026

PREFACE

I, the Chairman of the Department-related Parliamentary Standing Committee on Health and Family Welfare, have been authorized by the Committee to present the Report on its behalf, present this One Hundred Seventy Seventh Report on the subject "PREVALENCE OF CHRONIC KIDNEY DISEASE IN INDIA - PREVENTION, DIAGNOSIS, TREATMENT AND MANAGEMENT."

2. In exercise of its constitutional mandate, the Committee, in its meeting held on 15th October, 2025, identified the subject "Prevalence of Chronic Kidney Disease in India - Prevention, Diagnosis, Treatment and Management" for detailed examination. The Committee selected the subject in view of the rapidly increasing burden of Chronic Kidney Disease (CKD) in the country and the need for a comprehensive assessment of the existing policy framework governing its prevention, early detection, diagnosis, treatment, care and long-term management.

3. India is estimated to have nearly 138 million persons living with Chronic Kidney Disease, constituting the second-largest CKD burden globally. Further, nearly 2.2 lakh new patients progress to End-Stage Kidney Disease (ESKD) every year, resulting in an additional requirement of approximately 3.4 crore dialysis sessions annually, apart from the continuing treatment needs of patients already undergoing dialysis. Recognising the enormous public health, social and economic implications of this growing disease burden, the Committee undertook a comprehensive examination of the prevalence and epidemiology of CKD; preventive strategies and early screening mechanisms; diagnostic infrastructure; accessibility, affordability and quality of dialysis, transplantation and supportive care services; financial protection mechanisms; research and innovation; human resource availability and capacity building; environmental and occupational determinants of kidney disease; paediatric kidney care; and the institutional framework necessary for ensuring improved clinical outcomes through an integrated continuum of kidney healthcare.

4. The Committee held sittings on the subject on 14th November, 2025 and 8th January, 2026 to hear the views of the representatives of the Ministry of Health and Family Welfare and the Ministry of Ayush, respectively. The Committee also held a meeting on 21st November, 2025 with various domain experts, professional bodies, research institutions and other stakeholders to obtain their views and suggestions on the subject. During these interactions, the Committee deliberated upon diverse aspects relating to the prevention, diagnosis, treatment, care and management of Chronic Kidney Disease, including disease burden and epidemiological trends, strengthening of community-based prevention and screening, diagnostic facilities, dialysis and kidney transplantation services, financial protection mechanisms, integration of traditional systems of medicine, research and innovation, indigenous manufacturing of medical devices and consumables, capacity building of healthcare professionals and measures required to strengthen kidney healthcare delivery across the country.

5. During the course of examination and finalization of its Report, the Committee relied upon, inter alia, the following documents/papers:

- (i) Background Notes and presentations received from the Department of Health and Family Welfare, the Department of Health Research, and the Ministry of Ayush;
- (ii) Replies to the General Questionnaire and replies furnished to the queries raised by the Hon'ble Members during the Committee's meetings;
- (iii) Background notes, written submissions and other inputs received from various domain experts, professional organizations and institutions;
- (iv) National Health Estimates, 2022–23;

- (v) 17th Common Review Mission Report, 2025 under the National Health Mission;
- (vi) Information and data available on the Pradhan Mantri National Dialysis Programme (PMNDP) Portal; and
- (vii) Other relevant documents and material pertaining to the subject.

6. The Committee places on record that the Ministry of Health and Family Welfare has, over the past decade, established a comprehensive policy architecture for the prevention, screening, treatment and management of Chronic Kidney Disease through the integration of CKD within the National Programme for Prevention and Control of Non-Communicable Diseases, implementation of the Pradhan Mantri National Dialysis Programme, strengthening of the National Organ Transplant Programme, expansion of financial protection mechanisms through PM-JAY and sustained efforts towards research, innovation and capacity building. The Committee acknowledges the significant progress achieved through these initiatives, reflected in the expansion of dialysis infrastructure to 751 districts and the coverage of crores of citizens under national screening initiatives. At the same time, the Committee is of the considered view that the full potential of these initiatives can be realised only through timely addressing of the systemic gaps identified during the course of its examination. Accordingly, the Committee has made a number of recommendations aimed at strengthening prevention, promoting early diagnosis, improving access to affordable and quality treatment, enhancing transplantation services, augmenting skilled human resources, encouraging indigenous innovation and ensuring equitable kidney healthcare with measurable and sustained patient outcomes.

7. The Committee, in its meeting held on 6th August, 2026, considered the draft Report and adopted the same.

8. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in the body of the Report and have also been reproduced at the end of the Report under the heading "Observations / Recommendations - At a Glance."

9. On behalf of the Committee and on my own behalf, I express my sincere appreciation to the Secretaries and officers of the Department of Health and Family Welfare, the Department of Health Research and the Ministry of Ayush for their valuable cooperation and assistance during the examination of the subject. I also acknowledge with gratitude the significant contributions made by the domain experts, professional bodies, research institutions and other stakeholders for sharing their valuable knowledge, practical experience and constructive suggestions before the Committee.

10. I further place on record my appreciation for the dedicated efforts of the officers of the Committee Secretariat in compiling, analysing and assimilating the extensive information received from diverse sources, thereby enabling the Committee to present this comprehensive Report.

New Delhi
6th August, 2026
Shravan, 1948 (Saka)

PROF. RAM GOPAL YADAV
Chairman
Department-related Parliamentary Standing
Committee on Health and Family Welfare

ACRONYMS

AB-PMJAY	Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana
ABDM	Ayushman Bharat Digital Mission
ABHA	Ayushman Bharat Health Account
ACE	Angiotensin-Converting Enzyme
ACR	Albumin-to-Creatinine Ratio
AI	Artificial Intelligence
AKI	Acute Kidney Injury
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
CAKUT	Congenital Anomalies of the Kidney and Urinary Tract
CAPD	Continuous Ambulatory Peritoneal Dialysis
CARRS	Centre for Cardiometabolic Risk Reduction in South Asia
CBAC	Community-Based Assessment Checklist
CDSCO	Central Drugs Standard Control Organisation
CGHS	Central Government Health Scheme
CIN	Chronic Interstitial Nephritis
CKD	Chronic Kidney Disease
CKDu	Chronic Kidney Disease of Unknown Etiology
CKD-EPI	Chronic Kidney Disease Epidemiology Collaboration
CKD-MBD	Chronic Kidney Disease–Mineral and Bone Disorder
CRM	Common Review Mission
DHR	Department of Health Research

DM	Diabetes Mellitus
eGFR	Estimated Glomerular Filtration Rate
ESKD	End-Stage Kidney Disease
FSSAI	Food Safety and Standards Authority of India
GFR	Glomerular Filtration Rate
HD	Haemodialysis
HEAL-CKDu	Heat Exposure and Environmental Action for Limiting the Burden of Chronic Kidney Disease of Undetermined Etiology
HIV	Human Immunodeficiency Virus
ICMR	Indian Council of Medical Research
IEC	Information, Education and Communication
ICKD	Indian Chronic Kidney Disease Cohort
IPD	In-Patient Department
IPHS	Indian Public Health Standards
KDIGO	Kidney Disease: Improving Global Outcomes
MDRD	Modification of Diet in Renal Disease
MRI	Magnetic Resonance Imaging
NCD	Non-Communicable Disease
NHM	National Health Mission
NOTP	National Organ Transplant Programme
NOTTO	National Organ and Tissue Transplant Organization
NP-NCD	National Programme for Prevention and Control of Non-Communicable Diseases
NSAIDs	Non-Steroidal Anti-Inflammatory Drugs

OOPE	Out-of-Pocket Expenditure
PD	Peritoneal Dialysis
PM-ABHIM	Pradhan Mantri Ayushman Bharat Health Infrastructure Mission
PM-JAY	Pradhan Mantri Jan Arogya Yojana
PMBJP	Pradhan Mantri Bhartiya Janaushadhi Pariyojana
PMNDP	Pradhan Mantri National Dialysis Programme
PPP	Public-Private Partnership
RAAS	Renin-Angiotensin-Aldosterone System
RAN	Rashtriya Arogya Nidhi
SEEK	Screening and Early Evaluation of Kidney Disease
SGPGIMS	Sanjay Gandhi Postgraduate Institute of Medical Sciences
SNSP	Swasth Nari, Sashakt Parivar Abhiyaan
TB	Tuberculosis
UACR	Urine Albumin-to-Creatinine Ratio
UT	Union Territory
WHO	World Health Organization

CHAPTER – I

OVERVIEW AND BURDEN OF CHRONIC KIDNEY DISEASE

Introduction

Chronic Kidney Disease (CKD) has emerged as one of the most serious public health concerns in India owing to its high and rising prevalence, silent progression and significant health, economic and social burden. Over the last two decades, the incidence of CKD has increased steadily due to the growing prevalence of non-communicable diseases such as diabetes mellitus, hypertension and obesity, together with rapid urbanisation, unhealthy dietary habits, environmental and occupational exposures, increasing life expectancy and changing lifestyle patterns. The disease not only adversely affects the health and productivity of individuals but also imposes a substantial burden on families, healthcare systems and the national economy.

1.1.2 One of the most significant challenges associated with CKD is its asymptomatic nature during the early stages. In the absence of timely diagnosis, many patients seek medical attention only after substantial and irreversible loss of kidney function has occurred, when renal replacement therapy in the form of dialysis or kidney transplantation becomes necessary. The delayed diagnosis continues to be a major contributor to disease progression, increased healthcare expenditure and poor clinical outcomes.

1.1.3 The Committee was further apprised that untreated or poorly managed CKD frequently progresses to End-Stage Kidney Disease (ESKD), requiring lifelong dialysis or kidney transplantation. Such treatment imposes severe financial, emotional and social hardship upon patients and their families. Evidence placed before the Committee highlighted that a significant proportion of patients discontinue dialysis due to financial constraints, travel-related barriers and inadequate access to specialist care.

1.1.4 The Committee also notes that CKD is no longer confined to urban populations or elderly individuals. Increasing incidence has been reported among younger populations, rural communities and economically weaker sections. Stakeholders appearing before the Committee highlighted the growing burden of Chronic Kidney Disease of Unknown Etiology (CKDu) in certain agricultural and coastal regions of the country, indicating the possible role of environmental, occupational and climate-related determinants.

1.1.5 The Committee is of the considered view that CKD requires urgent policy attention with greater emphasis on prevention, early detection, public awareness, affordable treatment and strengthening of healthcare infrastructure. The Committee further believes that integration of

kidney health within broader national strategies for prevention and control of non-communicable diseases is essential for reducing the long-term burden of CKD in the country.

Normal Functions of the Kidneys

1.1.6 The Committee underscores that the kidneys are vital organs responsible for maintaining the internal environment of the human body through a wide range of physiological functions. Besides filtering nearly 180 litres of blood daily, healthy kidneys remove metabolic waste products and excess fluid through urine while maintaining the balance of electrolytes, acids and bases and body fluids. The kidneys also play an essential role in regulating blood pressure through the Renin-Angiotensin-Aldosterone System (RAAS), producing erythropoietin required for red blood cell formation, activating Vitamin D necessary for calcium absorption and bone health, and maintaining overall metabolic homeostasis.

1.1.7 The Committee is of the considered view that impairment of kidney function affects multiple organ systems simultaneously. Consequently, Chronic Kidney Disease is not merely a disorder of the kidneys but a systemic disease associated with cardiovascular complications, anaemia, mineral and bone disorders, electrolyte imbalance, malnutrition and increased susceptibility to infections.

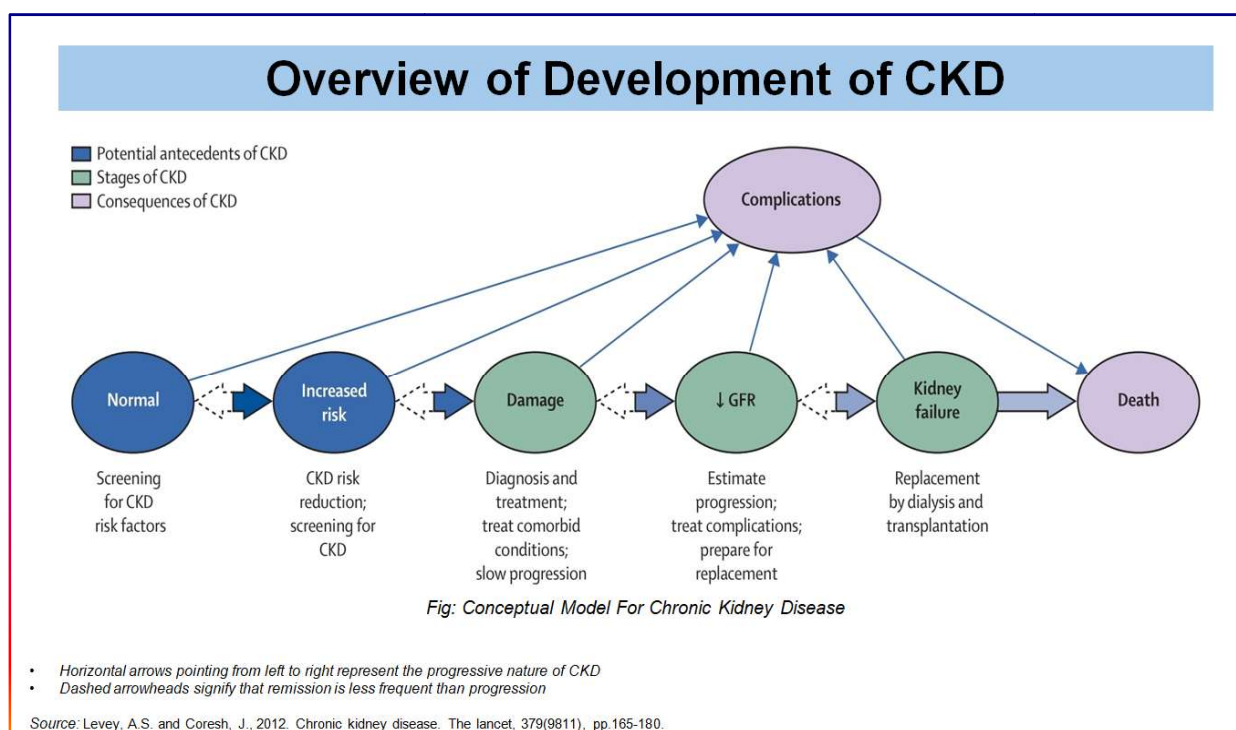
1.2 Definition and Classification of CKD

1.2.1 Chronic Kidney Disease refers to abnormalities of kidney structure or function persisting for more than three months, with implications for health. CKD is generally characterized using estimated Glomerular Filtration Rate (eGFR) ($eGFR < 60 \text{ mL/min./1.73 m}^2$) and markers of kidney damage such as albuminuria (*Urine Albumin Creatinine Ratio (ACR) > 30mg/g*).

CKD is broadly classified into five stages based on eGFR levels:

Stage	Description	eGFR (ml/min/1.73m²)
Stage 1	Kidney damage with normal kidney function	≥ 90
Stage 2	Mild reduction in kidney function	60-89
Stage 3	Moderate reduction in kidney function	30-59
Stage 4	Severe reduction in kidney function	15-29
Stage 5	Kidney failure / ESKD	< 15

1.2.2 It is diagnosed when kidney function falls below 60% of normal capacity or when there is evidence of kidney damage such as protein in urine, structural abnormalities in imaging or a history of kidney transplant. CKD is often called as “silent condition” because the kidneys continue to perform essential functions even when operating at only 30-40% capacity, meaning thereby, that many individuals may not experience noticeable symptoms in the early stages which can delay diagnosis and timely intervention. The Committee finds that early stages of CKD are largely asymptomatic and, consequently, a substantial proportion of patients remain undiagnosed until the disease has progressed to advanced stages. Early identification of kidney damage through appropriate screening and timely clinical intervention is therefore essential to delay disease progression and improve long-term outcomes.



1.3 Burden of CKD Globally

1.3.1 The Secretary, Ministry of Health & Family Welfare, witnessed before the Committee that CKD represents a major global public health challenge, as according to the Global Burden of Disease Study 2021, a total of 9.1%, equivalent to nearly 673.7 million CKD cases, were reported globally in 2017. Out of these, 80% of CKD cases are from low- and middle-income countries. According to the International Society of Nephrology’s multicountry study, which included India, a prevalence of 14.3% was found in the general population and 36.1% among high-risk countries, underscoring the importance of targeted screening programmes.

1.3.2 The Committee was informed that the Global Burden of Disease Study (2019) indicates that while awareness and detection of CKD have improved significantly, the condition nevertheless contributed to 1.4 million deaths globally. Between 1990 and 2019, there has been

increased recognition of CKD's impact on quality of life and productivity. The Committee further notes that the global rise in CKD is being driven by the increasing prevalence of diabetes, hypertension, obesity, ageing populations, environmental exposure, and unhealthy lifestyle patterns.

1.4 Burden of CKD in India

1.4.1 The Committee was informed that India bears one of the largest burdens of Chronic Kidney Disease (CKD) globally. According to the ICMR report, "*India: Health of the Nation's States*" (2017), CKD was identified as the ninth leading cause of mortality in the country. The Secretary, Ministry of Health & Family Welfare, apprised the Committee that in 2017, India and China together accounted for nearly one-third of the global CKD burden, with India alone reporting approximately 115 million cases. Regional studies conducted across the country have reported CKD prevalence ranging from less than 1% to 21%, reflecting considerable geographic, dietary, and lifestyle variations. Comparatively higher prevalence rates have been observed in the western and southern regions of the country.

1.4.2 Further, as per the background note of the Department of Health Research, a systematic review published in 2025 estimated the pooled prevalence of CKD in India at 13.24% based on community-based studies. The review also highlighted a significant increase in CKD prevalence among individuals aged 15 years and above, rising from 11.12% during 2011-2017 to 16.38% during 2018–2023.

1.4.3 The Committee further notes with concern that a substantial proportion of CKD cases remain undetected until the advanced stages of the disease owing to low public awareness, inadequate routine screening, limited diagnostic infrastructure, and insufficient emphasis on preventive nephrology. However, At the same time, the increasing recognition of CKD between 1990 and 2016 also reflects improvements in disease surveillance and reporting mechanisms in the country.

1.4.4 The Committee observes with concern that Chronic Kidney Disease (CKD) has emerged as one of the fastest-growing non-communicable diseases in the country, with a steadily increasing prevalence and a substantial proportion of patients being diagnosed only at advanced stages. The Committee further notes that although CKD constitutes a major public health challenge, the disease has not yet received commensurate policy attention in proportion to its growing burden and long-term socioeconomic impact. The Committee is of the considered view that addressing CKD requires a comprehensive and coordinated national response involving prevention, early detection, treatment, research and long-term patient care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare accord higher priority to CKD within the national health agenda and formulate a comprehensive national strategy with clearly defined objectives, measurable outcomes and coordinated implementation across all levels of healthcare.

1.5 Major Epidemiological Studies on CKD in India

1.5.1 The Committee notes that the current understanding of CKD burden in India is derived from several large epidemiological studies conducted across different regions of the country. The ICMR-supported multicentric urban prevalence study (2018) conducted across seven cities including Delhi, Mumbai & Kolkata, involving 15,372 adults reported an overall CKD prevalence of 9.4 per cent after repeat confirmation of kidney function abnormalities. The SEEK (Screening and Early Evaluation of Kidney Disease) study which included 5588 subjects, conducted across multiple cities reported a higher overall CKD prevalence of 17.2% among screened individuals. Similarly, the Centre for Cardiometabolic Risk Reduction in South Asia (CARRS) study conducted in Chennai and Delhi found overall CKD prevalence of 7.5 % which increased to 8.7% after age standardization underscoring the global burden of CKD in urban populations across India. The Committee further notes that longitudinal cohort studies such as the Indian Chronic Kidney Disease (ICKD) cohort are generating valuable evidence regarding disease progression, risk factors and treatment outcomes in the Indian population.

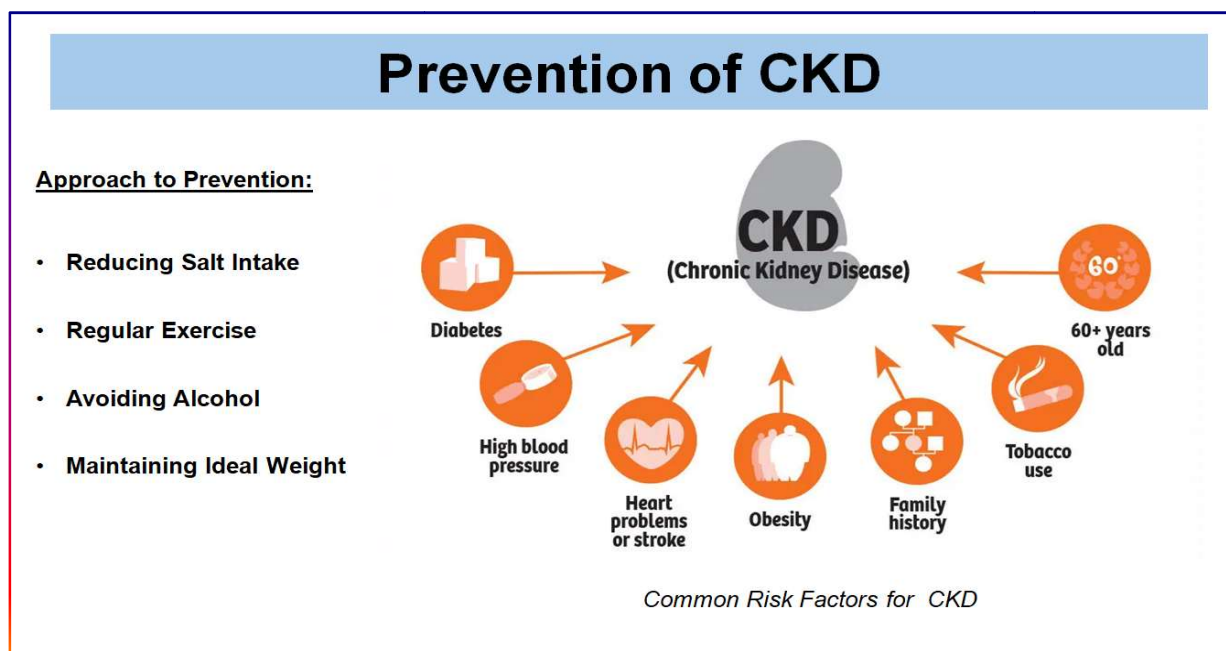
1.5.2 The Committee observes that Chronic Kidney Disease (CKD) is a progressive multisystem disease associated with several serious complications with cardiovascular disease being the leading cause of mortality among CKD patients. The Committee is of the view that delayed diagnosis and inadequate management often accelerate disease progression, resulting in increased morbidity, mortality and the need for dialysis or kidney transplantation. The Committee, therefore, believes that timely detection and comprehensive management are essential to improve clinical outcomes and reduce the overall burden of CKD. Accordingly, the Committee recommends strengthening early screening, timely diagnosis and integrated management of CKD to prevent disease progression, reduce complications and improve patient survival and quality of life.

1.6 Clinical Consequences and Complications of CKD

1.6.1 The Committee notes that Chronic Kidney Disease affects multiple physiological systems and is associated with a wide spectrum of complications, many of which contribute significantly to morbidity and mortality. Progressive deterioration of kidney function results in accumulation of metabolic waste products, disturbances in fluid and electrolyte balance, hormonal dysfunction and increased cardiovascular risk. The Committee was informed that common complications of CKD include anaemia resulting from reduced erythropoietin production; hypertension and cardiovascular disease; chronic kidney disease-mineral and bone disorder (CKD-MBD); metabolic acidosis; hyperkalaemia; fluid overload; malnutrition; impaired immune function; and progressive decline in quality of life. Advanced CKD frequently culminates in End-Stage Kidney Disease requiring dialysis or kidney transplantation. The Committee underline that cardiovascular disease remains the leading cause of death among patients with CKD. Accordingly, early diagnosis and comprehensive management of CKD are essential not only to preserve kidney function but also to reduce cardiovascular complications and improve long-term survival.

1.7 Major Causes and Risk Factors

1.7.1 The Committee was informed that Chronic Kidney Disease (CKD) is a multifactorial condition driven by a complex interplay of medical, genetic, environmental, occupational, and lifestyle-related factors. In India, diabetes mellitus and hypertension have emerged as the leading causes of CKD, accounting for a substantial proportion of cases. The rising prevalence of obesity, sedentary lifestyles, unhealthy dietary patterns, and population ageing has further intensified the disease burden. In several rural and economically vulnerable regions, delayed diagnosis and inadequate access to healthcare services continue to accelerate disease progression.



1.7.2 The etiological profile of CKD in India reflects a dual burden of traditional and non-traditional risk factors. Traditional causes such as diabetes and hypertension remain dominant, with Diabetic Kidney Disease (diabetic nephropathy) accounting for nearly 31% of all registry cases and constituting the single largest contributor to End-Stage Kidney Disease (ESKD), followed by Hypertensive nephrosclerosis accounts for an additional 13% of cases. At the same time, a significant proportion of CKD cases arise from non-traditional causes, particularly CKD of unknown etiology (CKDu), which represents approximately 16% of patients and predominantly affects younger, low-income agricultural workers.

1.7.3 Environmental and Occupational Factors: The high incidence of CKDu and Chronic Interstitial Nephritis (CIN) in rural communities suggests that environmental and occupational exposures are major contributing factors, closely linked to climate vulnerability. Chronic heat stress and recurrent dehydration among outdoor labourers have been identified as key drivers of CKD, with studies indicating that every 1°C rise in temperature in endemic regions is associated with an approximately 8% increase in CKD risk. In addition, behavioural risk factors such as uncontrolled hypertension, alcohol consumption, and the unsupervised use of non-steroidal anti-

inflammatory drugs (NSAIDs) or herbal remedies further amplify the disease burden among high-risk populations.

1.8 Environmental and Occupational Determinants of CKD

1.8.1 The Committee was informed that studies supported by the Department of Health Research and ICMR have identified several environmental and occupational exposures that contribute to the development and progression of CKD, particularly Chronic Kidney Disease of Unknown Etiology (CKDu). These include chronic occupational heat exposure, recurrent dehydration, exposure to organophosphate pesticides, contaminated surface water and heavy metals such as arsenic, chromium and cadmium. The Committee was further informed that obesity and metabolic syndrome, cardiovascular diseases, family history of kidney disease, smoking and tobacco consumption, high salt intake, recurrent acute kidney injury and prolonged use of nephrotoxic drugs, including NSAIDs are also major risk factors associated with CKD.

1.8.2 The Committee recommends that the Ministry accord priority to focused research, strengthened surveillance and targeted preventive interventions to address CKD risk factors, particularly among agricultural and economically vulnerable populations.

1.9 CKD in Children

1.9.1 The Committee notes that Chronic Kidney Disease in children differs significantly from adult CKD in terms of causation, clinical presentation and management requirements. Expert evidence submitted to the Committee indicated that congenital anomalies of the kidneys and urinary tract (CAKUT), severe acute kidney injury and glomerular diseases constitute the major causes of CKD in children, unlike adults where diabetes and hypertension predominate. The Committee further notes that diagnosis and management of pediatric CKD require specialised expertise, including growth monitoring, nutritional assessment and long-term transition of care into adulthood. Facilities for dialysis and transplantation in children also require dedicated infrastructure and trained personnel.

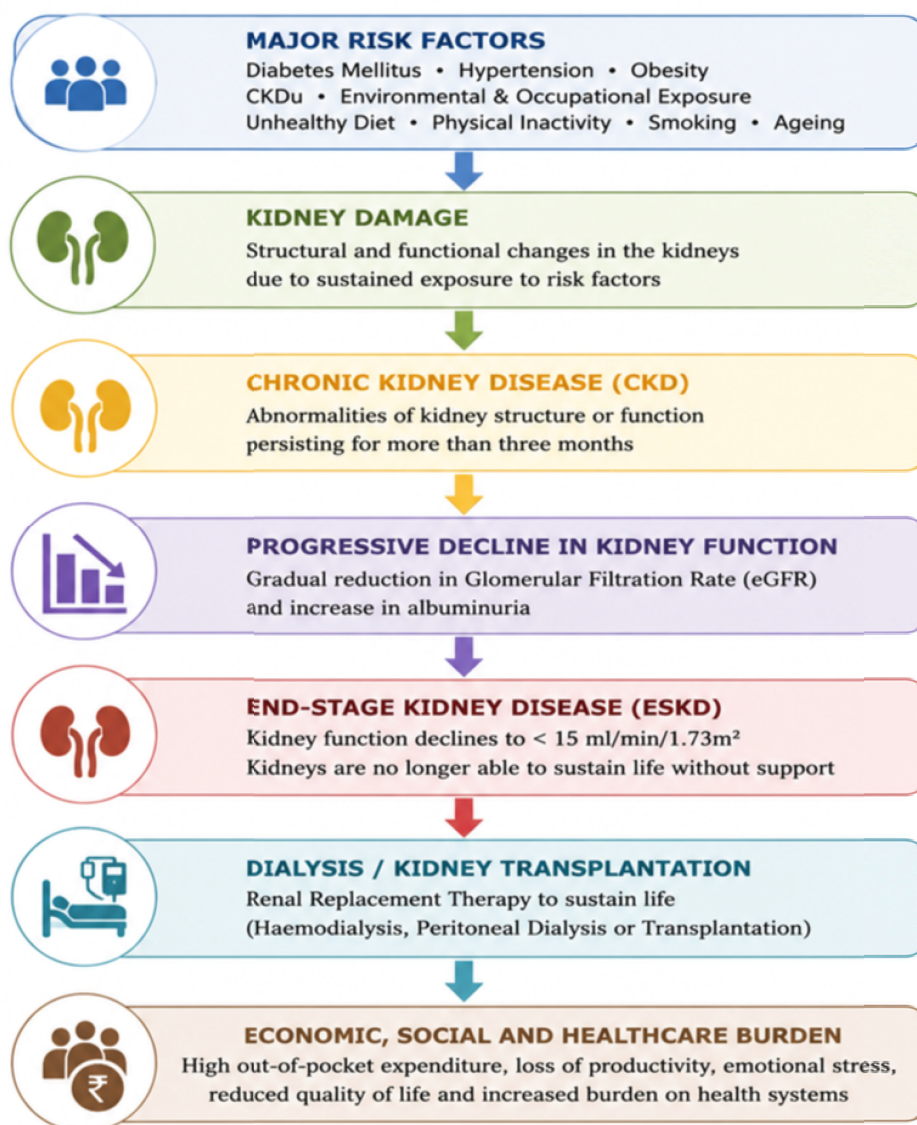
1.9.2 The Committee underscores that while diabetes mellitus and hypertension continue to be the leading causes of Chronic Kidney Disease in India, increasing evidence points towards the growing burden of Chronic Kidney Disease of Unknown Etiology (CKDu), particularly among agricultural workers and populations exposed to environmental and occupational hazards. The Committee further observes that chronic heat stress, recurrent dehydration, exposure to pesticides, contaminated drinking water and heavy metals have emerged as important areas requiring scientific investigation. The Committee is of the considered opinion that greater understanding of these determinants is essential for designing effective preventive interventions. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in collaboration with the Indian Council of Medical Research, Department of Health Research and other concerned Ministries and scientific institutions, undertake comprehensive multidisciplinary research on CKDu and

other environmental and occupational determinants of CKD, strengthen surveillance in identified endemic regions and develop evidence-based preventive strategies for vulnerable populations.

1.10 Regional Disparities in Kidney Healthcare:

1.10.1 The Committee observes from the evidence furnished by the Ministry and the programme implementation data placed before it that considerable disparities continue to exist in the availability and accessibility of kidney healthcare services across different States and Union Territories. The Committee was informed that rural populations, economically weaker sections, tribal communities and residents of remote and geographically difficult areas continue to face limited access to nephrologists, diagnostic facilities, dialysis centres and transplantation services. The Committee finds that variations in healthcare infrastructure, specialist availability and programme implementation have contributed to inequitable access to kidney care, often resulting in delayed diagnosis, interrupted treatment and poorer health outcomes. The Committee is, therefore, of the considered view that reducing regional disparities and ensuring equitable access to quality kidney healthcare should remain a central objective of the Ministry's strategy for prevention and management of Chronic Kidney Disease.

Figure 1.1: Schematic representation of the progression of Chronic Kidney Disease and its health, economic and social consequences



1.11 Economic and Social Burden

1.11.1 The Committee was informed that Chronic Kidney Disease (CKD) imposes a severe economic and social burden especially in advanced stages on affected individuals and their families. The long-term nature of the disease, coupled with the high cost of treatment and supportive care, often leads to substantial financial distress, particularly among low- and middle-income households. Despite various Government initiatives aimed at improving access to renal care services, out-of-pocket expenditure on diagnosis, medicines, dialysis, hospitalization, and transplantation continues to remain significantly high.

1.11.2 During the course of evidence, stakeholders apprised the Committee that the annual cost of CKD management may range between ₹ 2 lakh to ₹ 5 lakh depending upon the stage of disease and associated complications. The expenditure on maintenance dialysis alone may range from ₹ 3 lakh to ₹ 6 lakh annually, excluding costs relating to medicines, travel, nutritional support, and management of co-morbid conditions. It was further submitted that a substantial proportion of families experience catastrophic healthcare expenditure due to prolonged treatment requirements, forcing many households into debt, depletion of savings, or sale of assets.

1.11.3 The Committee was also informed that financial hardship frequently results in interruption or discontinuation of dialysis treatment, adversely affecting patient survival and quality of life. In addition to direct medical expenses, CKD causes considerable indirect economic losses through reduced productivity, loss of employment, absenteeism and loss of wages for both patients and caregivers. The disease therefore not only affects individual health outcomes but also imposes broader socioeconomic consequences on families and society.

1.11.4 The Committee expresses concern to observe that affordability and accessibility continue to remain major barriers to equitable kidney healthcare across the country, particularly in rural and underserved regions where specialized nephrology services remain limited. The Committee is of the considered view that financial hardship should not become a barrier to accessing life-saving kidney care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare strengthen financial protection mechanisms for CKD patients, expand access to affordable renal care services, including dialysis in underserved regions, enhance insurance coverage for kidney disease and periodically assess regional disparities in kidney healthcare to ensure equitable distribution of specialized services across the country.

1.12 Consequences of Late Diagnosis

1.12.1 The Committee expresses concern that delayed diagnosis continues to be one of the most significant challenges in the management of Chronic Kidney Disease in India. Since CKD generally remains asymptomatic during its early stages, a substantial proportion of patients seek medical care only after significant and irreversible loss of kidney function has occurred. The Committee was informed that late presentation frequently necessitates emergency initiation of dialysis, prolonged hospitalisation and intensive medical management. Such delayed diagnosis is associated with poorer treatment outcomes, higher mortality, increased cardiovascular complications and considerably greater healthcare expenditure. It also reduces opportunities for timely interventions that could otherwise delay disease progression, preserve kidney function and improve quality of life.

1.12.2 The Committee observes with concern that delayed diagnosis continues to be one of the principal factors contributing to poor clinical outcomes, increased mortality, higher treatment costs and greater dependence on dialysis and kidney transplantation. The

Committee believes that the asymptomatic nature of CKD during its early stages, coupled with inadequate public awareness, delayed health-seeking behavior and limited identification of high-risk individuals, results in a substantial proportion of patients presenting only after irreversible kidney damage has occurred. The Committee is of the considered view that reducing delays in diagnosis is essential for improving long-term patient outcomes and reducing the overall burden of CKD. The Committee, therefore, recommends that the Ministry of Health and Family Welfare strengthen mechanisms for early identification and timely referral of individuals at high risk of CKD through the primary healthcare system, while enhancing awareness among healthcare providers and the general public regarding the importance of early evaluation of kidney disease. The Committee further recommends that appropriate protocols for risk-based assessment and referral be implemented across all levels of healthcare to facilitate timely intervention and delay disease progression.

1.13 CKD and Climate Change: An Emerging Public Health Concern

1.13.1 The Committee was informed that climate change has emerged as an important determinant influencing the epidemiology of Chronic Kidney Disease (CKD), particularly in low- and middle-income countries. Evidence placed before the Committee indicates that rising ambient temperatures, prolonged heat exposure, recurrent dehydration, occupational exposure to agrochemicals and unsafe drinking water are increasingly associated with Chronic Kidney Disease of Unknown Etiology (CKDu), especially among workers engaged in agriculture, construction and other labour-intensive occupations. The Committee further notes that these environmental and occupational risk factors may contribute to progressive kidney injury and pose a growing public health challenge in several parts of the country. In this context, climate-resilient occupational health policies, provision of safe drinking water, adequate rest periods and surveillance of vulnerable populations assume increasing importance in mitigating the impact of climate-related kidney disease.

1.13.2 The Committee observes that climate change and environmental degradation have emerged as important determinants influencing the burden of Chronic Kidney Disease, particularly CKDu, among vulnerable occupational groups. The Committee is of the considered view that the health impacts of climate change on kidney disease require greater policy attention, scientific research and coordinated action across sectors. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in collaboration with the Ministries of Environment, Forest and Climate Change, Labour and Employment, Agriculture and Farmers' Welfare, and Jal Shakti, develop a coordinated national framework to address the environmental and climate-related determinants of Chronic Kidney Disease. The Committee further recommends that climate-resilient kidney health strategies, including surveillance of vulnerable populations, promotion of occupational heat mitigation measures, access to safe drinking water, and region-specific

research on CKDu, be integrated into national policies and programmes for the prevention and control of Chronic Kidney Disease.

1.14 Need for Early Detection and Preventive Healthcare

1.14.1 The Committee strongly feels that prevention and early detection represent the most effective and sustainable approach to reducing the CKD burden in India. The Committee is cognizant that early identification of high-risk individuals through routine screening for diabetes, hypertension, albuminuria and eGFR abnormalities can significantly delay CKD progression. The Committee further believes that lifestyle modification, improved nutrition, control of diabetes and hypertension, avoidance of nephrotoxins and timely referral to nephrologists can substantially reduce the need for dialysis and transplantation.

1.14.2 The Committee observes that a substantial proportion of CKD cases remain undiagnosed until advanced stages due to low public awareness regarding kidney health, inadequate understanding of risk factors and delayed health-seeking behaviour. The Committee is of the considered opinion that sustained public awareness and preventive health promotion constitute the most effective long-term strategy for reducing the burden of CKD. The Committee, therefore, recommends that the Ministry accord greater emphasis to kidney health promotion through sustained Information, Education and Communication (IEC) campaigns, community outreach programmes and integration of kidney health messages within existing non-communicable disease awareness initiatives. The Committee further recommends that special emphasis be placed on educating high-risk populations regarding healthy lifestyle practices, early symptoms, risk factors and the importance of timely medical consultation.

1.15 Why CKD is a Public Health Priority

1.15.1 The Committee was informed that Chronic Kidney Disease has emerged as one of the fastest-growing non-communicable diseases globally and poses a significant challenge to public health systems. Unlike several other chronic diseases, CKD progresses silently and frequently remains undiagnosed until substantial and irreversible kidney damage has occurred. Early stages of the disease are largely asymptomatic, resulting in delayed diagnosis and initiation of treatment. The Committee further notes that CKD substantially increases the risk of cardiovascular diseases, premature mortality, disability and catastrophic health expenditure. The disease requires prolonged medical care and, in advanced stages, lifelong renal replacement therapy in the form of dialysis or kidney transplantation. Consequently, CKD adversely affects household income, workforce productivity and the overall economic development of the country. The Committee therefore considers CKD to be a national public health priority requiring integrated strategies for prevention, early detection, timely treatment, public awareness and strengthening of nephrology services across all levels of healthcare.

1.16 CKD as a major public health concern

1.16.1 The Committee notes that Chronic Kidney Disease has emerged as a major public health challenge in India owing to its increasing prevalence, substantial disease burden and significant economic and social consequences. The evidence presented before the Committee highlights the urgent need for strengthening preventive healthcare, promoting early diagnosis, expanding access to affordable treatment and improving long-term patient care. The succeeding chapters of instant report examine prevention strategies for reducing the burden of CKD; screening and diagnostic approaches for early identification of the disease; available treatment modalities, including pharmacological management, dialysis and kidney transplantation; health system challenges and critical gaps in the delivery of kidney care services; and the policy landscape, Government programmes and initiatives aimed at prevention, treatment and management of CKD. The Committee feels the need for strengthening kidney healthcare services and reducing the burden of Chronic Kidney Disease in the country.

CHAPTER – II

PREVENTION STRATEGIES

2.1 Prevention of Chronic Kidney Disease: An Overview:

2.1.1 Prevention of Chronic Kidney Disease (CKD) constitutes the most strategic, cost effective and sustainable approach to addressing the growing burden of kidney disease in India. Unlike many other non-communicable diseases, CKD often progresses silently over years, remaining undetected until it reaches advanced stages where treatment options become expensive and lifelong. The Committee was informed that a large proportion of CKD cases in India are attributable to preventable and modifiable risk factors, particularly diabetes mellitus, hypertension, obesity, unhealthy dietary habits, tobacco use and physical inactivity. In addition, environmental and occupational exposures have emerged as important contributors to CKD in certain parts of the country.

2.1.2 The Ministry of Health & Family Welfare has rightly recognized that investing in prevention is far more sustainable than managing End-Stage Renal Disease (ESRD) through dialysis or transplantation. Prevention strategies of CKD require a comprehensive life-course approach encompassing primordial, primary, secondary and tertiary prevention. Primordial and primary prevention focus on reducing exposure to risk factors before disease develops. Secondary prevention emphasises early identification and timely intervention among individuals at high risk. Tertiary prevention aims to delay disease progression, prevent complications and improve the quality of life of diagnosed patients. The Committee believes that effective implementation of preventive strategies has the potential to substantially reduce the future demand for dialysis and kidney transplantation while improving quality of life and reducing healthcare expenditure.

2.1.3 The Committee was informed that the Ministry of Health and Family Welfare has integrated kidney disease prevention within the broader framework of the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) and the Ayushman Bharat initiative through population-based screening, health promotion and strengthening of primary healthcare services. The Committee believes these initiatives provide an institutional framework for prevention; however, their effectiveness depends upon robust implementation, sustained public awareness, regular screening and timely referral mechanisms. The Ministry of Ayush has also highlighted the complementary role of Yoga and other evidence-based traditional wellness practices in promoting healthy lifestyles and reducing the burden of non-communicable diseases associated with CKD.

2.1.4 Experts informed the Committee that a large proportion of patients in India continue to present at advanced stages because the disease remains clinically silent during its initial course and preventive interventions are often initiated too late. Experts further emphasised that

prevention should not be viewed only as a medical intervention but also as a public health strategy involving behavioural change, lifestyle modification, nutrition, environmental protection and community participation. The Committee was also informed that strengthening preventive nephrology would reduce long-term healthcare expenditure, improve quality of life and lessen the growing burden on dialysis services. Evidence submitted before the Committee highlighted that investment in preventive healthcare yields substantially greater health and economic benefits than exclusive reliance on tertiary care services. A comprehensive prevention strategy must therefore address lifestyle, environmental, occupational, and systemic factors while leveraging existing health infrastructure at the community level.

2.1.5 The Committee acknowledges that the Ministry has recognised prevention of chronic kidney disease as an integral component of the National Programme for Prevention and Control of Non-Communicable Diseases and has initiated several measures aimed at promoting healthy lifestyles and reducing major risk factors. Prevention should not be viewed only as a medical intervention but also as a public health strategy involving behavioural change, lifestyle modification, nutrition, environmental protection and community participation. The Committee observes that the growing burden of Chronic Kidney Disease (CKD) has significant economic implications for patients, families and the public health system. The Committee is concerned that while substantial resources are being devoted to dialysis and other renal replacement therapies, preventive nephrology has not received commensurate policy and financial attention despite its potential to reduce disease progression and long-term healthcare costs. Strengthening preventive nephrology would reduce long-term healthcare expenditure, improve quality of life and lessen the growing burden on dialysis services. The Committee is of the considered view that sustained investment in prevention, early detection and risk factor management would not only improve health outcomes but also substantially reduce the future demand for costly tertiary care services. The Committee, therefore, recommends that the Ministry of Health and Family Welfare accord higher priority to preventive nephrology in health planning and resource allocation, undertake periodic evaluation of the cost-effectiveness of preventive interventions and incorporate measurable kidney health indicators within the national monitoring framework for non-communicable diseases to facilitate evidence-based planning and performance assessment. The Committee endorses the views that comprehensive prevention strategy must therefore address lifestyle, environmental, occupational and systemic factors while leveraging existing health infrastructure at the community level.

Table 2.1 : Levels of Prevention in Chronic Kidney Disease

Level of Prevention	Objective	Examples of Interventions
Primordial Prevention	Prevent development of risk factors	Healthy lifestyle promotion, tobacco control, healthy diet,

		physical activity
Primary Prevention	Prevent occurrence of CKD	Control of diabetes, hypertension, obesity, adequate hydration, avoidance of nephrotoxins etc.
Secondary Prevention	Early identification of disease	Population-based screening, serum creatinine testing, urine albumin assessment, referral under NP-NCD of high-risk populations and timely intervention
Tertiary Prevention	Delay disease progression	Conservative management, medication adherence, dialysis preparation, transplantation counselling

2.2 Primordial and Primary Prevention: Reducing Risk Factors Before Disease Onset

2.2.1 The Committee notes that primary prevention aims to prevent the occurrence of CKD by reducing exposure to modifiable risk factors before structural or functional kidney damage develops. Given that a substantial proportion of CKD cases arise from preventable conditions such as diabetes mellitus, hypertension, obesity and unhealthy lifestyle practices, primary prevention represents the most cost-effective strategy for reducing disease burden at the population level. The Committee was informed that successful primary prevention requires coordinated interventions involving health promotion, behavioural change, nutrition, environmental protection, occupational safety and community participation. Such interventions should be integrated within existing public health programmes to maximise outreach and long-term sustainability.

2.2.2 Lifestyle Modifications: Lifestyle-related factors play a pivotal role in the development of CKD, especially through their influence on diabetes, hypertension, and obesity. Experts opined that a kidney-friendly lifestyle includes adopting a balanced diet low in salt, refined sugar, and processed foods while emphasizing fruits, vegetables, whole grains, and adequate hydration. Regular physical activity - at least 150 minutes of moderate-intensity exercise per week - helps maintain healthy body weight and improves cardiovascular and renal function.

Tobacco cessation and moderation of alcohol intake are equally important, as both contribute to vascular damage that affects the kidneys.

2.2.3 In rural and agricultural communities, where CKDu is prevalent, special emphasis must be placed on hydration and protection from heat stress. Prolonged exposure to high temperatures and dehydration among outdoor workers significantly increases CKD risk. Public health messaging should promote frequent water intake, use of shaded rest areas, and scheduled work breaks during peak summer hours. Community-level interventions through Self-Help Groups, schools, and workplaces can institutionalize these habits. The integration of such messages into existing programmes like Swachh Bharat and Poshan Abhiyaan can amplify their reach and effectiveness.

2.2.4 The Ministry has informed that the common risk factors for CKD are uncontrolled diabetes, high blood pressure, heart problems or family history of CKD etc. The primary level of care facilities have 1.8 lakh Ayushman Arogya Mandirs which have conducted 6.43 crore health & wellness sessions helping promote healthier behaviours and early identification of risk factors in communities.

2.2.5 The Committee acknowledges the efforts of the Ministry in conducting over 6.43 crore Health and Wellness Sessions through approximately 1.8 lakh Ayushman Arogya Mandirs to promote healthy lifestyles and create awareness on non-communicable diseases. However, the Committee is constrained to observe that the burden of chronic kidney disease (CKD) continues to rise, indicating that preventive efforts require further strengthening beyond facility-based wellness sessions. The Committee is of the considered view that the effectiveness of these sessions is inherently dependent upon attendance at Ayushman Arogya Mandirs and, therefore, may not adequately reach a large section of the at-risk population. Considering the largely asymptomatic nature of CKD in its early stages, the Committee recommends that the Ministry adopt a proactive, community-based approach by taking kidney health awareness beyond health facilities through sustained door-to-door campaigns, village and ward-level outreach programmes, and targeted IEC activities involving ASHAs, ANMs and other frontline health workers. The Committee believes that such measures would improve community participation, enhance awareness of CKD risk factors and symptoms, and facilitate early detection and timely intervention.

2.2.6 The Committee is of the considered view that, given India's large population and the substantial burden on the healthcare system, prevention is a far more effective and sustainable approach than treatment in addressing Chronic Kidney Disease. Accordingly, the Committee recommends that the Ministry of Health and Family Welfare accord priority to preventive and community-based interventions by institutionalising healthy hydration practices and heat stress awareness through Self-Help Groups, schools, workplaces, and local community organisations. The Committee further recommends that such preventive messages be integrated into existing flagship programmes such as *Swachh Bharat Mission* and *Poshan Abhiyaan* to maximise outreach, promote sustained

behavioural change and reduce the incidence of CKD, particularly in vulnerable rural and agricultural communities.

2.2.7 The Ministry has further informed that Early detection of CKD remains a challenge as the disease often progresses silently alongside more symptomatic conditions like diabetes and heart disease. In clinical practice, immediate issues such as blood sugar or cardiac symptoms often take priority, while kidney health receives less attention due to the asymptomatic nature of early CKD. This leads to delayed specialist referral and late initiation of kidney-protective treatment. The Committee was further informed that Chronic Kidney Disease (CKD) management demands strict medication adherence, dietary control, and regular treatment posing significant challenges, especially for patients with limited health literacy or from rural areas. Low awareness about disease progression and treatment compliance often leads to poorer outcomes. Strict dietary restrictions on salt, potassium, and phosphorus, coupled with multiple daily medications, make daily management difficult.

2.2.8 The Experts have also highlighted the following key gaps in Prevention of Chronic Kidney Disease:

1. Inadequate Public Awareness and Kidney Health Literacy
2. Insufficient Focus on Lifestyle Modification and Behavioural Change
3. Poor Prevention and Control of Major Modifiable Risk Factors
4. Lack of Structured Risk-Based Screening of High-Risk Individuals
5. Inadequate Integration of CKD Prevention within Existing Public Health Programmes
6. Weak Community-Based Prevention and Multi-sectoral Coordination
7. Inadequate attention to Environmental and Occupational Risk Factors
8. Limited Capacity for Preventive Kidney Care at the Primary Healthcare Level

2.2.9 The Committee observes that effective prevention of CKD is intrinsically linked to sustained behavioural change through the adoption of healthy lifestyles and effective management of modifiable risk factors. However, the Committee is constrained to observe that kidney health has not received adequate prominence in existing public health awareness campaigns. The Committee, therefore, strongly recommends that the Ministry of Health and Family Welfare must formulate and implement a dedicated National Chronic Kidney Disease Awareness Programme with sustained nationwide outreach through print, electronic, digital and social media on the lines of successful public health awareness campaigns such as those for Tuberculosis (TB) and HIV/AIDS. The Committee further recommends strengthening community engagement by organising awareness campaigns and health education programmes in schools, workplaces and communities. The Committee also recommends promoting healthy dietary practices, including reduced salt intake, regular physical activity, avoidance of tobacco and alcohol, adequate hydration, and periodic screening of high-risk individuals in its awareness campaigns. The Committee therefore, strongly recommends the Ministry of Ayush to actively complement these efforts

by promoting evidence-based healthy lifestyle practices and preventive healthcare through its existing wellness programmes in coordination with the Ministry of Health and Family Welfare.

2.3 Awareness of Chronic Kidney Disease (CKD):

2.3.1 The Committee observes that despite the rising burden of Chronic Kidney Disease (CKD) in the country, public awareness regarding kidney health remains alarmingly low. During the course of evidence, experts unanimously emphasized that CKD is largely a "silent disease", with most individuals remaining asymptomatic until the disease has progressed to advanced stages, thereby limiting opportunities for timely intervention. The Committee was further informed that public awareness is generally restricted and limited to diabetes and hypertension as risk factors, whereas knowledge regarding other causes such as congenital and hereditary kidney disorders, obesity, unhealthy dietary practices, excessive consumption of salt and ultra-processed foods, indiscriminate use of painkillers and other nephrotoxic drugs, recurrent urinary tract infections, environmental and occupational exposures remains inadequate. The Committee also observes that misconceptions regarding kidney disease and the absence of dedicated public awareness campaigns have resulted in poor health-seeking behaviour and delayed diagnosis.

2.3.2 The experts who deposed before the Committee consistently underscored that awareness and health literacy constitute the foundation of an effective strategy for the prevention of Chronic Kidney Disease (CKD). They observed that kidney health should be promoted as an integral component of healthy living through sustained public education on balanced nutrition, regular physical activity, adequate hydration, avoidance of tobacco and other nephrotoxic substances, and effective management of lifestyle-related disorders, particularly diabetes and hypertension. The experts highlighted that awareness initiatives should extend beyond patients to encompass the general population, especially individuals at high risk, with emphasis on recognising risk factors, adopting preventive behaviours and seeking timely health assessment. They also emphasised that awareness programmes should utilise multiple platforms, including primary healthcare institutions, schools, workplaces, community organisations, mass media and digital communication, to foster behavioural change and improve kidney health literacy. Some experts further advocated leveraging India's traditional systems of medicine, particularly yoga and lifestyle-based interventions, as complementary approaches for promoting healthy behaviours and reducing the burden of lifestyle-related diseases that predispose individuals to CKD. Collectively, the expert opinion indicates that sustained, evidence-based awareness initiatives integrated with community engagement and health promotion are essential components of a comprehensive national strategy for CKD prevention.

2.3.3 The Committee observes that an effective awareness strategy for the prevention of Chronic Kidney Disease (CKD) must extend beyond healthcare facilities and place greater emphasis on primary prevention through health education and awareness from an early age. The Committee is of the view that younger populations is more prone and

behaviourally sensitive to unhealthy dietary habits, sedentary lifestyles, obesity, tobacco and alcohol consumption, and poor awareness regarding kidney health. The Committee observes that kidney health literacy in the country continues to remain largely patient oriented which is inadequate for achieving meaningful prevention at the population level. The Committee believes that preventing CKD requires a paradigm shift from a predominantly patient-centric approach to a whole-of-society approach by strengthening kidney health literacy among school children, the general public, healthcare providers and communities. Accordingly, the Committee recommends that the Ministry of Health and Family Welfare, in coordination with the Ministry of Education, incorporate basic concepts of kidney health, healthy dietary practices, adequate hydration, physical activity, prevention of non-communicable diseases and the importance of protecting kidney function into school health education programmes and appropriate school curricula. The Committee further recommends that sustained nationwide awareness campaigns be undertaken through Ayushman Arogya Mandirs, educational institutions, workplaces, mass media and digital platforms to improve kidney health literacy among the general population and foster lifelong healthy behavioural practices for the prevention of CKD.

2.3.4 The Committee finds that the growing burden of Chronic Kidney Disease (CKD) in the country is closely associated with the increasing prevalence of metabolic risk factors such as diabetes, hypertension, obesity and cardiovascular diseases, which are, in turn, driven by changing dietary patterns, increasing consumption of ultra-processed and packaged foods high in salt, sugar and saturated fats, sedentary lifestyles and inadequate public awareness regarding healthy living. The Committee appreciates that the Ministry of Health and Family Welfare has undertaken several initiatives under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), Poshan Abhiyaan and other health promotion programmes, the Committee is of the considered view that substantially greater emphasis is required on primordial prevention aimed at preventing the emergence of these risk factors before they progress to chronic disease. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in coordination with the Food Safety and Standards Authority of India (FSSAI) and other concerned stakeholders, examine appropriate measures for strengthening consumer awareness regarding the nutritional quality of packaged food products through suitable front-of-pack food labelling, colour coding and other evidence-based regulatory interventions that enable informed dietary choices. The Committee further recommends that the Ministry launch a targeted, high-impact national mass media campaign on the dangers of excessive dietary sodium and hidden salts. Furthermore, the Ministry should institutionalize community-based lifestyle modification programs specifically leveraging Ayush wellness systems and daily physical activity modules across schools, workplaces, and local Ayushman Arogya Mandirs to curb metabolic risk factors at the population level.

2.3.5 The Committee observes with concern that indiscriminate and unsupervised use of non-steroidal anti-inflammatory drugs (NSAIDs) and other nephrotoxic medications

continues to contribute to preventable kidney injury in the country. The Committee further finds that limited public awareness regarding the potential adverse effects of prolonged self-medication and inadequate regulation of inappropriate drug use remain important public health concerns, particularly in rural and underserved areas. The Committee is of the considered view that prevention of drug-induced kidney disease requires a combination of public awareness, rational prescribing practices and effective regulatory oversight. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in consultation with the Central Drugs Standard Control Organisation (CDSCO), review existing regulatory and awareness measures relating to over-the-counter availability and irrational use of nephrotoxic medicines. The Committee further recommends that appropriate public education campaigns be undertaken to sensitise citizens regarding the risks associated with indiscriminate use of painkillers and other potentially nephrotoxic medications. The Government should also undertake effective measures to regulate the indiscriminate use of antibiotics as the same exert lethal impact on kidney health, therefore, the Committee desires that a robust, science driven and evidence based policy is essential to address such growing threat.

2.3.6 The Ministry has informed that Central and State Governments regularly conduct free health camps and screenings integrated with awareness activities under key MoHFW programmes. The Swasth Nari, Sashakt Parivar Abhiyaan (SNSP) has witnessed organizing over 10 lakh camps across Ayushman Arogya Mandirs and hospitals, providing free screening for hypertension, diabetes, cancers, tuberculosis, anaemia, and other conditions. Over 76 lakh citizens benefited, including 37 lakh hypertension and 35 lakh diabetes screenings. Throughout the year, health camps are conducted during observances like World Health Day, Poshan Maah, and World Kidney Day. The Ayushman Arogya Mandir network holds daily wellness camps across 1.76 lakh centres, integrating screening, counselling, and Ayushman Bharat (PM-JAY) card services. Awareness drives such as Poshan Maah, Swasth Nari Abhiyaan, and Ayushman Shivar and the National NCD Campaign held in 2025 combine screening with health education and lifestyle counselling, improving early detection and prevention of NCDs nationwide.

2.3.7 The Committee appreciates the Ministry's efforts in organising large-scale health camps and community outreach programmes under various initiatives such as the Swasth Nari, Sashakt Parivar Abhiyaan, Poshan Maah, Ayushman Shivar and the National NCD Campaign, as well as the regular conduct of wellness and screening activities through the Ayushman Arogya Mandir network. Such initiatives have significantly expanded access to screening for major non-communicable diseases and have contributed to improving public awareness regarding preventive healthcare. The Committee, however, observes that such campaigns have primarily focused on common NCDs such as diabetes, hypertension and cancer, while kidney health and Chronic Kidney Disease (CKD), despite being closely linked with these conditions and have not received commensurate attention within

community-based outreach activities. The Committee is therefore, of the considered view that such large-scale public health platforms utilise the ideal opportunity for integrating kidney health promotion, early risk identification and public education, particularly among high-risk populations. The Committee, therefore, recommends that the Ministry of Health and Family Welfare institutionalise kidney health promotion as an integral component of all major national health outreach campaigns and community screening initiatives. The Committee further recommends that standardised kidney health education, risk assessment, counselling on preventive lifestyle measures and referral pathways for high-risk individuals be incorporated into health camps conducted under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) and through Ayushman Arogya Mandirs. The Committee strongly desires that dedicated awareness and screening activities be organised on occasions such as World Kidney Day and other national public health campaigns to enhance early detection, improve community awareness and reduce the long-term burden of CKD in the country.

2.4 Role of Ayush Systems in Primary Prevention

2.4.1 The Committee believes that the growing burden of Chronic Kidney Disease (CKD) in India warrants a comprehensive preventive strategy that extends beyond conventional medical interventions and incorporates evidence-based lifestyle and wellness approaches. The Ministry of Ayush informed the Committee that the various systems under Ayush place considerable emphasis on health promotion, disease prevention, healthy lifestyle practices and early management of non-communicable diseases such as diabetes mellitus, hypertension, obesity and metabolic disorders which constitute the principal risk factors for CKD.

2.4.2 The Committee has been informed that Ayurveda promotes dietary regulation, lifestyle modification and Rasayana therapies for maintaining overall health and preventing lifestyle-related disorders. Similarly, Yoga and Naturopathy advocate regular physical activity, stress reduction, balanced nutrition, hydrotherapy and yogic practices including *asanas* and *pranayama*, which contribute to improved metabolic health and may assist in controlling hypertension, diabetes and obesity. Siddha and Unani systems also emphasize personalized dietary practices, healthy lifestyle, preventive regimens and early correction of physiological imbalances to delay the onset of chronic diseases.

2.4.3 The Committee finds that the Ministry has adopted an integrative approach wherein Ayush interventions are intended to complement modern medicine through health promotion, lifestyle counselling, stress management and preventive care. The Committee desires that Ayush institutions must undertake health promotion activities through non-communicable disease outpatient clinics, health camps, school health programmes and community outreach initiatives aimed at early identification and management of diabetes and hypertension, thereby contributing indirectly to the prevention of kidney diseases and slowing disease progression among high-risk individuals.

2.4.4 Experts have also opined that Ayush has a meaningful role in preventive healthcare as it can contribute significantly through:

- i. promotion of healthy lifestyles;
- ii. dietary counselling;
- iii. preventive health practices;
- iv. management of lifestyle disorders such as diabetes and hypertension; and
- v. community-based health education

2.4.5 The Ministry of Ayush has underlined the significant potential of traditional systems, particularly Yoga and Naturopathy, in preventing renal ailments. As per their submission to the Parliamentary Committee, there is no separate CKD-specific screening methodology under Ayush; however, regular Yoga practice contributes substantially to kidney health by boosting overall organ function, reducing systemic workload, and improving the efficiency of multiple body systems. Yoga helps in the management of key risk factors such as hypertension and stress both major contributors to CKD. Practices like Pranayama, Asanas (e.g., those beneficial for abdominal organs), and meditation have been shown to lower blood pressure and improve metabolic parameters. The Ministry operates Yoga Therapy Centres in allopathic hospitals and Preventive Health Care Units in CGHS dispensaries that cater to general wellness including support for kidney health. General Yoga sessions conducted at various levels across the country contribute to primordial prevention by fostering healthier lifestyles from an early age.

2.4.6 The Committee observes that Chronic Kidney Disease (CKD) is largely driven by lifestyle-related risk factors such as diabetes, hypertension, obesity and unhealthy dietary practices which necessitate sustained behavioural change and adoption of healthy lifestyles. The Committee further observes that India's traditional systems of medicine have a wide community reach and place considerable emphasis on preventive healthcare through balanced nutrition, physical activity, yoga, stress management and healthy living. The Committee is of the considered view that while modern medicine remains the cornerstone for the diagnosis and clinical management of CKD, the preventive principles of Ayush can complement ongoing public health efforts particularly in promoting healthy lifestyles, creating awareness and preventing lifestyle disorders that predispose individuals to CKD. The Committee, therefore, strongly recommends that the Ministry of Health & Family Welfare in coordination with the Ministry of Ayush develop an integrated preventive framework for CKD that leverages the strengths of both systems focussing on health promotion, yoga-based wellness interventions, dietary counselling, public awareness, behavioural change communication and early risk-factor management through Ayushman Arogya Mandirs and other community-based platforms. The Ministry of Ayush should work aggressively for preventive healthcare by undertaking health promotion activities through OPD clinics, organising health camps, school health initiatives and community reach initiatives aimed at kidney health awareness. The Committee is of the view that an evidence-based integrative approach would strengthen preventive healthcare, support

early identification of at-risk individuals and contribute to reducing the long-term burden of CKD.

2.5 Secondary Prevention: Early Detection and Risk Factor Control

2.5.1 Secondary prevention focuses on identifying individuals at high risk and intervening before significant kidney damage occurs. This is particularly important given that over 60% of kidney function may be lost before symptoms appear.

2.5.2 The Ministry of Health and Family Welfare submitted that secondary prevention aims at early identification of individuals at increased risk of Chronic Kidney Disease (CKD) and timely institution of appropriate interventions to delay or prevent disease progression. The Ministry informed the Committee that under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), population-based screening for diabetes mellitus, hypertension and other non-communicable diseases is being undertaken through Ayushman Arogya Mandirs and other primary healthcare facilities. Since diabetes and hypertension constitute the principal causes of CKD in India, early detection and effective management of these conditions are expected to significantly reduce the burden of kidney disease. The Ministry further informed that strengthening comprehensive primary healthcare, promoting periodic health check-ups among vulnerable populations and ensuring timely referral of suspected CKD cases are integral components of the preventive strategy under NP-NCD.

2.5.3 The Committee was informed by experts that although CKD develops gradually over several years, the majority of patients continue to be diagnosed only at advanced stages when substantial and irreversible kidney damage has already occurred. Experts highlighted that the present healthcare system remains largely treatment-oriented and does not adequately identify individuals at risk before the onset of advanced disease. Evidence submitted before the Committee indicated that persons suffering from diabetes mellitus, hypertension, obesity, cardiovascular disease, recurrent urinary tract infections, family history of kidney disease, elderly individuals and those exposed to occupational heat stress constitute the principal high-risk groups requiring periodic kidney health assessment. Experts further suggested that routine assessment of kidney function among these high-risk groups should become an integral part of NCD management programmes. Evidence placed before the Committee further indicated that a substantial proportion of patients initially seek treatment from private healthcare providers. Consequently, meaningful reduction in CKD burden would require effective participation of both public and private healthcare sectors in early identification, referral and long-term follow-up of high-risk individuals.

2.5.4 The Committee commends that the Ministry has initiated population-based screening for non-communicable diseases under NP-NCD and strengthened comprehensive primary healthcare through Ayushman Arogya Mandirs. The Committee notes the evidence placed before it that CKD continues to be detected predominantly in advanced

stages because kidney health assessment is not yet uniformly integrated into routine management of diabetes, hypertension and other high-risk conditions. The Committee endorses the view of experts and strongly advocates for systematic risk-based screening to facilitate early identification, monitoring and policy planning. The Committee is of the considered view that strengthening secondary prevention represents one of the most effective interventions for reducing progression to End Stage Kidney Disease and lowering the future demand for dialysis and transplantation. The Committee, therefore, recommends that the Ministry of Health and Family Welfare integrate targeted risk-based kidney health assessment into all NP-NCD services by ensuring periodic evaluation of individuals with diabetes mellitus, hypertension, cardiovascular disease, obesity, family history of kidney disease and other recognised risk factors.

2.6 Tertiary Prevention

2.6.1 Tertiary prevention constitutes the final level of disease prevention and is aimed at minimising the long-term consequences of Chronic Kidney Disease (CKD) among individuals who have already been diagnosed with the disease. The objective is to slow the progression of kidney damage, prevent or delay the onset of kidney failure, reduce complications, preserve residual kidney function, and improve the patient's quality of life. This requires comprehensive, patient-centred management through strict control of diabetes, hypertension and other comorbidities, appropriate use of reno-protective medications, regular monitoring of kidney function and albuminuria, nutritional and lifestyle counselling, management of CKD-related complications such as anaemia, mineral and bone disorders, electrolyte imbalances, and cardiovascular disease, as well as psychosocial support and patient education to improve treatment adherence. As the disease advances, tertiary prevention also includes timely referral to nephrologists, planned preparation for kidney replacement therapies such as dialysis or kidney transplantation, rehabilitation services, and palliative care where appropriate. A robust tertiary prevention strategy not only delays progression to End-Stage Kidney Disease (ESKD) but also reduces hospitalisations, healthcare costs, premature mortality, and the overall burden of CKD on patients, families, and the healthcare system.

2.6.2 The Committee observes that Chronic Kidney Disease (CKD) is a complex, progressive and multisystem disorder that is frequently accompanied by diabetes, hypertension, cardiovascular disease, anaemia, mineral and bone disorders, nutritional deficiencies and psychosocial challenges. The Committee is of the considered view that effective tertiary prevention cannot be achieved through nephrology care alone but requires a coordinated, multidisciplinary approach involving physicians, nephrologists, diabetologists, cardiologists, dieticians, clinical pharmacists, nurses, physiotherapists, mental health professionals and social workers. However, multidisciplinary CKD care services remain limited and are largely confined to tertiary care institutions with inadequate coordination and continuity of care across different levels of the healthcare system. The Committee, therefore, recommends that the Ministry institutionalise

multidisciplinary CKD management as an integral component of tertiary prevention by adoption of integrated care pathways, shared electronic patient records, structured follow-up mechanisms, patient education programmes and regular multidisciplinary case reviews to ensure continuity of care and improve long-term clinical outcomes while delaying progression to End-Stage Kidney Disease (ESKD).

2.7 Environmental and Occupational Prevention

2.7.1 A unique feature of CKD epidemiology in India is the significant contribution of environmental and occupational factors, particularly in CKDu-endemic regions. Chronic heat stresses, dehydration, exposure to agrochemicals, heavy metals and contaminated groundwater have been identified as key drivers in agricultural communities. The Committee has been informed about findings emerging from the Heat Exposure and Environmental Action for Limiting the Burden of Chronic Kidney Disease of Undetermined Etiology (HEAL-CKDu) Project undertaken in Andhra Pradesh. The study reported that occupational heat exposure was particularly high among agricultural workers, construction workers and brick kiln workers. The findings indicated that workers exposed to prolonged heat stress experienced substantially higher heat-related symptoms and demonstrated increased risk of reduced kidney function. The Committee notes that these findings highlight the importance of occupational safety measures, hydration practices and heat mitigation strategies in vulnerable populations residing in CKDu-prone regions. The Committee notes that unlike conventional CKD, Chronic Kidney Disease of Unknown Etiology presents unique public health challenges because the precise causative factors remain under investigation. Nevertheless, the evidence placed before the Committee indicates that preventive public health measures cannot await complete scientific certainty.

2.7.2 The Committee observes with concern the emerging evidence indicating that environmental and occupational factors are emerging contributors to the occurrence of Chronic Kidney Disease of Unknown Etiology (CKDu) in certain parts of the country. Taking into account the approx. 16% prevalence of CKDu, the Committee is of the firm view that the increasing burden of CKDu among agricultural workers and other outdoor labourers necessitates a precautionary and proactive public health response. The Committee observes that existing preventive efforts remain fragmented across multiple sectors and there is no comprehensive framework for surveillance, risk assessment and coordinated intervention in vulnerable districts. The Committee appreciates the research initiatives undertaken by the Department of Health Research and the Indian Council of Medical Research to generate evidence on the environmental and occupational determinants of CKDu. The Committee, however, believes that preventive public health action should proceed alongside scientific research and should not be deferred until complete causal certainty is established. The Committee, therefore, recommends that the Ministry of Health and Family Welfare in coordination with the Ministries of Labour and Employment, Agriculture and Farmers' Welfare, Jal Shakti, Environment, Forest and Climate Change and the concerned State Governments formulate a National Framework

for Prevention and Surveillance of CKDu with district-specific implementation strategies for identified high-risk areas. The framework should provide for systematic surveillance of CKDu hotspots; periodic occupational health screening of vulnerable workers; access to safe drinking water and adequate hydration facilities at workplaces; implementation of heat mitigation measures in occupations including regular hydration breaks in prolonged outdoor work; strengthening of environmental monitoring wherever warranted; regulation and safe handling of agrochemicals in accordance with existing laws and guidelines; and continued multidisciplinary research to generate robust evidence for future policy interventions. The Committee, in this regard, recommends the establishment of an inter-ministerial coordination mechanism to periodically review implementation and facilitate convergence of health, occupational safety, environmental and climate adaptation measures in CKDu-prone regions.

2.7.3 The Committee concludes that prevention offers the greatest opportunity for reducing the future burden of Chronic Kidney Disease. The significant initiatives have been undertaken by the Government, sustained emphasis on lifestyle modification, early detection, community participation, environmental protection and inter-sectoral coordination will be essential for achieving long-term improvements in kidney health.

CHAPTER – III

SCREENING AND DIAGNOSIS

3.1.1 Chronic Kidney Disease (CKD) is widely recognised as a "silent disease" because it usually remains asymptomatic in its early stages and since the kidneys continue to perform their essential functions even after losing a significant proportion of their functional capacity, the disease often goes undetected until substantial and frequently irreversible kidney damage has already occurred. Consequently, a large proportion of individuals with CKD are diagnosed only at advanced stages of the disease, particularly Stages 4 and 5, when renal replacement therapy in the form of dialysis or kidney transplantation becomes imminent. Evidence placed before the Committee further indicated that a considerable proportion of patients continue to seek medical attention only when they have progressed to advanced stages of the disease, thereby limiting the effectiveness of available therapeutic interventions. Such delayed diagnosis not only results in increased morbidity and mortality but also imposes a significant financial burden on patients, their families and the healthcare system.

3.1.2 The Committee was informed that screening assumes particular importance in India owing to the high prevalence of diabetes mellitus and hypertension, which together account for a substantial proportion of CKD cases. Further, this challenge is compounded by limited public awareness regarding kidney health, inadequate availability of diagnostic facilities beyond urban centres and the absence of a structured nationwide screening programme. Evidence submitted before the Committee also highlights that individuals residing in CKDu-endemic regions, elderly persons, those with cardiovascular disease, obesity and a family history of kidney disease constitute additional high-risk groups requiring systematic surveillance. Experts also emphasized that paediatric CKD, though arising from different causes such as congenital anomalies of the kidney and urinary tract (CAKUT) and glomerular diseases, similarly benefits from timely diagnosis and specialised follow-up.

3.1.3 The Ministry informed the Committee that recognizing the silent nature of CKD, the Government has prioritized:

1. **Prevention and Early Screening:** Regular screening for high-risk groups, particularly individuals with diabetes and hypertension, through integrated NCD programmes.
2. **Slowing Disease Progression:** Emphasis on lifestyle modifications, blood pressure and blood sugar control and timely medical intervention to preserve kidney function.
3. **Quality Care:** Ensuring access to dialysis services and renal transplantation facilities to maintain quality of life for patients in advanced stages.

The focus remains on detecting CKD early when it is most manageable and preventing progression through comprehensive, patient-centered care.

3.1.4 The Committee also believes that early detection of Chronic Kidney Disease (CKD) is fundamental to effective management, as the disease often remains asymptomatic until significant kidney function (up to 60-70%) is lost. The Committee is of the considered view that Screening and diagnosis form the critical bridge between prevention and treatment. In India, where the pooled prevalence of CKD is estimated at approximately 13.24% with substantial regional variation, a robust, accessible and cost-effective screening system is essential to reduce progression to End-Stage Kidney Disease (ESKD), lower treatment costs, and improve patient outcomes. The Committee, keeping in view that the growing burden of diabetes, hypertension and other non-communicable diseases continues to drive the increasing prevalence of kidney disease across the country, is of the view that a precautionary approach or strategic course of action is needed to address it and accordingly, recommends for regular screening for high risk groups particularly individuals with diabetes and hypertension through Non Communicable programmes.

3.2 Screening versus Diagnosis: A Conceptual Distinction

3.2.1 Although often used interchangeably in public discourse, screening and diagnosis serve distinct functions in the CKD care pathway, and this distinction has direct implications for programme design.

Parameter	Screening	Diagnosis
Target population	Asymptomatic individuals or risk groups	Individuals who screened positive or show clinical suspicion
Purpose	Identify likelihood of disease	Confirm presence, stage, and cause of disease
Tests used	Simple, low-cost (creatinine, urine dipstick / ACR)	Precise, often repeated (eGFR, quantitative ACR, imaging, biopsy)
Level of application	Population or risk-group level	Individual, clinician-led
Nature of result	Indicative flag (“investigate further”)	Definitive classification (CKD stage 1–5)

3.3 Screening for Chronic Kidney Disease

Rationale for Screening

3.3.1 Chronic Kidney Disease (CKD) remains largely asymptomatic during its early stages (Stages 1-3), despite the presence of progressive structural and functional damage to the kidneys. This period represents the most favourable window for clinical intervention as timely management of modifiable risk factors can substantially delay or even prevent disease progression. Appropriate control of blood pressure and blood glucose levels, lifestyle modification, avoidance of nephrotoxic medications and initiation of evidence-based pharmacological therapy have potential to preserve kidney function and reduce the risk of progression to end-stage kidney disease.

3.3.2 The Committee strongly believes that early detection through systematic screening is not only clinically beneficial but also economically advantageous for the Indian healthcare system. The cost of screening high-risk individuals and initiating timely treatment is significantly lower than the expenditure incurred in managing advanced Chronic Kidney Disease (CKD), which often necessitates dialysis, kidney transplantation and the treatment of multiple complications. Screening, therefore, represents one of the most cost-effective public health interventions for reducing the overall burden of CKD. The Committee recommends that the Government encourage regular medical consultation and adherence to evidence-based clinical guidance for periodic monitoring and effective control of blood pressure and blood glucose levels and also emphasizes the need for timely lifestyle modifications and the early initiation of evidence-based pharmacological therapy wherever clinically advised, to preserve kidney function and reduce the risk of progression to End-Stage Kidney Disease (ESKD). The Committee is of the considered view that investing in prevention and early intervention is far more cost-effective than treating advanced kidney disease, which imposes a substantial financial burden on the healthcare system while being associated with prolonged patient suffering, diminished quality of life, and increased mortality.

3.4 Screening Tests

3.4.1 Screening for CKD primarily relies upon two complementary investigations that together assess both kidney damage and kidney function.

1. The first is the **Urine Albumin-to-Creatinine Ratio (ACR)**, which is regarded as the most sensitive marker for detecting early kidney damage. Albuminuria frequently develops before any measurable decline in kidney function and therefore serves as an important indicator of incipient CKD. Depending upon the level of healthcare facility, the test may be performed using rapid urine dipstick methods or through quantitative laboratory analysis.

2. The second investigation is **Serum Creatinine**, the value of which, together with the individual's age and sex, is used to calculate the estimated Glomerular Filtration Rate (eGFR), generally using the CKD-EPI equation. The eGFR provides an estimate of kidney filtration capacity and forms the basis for assessing kidney function and staging the severity of CKD.
3. The interpretation of CKD screening results is based on the combined assessment of urine Albumin-to-Creatinine Ratio (ACR) and estimated Glomerular Filtration Rate (eGFR). Persistent albuminuria (ACR ≥ 30 mg/g) in individuals with an eGFR of ≥ 90 mL/min/1.73 m² indicates early kidney damage despite preserved kidney function. Similarly, persistent albuminuria in individuals with an eGFR of 60-89 mL/min/1.73 m² is also considered evidence of CKD when present for three months or more. An eGFR of < 60 mL/min/1.73 m² persisting for three months or more is indicative of impaired kidney function, irrespective of the presence or absence of albuminuria. Thus, the combined assessment of ACR and eGFR forms the basis for the diagnosis, staging and risk stratification of Chronic Kidney Disease.

3.4.2 The Secretary has informed that the protein albumin test in urine through Urine dipstick is conducted at sub-centre level like Ayushman arogya Mandir, Serum creatinine as well as radiological investigations at Community Health centres and Kidney biopsy if needed at Tertiary level of care. The Experts have also submitted that screening for Chronic Kidney Disease should not rely solely on serum creatinine estimation and recommended that kidney function assessment for all high-risk individuals should include serum creatinine with automatic estimation of eGFR, preferably using the CKD-EPI equation, together with urine albumin testing (Albumin-Creatinine Ratio or microalbuminuria) to facilitate early detection of kidney damage and timely clinical intervention.

3.4.3 The Committee notes that serum creatinine continues to be the most widely prescribed laboratory test for assessing kidney function across the country. However, the Committee is constrained to observe that reliance on serum creatinine values alone is inadequate for the early detection of Chronic Kidney Disease (CKD), as serum creatinine often remains within the normal range until nearly half of the kidney function has already been lost. Moreover, interpretation of raw creatinine values without adjustment for age and sex may lead to under-recognition of early CKD, particularly at the primary care level. The Committee also acknowledges the unanimous opinion of experts that kidney function assessment in high-risk individuals should include automatic estimation of the Estimated Glomerular Filtration Rate (eGFR), preferably using the CKD-EPI equation, along with urine albumin estimation rather than relying solely on serum creatinine. In view of the foregoing, the Committee recommends that the Ministry of Health and Family Welfare mandate automatic estimation and reporting of the Estimated Glomerular Filtration Rate (eGFR), preferably using the CKD-EPI equation, along with every serum creatinine test conducted in public and private diagnostic laboratories, without requiring a separate test

request or additional cost to the patient. The Committee further recommends that appropriate laboratory standards and quality assurance protocols be revised to ensure uniform implementation of this requirement across the country. The Committee believes that mandatory eGFR reporting will facilitate early detection of Chronic Kidney Disease, enable timely clinical intervention and referral, and significantly strengthen the national strategy for CKD prevention and control.

3.5 Target Population for Risk-Based Screening

3.5.1 Considering India's large population, diverse healthcare needs and resource constraints, the Committee believes that the current approach to CKD screening is based on identification of individuals at high risk rather than universal population-based screening. Evidence placed before the Committee consistently emphasized that targeted screening of high-risk populations is both clinically effective and cost-efficient in reducing the burden of advanced kidney disease. The Committee was informed that timely identification of kidney disease among high-risk individuals facilitates early intervention, delays disease progression and substantially reduces the future requirement for dialysis and kidney transplantation.

3.5.2 The Committee observes that Chronic Kidney Disease (CKD) remains largely asymptomatic during its early stages and is therefore frequently diagnosed only after significant and irreversible loss of kidney function has occurred. The Committee notes with serious concern the indiscriminate use of pain killers by the young generation who are inclined towards sedentary life style and associated risks. Instances of undiagnosed hypertension have increased amongst the younger generation leading to silent onset of kidney disease which is now assuming epidemic proportion. Although CKD screening has been integrated under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), the present approach is largely based on opportunistic screening of individuals attending Ayushman Arogya Mandirs and other health facilities. The Committee is concerned that such occasional approach intervention does not ensure periodic screening of all high-risk individuals and largely depends on patient attendance for check up resulting in delayed diagnosis and missed opportunities for early intervention. The Committee, therefore, recommends that the Ministry institutionalise regular Annual CKD screening of all high-risk individuals and mandatory biannual Kidney Function Test (KFT) of all persons aged 20 years & above, free of cost for persons Below Poverty Line (BPL) and on nominal cost for Above Poverty Line (APL) persons under the NP-NCD to enable early diagnosis and delay disease progression. The screening should include assessment of kidney function using eGFR and urine albumin/protein testing, along with appropriate referral and follow-up. The Committee further recommends maintaining longitudinal digital records of screened individuals to monitor disease progression, support continuity of care, strengthen programme monitoring, and generate reliable evidence for future policy formulation and resource planning.

3.5.3 The Committee understands that principal high-risk groups requiring periodic screening include individuals with diabetes mellitus and hypertension, which together account for the majority of CKD cases in the country. Such individuals should undergo regular kidney function assessment, preferably on an annual basis, to facilitate early detection and timely intervention. Other priority groups include adults above 60 years of age; individuals with a family history of kidney disease; persons with obesity or tobacco use; and individuals with a history of acute kidney injury (AKI), recurrent urinary tract infections, recurrent kidney stones or prolonged exposure to nephrotoxic medications, including non-steroidal anti-inflammatory drugs (NSAIDs). The Committee takes into account the immediate increasing significance of screening among occupational and agrarian populations residing in regions affected by Chronic Kidney Disease of Unknown Etiology (CKDu), particularly in parts of Andhra Pradesh, Odisha and Karnataka. Evidence suggests that prolonged exposure to heat stress, recurrent dehydration and agrochemicals that may contribute to kidney damage in these populations. The Committee, therefore, that targeted screening in such endemic regions is therefore essential for early identification of affected individuals and for generating epidemiological evidence to better understand the disease burden and its determinants for early detection and necessary medical intervention.

3.6 Existing Screening Framework in India

3.6.1 The Ministry informed that Screening services for chronic kidney disease are delivered under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) through Ayushman Arogya Mandirs (AAMs) which serve as the primary platform for community-based screening and early detection of non-communicable diseases. Individuals identified with diabetes mellitus, hypertension and other risk factors are assessed for kidney disease in accordance with programme guidelines, while district hospitals and higher health facilities provide confirmatory diagnostic investigations and referral support. A substantial proportion of CKD screening and diagnostic testing is also undertaken by private diagnostic laboratories, particularly in urban areas. While these facilities enhance the overall availability of diagnostic services, dependence on the private sector often results in inequitable access owing to out-of-pocket expenditure, particularly for economically weaker sections of the population.

3.6.2 The Secretary, Ministry of Health & Family Welfare informed that the country has a network of 1.8 lakh Ayushman Arogya Mandirs which provide preventive and promotive care. The screening activities undertaken at Ayushman Arogya Mandir:

Ayushman Arogya Mandir : Achievements (As on 11th Nov 2025)

• **Screening Activities**

• Hypertension :	39.44 crore people screened
• Diabetes :	39.29 crore people screened
• Oral Cancer :	33.28 crore people screened
• Breast Cancer :	15.57 crore people screened
• Cervical Cancer :	8.23 crore people screened

3.6.3 The Committee acknowledges that the Ministry has integrated Chronic Kidney Disease screening within the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) and has leveraged the extensive network of Ayushman Arogya Mandirs (AAMs) to undertake large-scale population-based screening population-based screening of major non-communicable diseases. The Committee, however, expresses concern that implementation of kidney health assessment remains inconsistent across States owing to variations in infrastructure, availability of trained manpower, diagnostic facilities and referral mechanisms. The Committee observes that the existing screening framework needs to be streamlined to provide a strong foundation for early detection of Chronic Kidney Disease among vulnerable groups. Keeping into account, the absence of standardized protocols, uneven implementation across States and inadequate integration of kidney health assessment in routine management of diabetes and hypertension continue to limit its effectiveness, the Committee, therefore, recommends that the Ministry of Health and Family Welfare should develop and implement a uniform national screening protocol for Chronic Kidney Disease under the NP-NCD. The Committee further recommends that all primary health facilities including Ayushman Arogya Mandirs, must adopt mandatory standardized screening pathways for individuals with high-risk factors, supported by clearly defined referral mechanisms, standard operating procedures and periodic monitoring of programme outcomes.

3.6.4 The Committee believes that the effectiveness of screening for Chronic Kidney Disease (CKD) under the National Programme for Prevention and Control of Non-Communicable Diseases undertaken through Ayushman Arogya Mandirs is inherently dependent upon individuals voluntarily visiting these facilities. Given that CKD remains largely asymptomatic during its early stages and public awareness regarding kidney health continues to be low, a significant proportion of at-risk individuals do not seek screening until the disease has progressed to advanced stages. Consequently, valuable opportunities

for early diagnosis and timely intervention are often missed. The Committee is therefore of the opinion that community-based outreach should complement facility-based screening. In this regard, frontline workers like Accredited Social Health Activists (ASHAs), by virtue of their regular household visits and close engagement with the community, should play a pivotal role in identifying individuals at risk of CKD. The Committee, therefore, recommends that the Ministry examine the feasibility of training ASHA workers to undertake preliminary urine dipstick testing for proteinuria among high-risk individuals during home visits or village health activities. Individuals exhibiting adverse findings may thereafter be referred to the nearest Ayushman Arogya Mandir or higher health facility for confirmatory investigations, including serum creatinine estimation, urine albumin assessment and eGFR evaluation. Such a decentralised screening approach system would substantially improve early case detection, enhance coverage among vulnerable populations, reduce delays in diagnosis and ultimately lessen the burden of advanced CKD requiring expensive renal replacement therapy.

3.7 Diagnostic Modalities for Chronic Kidney Disease

3.7.1 The Committee notes that accurate and timely diagnosis of Chronic Kidney Disease (CKD) is fundamental to preventing disease progression and reducing the burden of End-Stage Kidney Disease (ESKD). The Ministry informed the Committee that CKD is diagnosed based on persistent abnormalities of kidney structure or function present for more than three months, with implications for health. Diagnosis generally requires assessment of kidney function together with evidence of kidney damage and should be interpreted in conjunction with the patient's clinical history and risk profile.

3.8 Conventional Methods of Screening and Diagnosis

3.8.1 The diagnosis of CKD is based on internationally accepted criteria involving assessment of kidney function and evidence of kidney damage persisting for at least three months.

- A. **Serum Creatinine and Estimated Glomerular Filtration Rate (eGFR):** Serum creatinine remains the most widely used and convenient blood test for detecting CKD in India. It serves as a key component in formulas such as the updated 2021 CKD-EPI (Chronic Kidney Disease Epidemiology Collaboration) equation and the MDRD (Modification of Diet in Renal Disease) equation for estimating Glomerular Filtration Rate (eGFR). The 2021 CKD-EPI equation, which removes race-based adjustments, is now widely accepted as the international standard for estimation of kidney function. eGFR forms the basis for classification of CKD into eGFR stages (G1 to G5) and is interpreted alongside albuminuria categories (A1 to A3) as recommended under the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines.

- B. **Urine Albumin-to-Creatinine Ratio (ACR):** Urine Albumin-to-Creatinine Ratio (ACR) is a sensitive marker of kidney damage and plays a central role in the early detection of CKD. Current KDIGO guidelines classify albuminuria into three categories: A1 (normal to mildly increased, <30 mg/g), A2 (moderately increased, 30–300 mg/g), and A3 (severely increased, >300 mg/g). Urine dipstick tests for protein remain the primary screening tool at the primary healthcare level owing to their simplicity, low cost and ease of deployment in community settings.
- C. **Other Supporting Tests:** Renal imaging (ultrasound), urine sediment analysis, and kidney biopsy (in selected cases) provide additional information on structural abnormalities or specific etiologies.

These conventional methods are incorporated into the standard workflows issued under NP-NCD and are available free of cost at public health facilities as per Indian Public Health Standards (IPHS).

3.9 Limitations of Conventional Diagnostic Methods

3.9.1 While widely used, conventional tests have several important limitations that affect their reliability for early detection:

- a. **Delayed Detection:** The relationship between serum creatinine and kidney function is non-linear. Significant reductions in GFR may occur during the early stages of CKD with only minimal increases in serum creatinine levels. Consequently, reliance solely on serum creatinine may result in delayed detection of kidney disease, particularly in patients with early-stage CKD.
- b. **Non-Renal Influences:** Creatinine levels are significantly affected by factors such as age, sex, muscle mass, diet, hydration status, and physical activity. For instance, Elderly patients, malnourished individuals and persons with low muscle mass may exhibit deceptively low serum creatinine levels despite significant reduction in kidney function.
- c. **Variability in Interpretation:** Accurate eGFR estimation requires standardized laboratory methodologies and quality-assured creatinine assays. Variations in laboratory practices and limited availability of Isotope Dilution Mass Spectrometry (IDMS)-traceable creatinine assays, particularly in rural and resource-constrained settings, may affect the accuracy and comparability of kidney function assessments.
- d. **Limited Sensitivity in Certain Populations:** In cases of Chronic Kidney Disease of Unknown Etiology (CKDu), reported from certain agricultural and rural regions of India including parts of Andhra Pradesh, Odisha and other States, traditional markers may not adequately detect early tubular injury and environmental or occupational kidney damage. These limitations highlight the need for more sensitive and specific tools, particularly for population-level screening and high-risk groups in resource-constrained settings.

3.10 Emerging Biomarkers and Advanced Diagnostic Approaches

3.10.1 Evidence submitted before the Committee also highlighted that to overcome the shortcomings of conventional tests, emerging biomarkers are being explored for earlier and more accurate detection:

- a. **Cystatin C:** This is considered a superior marker for estimating GFR as it is less influenced by diet, muscle mass, age, or sex compared to creatinine. It offers greater accuracy in early CKD detection.
- b. **Neutrophil Gelatinase-Associated Lipocalin (NGAL):** Primarily useful for detecting acute kidney injury but also shows promise in CKD.
- c. **Kidney Injury Molecule-1 (KIM-1):** A specific marker for tubular damage, particularly relevant in CKDu cases linked to environmental toxins.
- d. Other emerging biomarkers, including urinary Liver-type Fatty Acid-Binding Protein (L-FABP) and Beta-2 Microglobulin, are also being evaluated for their potential role in detecting early kidney injury and tubular dysfunction. While these biomarkers show promise for improving diagnostic accuracy, their widespread use requires further validation, cost reduction and integration into routine healthcare services.

Table 3.3: Common Diagnostic Modalities for Chronic Kidney Disease

Diagnostic Modality	Purpose	Clinical Utility
Serum Creatinine	Initial assessment of kidney function	Widely available but should be interpreted with eGFR
Estimated Glomerular Filtration Rate (eGFR)	Assessment and staging of CKD	Preferred indicator of kidney function
Urine Albumin-to-Creatinine Ratio (UACR)	Detection of albuminuria	Early marker of kidney damage
Routine Urinalysis	Detection of proteinuria, haematuria and urinary abnormalities	Supports diagnosis of underlying renal disease
Ultrasonography	Assessment of kidney size and structure	First-line imaging investigation
CT/MRI	Detailed anatomical evaluation	Used in selected clinical situations
Kidney Biopsy	Histopathological diagnosis	Gold standard for selected renal diseases

Diagnostic Modality	Purpose	Clinical Utility
Novel Biomarkers (Cystatin-C, NGAL, KIM-1, IL-18)	Early detection of kidney injury	Emerging tools; currently limited to selected settings

3.10.2 The Committee takes note of the various diagnostic techniques currently available, as well as the emerging biomarkers and technologies for the diagnosis of Chronic Kidney Disease (CKD). The Committee observes that no single diagnostic modality is effective enough for the accurate detection and assessment of CKD and that each investigation has a distinct and complementary role depending on the clinical presentation, stage of disease and underlying cause. The Committee is of the considered view that the diagnosis of CKD should be based on a comprehensive clinical assessment incorporating kidney function tests, urine examination, imaging studies and, where clinically indicated, histopathological evaluation. The Committee further believes that strengthening diagnostic infrastructure, ensuring quality-assured laboratory services, promoting standardised reporting practices and facilitating equitable access to advanced diagnostic technologies are essential for improving early diagnosis, guiding appropriate treatment and enhancing long-term patient outcomes.

3.10.3 The Committee notes that while these emerging biomarkers viz Cystatin-C, NGAL, KIM-1, IL-18, Microglobulin etc. offer significant potential for earlier and more precise diagnosis, current costs, infrastructure requirements and limited availability may restrict their immediate applicability for large-scale population screening. The Committee, however, recommends that the initial use of emerging biomarkers may therefore be prioritised for pilot projects, tertiary care settings and CKDu research programmes and upon success of pilot projects, may later be implemented at macro level.

3.11 Staging of Chronic Kidney Disease

3.11.1 Following confirmation of the diagnosis, CKD is classified in accordance with the internationally accepted Kidney Disease: Improving Global Outcomes (KDIGO) staging framework. The staging system integrates two complementary parameters: the estimated Glomerular Filtration Rate (eGFR), categorised from G1 to G5 according to the degree of kidney function, and the degree of albuminuria, categorised from A1 to A3 based on the Urine Albumin-to-Creatinine Ratio (ACR).

3.11.2 The Committee understands that combined assessment of kidney function and albuminuria provides a comprehensive estimate of disease severity and the risk of disease progression. It also serves as the basis for determining the frequency of monitoring, the intensity of therapeutic intervention, management of associated complications and the need for referral to specialised nephrology services. The Committee, therefore, recommends the Ministry for adoption of a standardised staging system which further facilitates uniform

clinical decision-making and comparability of patient data across healthcare institutions. The Committee observes that uniform adoption of the KDIGO staging framework across all levels of the healthcare system would promote consistency in diagnosis, facilitate standardised clinical management and enable meaningful aggregation of CKD data for surveillance, programme monitoring and health policy planning.

3.12 Identification of the Underlying Cause

3.12.1 An essential component of CKD diagnosis is the identification of the underlying cause, as determination of the aetiology has important implications for treatment, prognosis and preventive strategies. Diagnostic evaluation includes a detailed clinical history covering the duration and control of diabetes mellitus and hypertension, exposure to nephrotoxic medications including non-steroidal anti-inflammatory drugs (NSAIDs), occupational and environmental exposures, previous episodes of acute kidney injury, recurrent urinary tract infections, recurrent kidney stones and family history of kidney disease.

3.12.2 The Committee finds that certain clinical presentations require more specialised diagnostic evaluation. These include rapid deterioration in kidney function, nephrotic-range proteinuria, persistent haematuria, systemic manifestations suggestive of autoimmune disease and occurrence of CKD in younger individuals without an apparent cause. In such situations, kidney biopsy, genetic evaluation where indicated or detailed family history assessment may be necessary to establish the precise diagnosis of underlying glomerular, tubulointerstitial or hereditary kidney disorders.

3.13 Referral for Specialist Care

3.13.1 Initial diagnosis and staging of CKD are generally undertaken at the primary or secondary healthcare level based on clinical assessment and laboratory investigations. However, timely referral to a nephrologist is essential for patients with advanced disease, rapidly progressive kidney dysfunction or complex clinical presentations requiring specialised evaluation and management.

3.13.2 Referral is generally indicated for individuals with Stage 3 CKD or more advanced disease, rapidly declining kidney function, significant or persistent proteinuria, resistant hypertension, electrolyte abnormalities, suspected hereditary or glomerular kidney diseases or where diagnostic uncertainty persists despite initial evaluation.

3.13.3 The Committee expresses concern that referral pathways between primary, secondary and tertiary healthcare facilities remain inadequately developed in several parts of the country. Limited availability of nephrologists, particularly in rural, tribal and geographically remote regions, often delays specialist consultation and continuity of care. Strengthening referral mechanisms and improving access to specialist services are

therefore critical for ensuring timely diagnosis and appropriate management of CKD. The Committee, therefore, recommends the Ministry to plan necessary institutional arrangements for early referral & comprehensive disease management leading to timely preparation for kidney replacement therapy where required and improved long-term clinical outcomes.

3.14 Population-Based Surveillance and Data Generation

3.14.1 The Committee notes that efforts are also underway to strengthen population-level surveillance of kidney disease. The Department of Health Research informed the Committee that annual population-based surveys are being conducted through 32 Model Rural Health Research Units established across different regions of the country. These surveys include collection of serum creatinine measurements and estimation of glomerular filtration rate, thereby generating valuable evidence on the prevalence and distribution of kidney disease in rural populations. The Committee considers such initiatives important for strengthening the evidence base required for planning preventive and diagnostic services.

3.15 Research and Innovation in Early Diagnosis

3.15.1 The Committee is pleased to note that several Indian institutions are undertaking research to improve early diagnosis of CKD through development of novel biomarkers and advanced diagnostic tools. The Committee appreciates that the Centre for Advanced Research on Kidney Disease at SGPGIMS, Lucknow has developed patented urinary exosome microRNA biomarkers for early detection of CKD and diabetic nephropathy. The Committee understands that research must continue on genomic testing, kidney genetics services and artificial intelligence-based prediction models integrating retinal imaging and clinical parameters. The Committee believes that such technologies hold promise for improving risk stratification and early detection, particularly among high-risk populations.

3.16 Integration with Digital Health Infrastructure

3.16.1 The Committee notes that digital health initiatives have considerable potential to strengthen the screening, diagnosis and long-term management of Chronic Kidney Disease across the country. The Ayushman Bharat Digital Mission (ABDM) provides an opportunity to integrate CKD screening and diagnostic records with individual digital health identifiers, thereby enabling longitudinal tracking of at-risk individuals across different healthcare facilities and levels of care. Such integration would improve continuity of care, facilitate timely follow-up and reduce fragmentation in patient management.

3.16.2 The Committee further notes that tele-nephrology can significantly enhance access to specialist consultation, particularly for patients residing in rural, remote and underserved areas where nephrology services remain limited. Strengthening referral linkages between primary

healthcare facilities and tertiary nephrology centres through telemedicine can improve timely diagnosis, optimise disease management and reduce avoidable delays in specialist care.

3.16.3 The Committee also observes that digital databases generated under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) provide an important opportunity for data-driven risk stratification. Integration of diabetes and hypertension registries with CKD screening protocols can facilitate automated identification of individuals due for kidney function assessment, improve follow-up of high-risk populations and strengthen the effectiveness of screening programmes.

3.16.4 The Committee acknowledges that the Ayushman Bharat Digital Mission offers significant opportunities for strengthening screening, diagnosis and long-term management of Chronic Kidney Disease through digital health records, electronic referrals and improved continuity of care. The Committee also notes that experts have highlighted the importance of leveraging digital technologies for disease surveillance, patient tracking and clinical decision support. The Committee is of the considered view that digital health interventions should complement existing healthcare services and contribute to more efficient implementation of risk-based screening and referral mechanisms, particularly in rural and underserved areas. The Committee, therefore, recommends that the Ministry of Health and Family Welfare to leverage the Ayushman Bharat Digital Mission to develop an integrated digital framework for Chronic Kidney Disease, including electronic referral pathways, longitudinal patient records, monitoring of high-risk individuals and linkage with a proposed National CKD Registry. The Committee further recommends that suitable digital decision-support tools be developed for primary healthcare providers to facilitate timely identification and referral of suspected CKD cases while ensuring appropriate safeguards for data privacy and security.

CHAPTER – IV

TREATMENT MODALITIES

4.1.1 The management of Chronic Kidney Disease follows a graded, stage-based approach, moving from conservative medical management in the early and intermediate stages of the disease to renal replacement therapy - comprising haemodialysis, peritoneal dialysis and kidney transplantation - once the disease advances to End-Stage Kidney Disease (ESKD). The Ministry apprised the Committee that recognising the silent and progressive nature of CKD, the national approach to treatment rests on three priorities, namely, prevention and early screening of high-risk groups through integrated non-communicable disease programmes; slowing disease progression through lifestyle modification, blood pressure and blood glucose control and timely medical intervention; and ensuring quality care through access to dialysis services and kidney transplantation for patients in advanced stages. This Chapter examines the clinical modalities through which CKD is treated in India. The institutional and programmatic architecture through which the Government delivers these modalities including the Pradhan Mantri National Dialysis Programme, the National Organ Transplant Programme and associated financial protection schemes etc.

4.1.2 The Committee finds that Chronic Kidney Disease, if not managed through a multidisciplinary approach involving physicians, nephrologists, endocrinologists, dieticians and social support systems, progresses inexorably towards End-Stage Kidney Disease, leaving kidney transplantation as the only curative option. In the absence of separate management guidelines from the World Health Organization, the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines form the basis of clinical management protocols for CKD followed by nephrologists in India. The Committee was further informed that the Medical Officers' Manual for Prevention and Management of Chronic Kidney Diseases, issued by the Directorate General of Health Services in 2022, provides the standard national reference for CKD management across the public healthcare system.

4.2 Stage-wise Management of Chronic Kidney Disease

4.2.1 The management of Chronic Kidney Disease (CKD) is guided by the stage of disease, the underlying cause of kidney damage, the degree of albuminuria, associated comorbidities and the overall clinical condition of the patient. A stage-wise approach facilitates timely intervention, appropriate use of healthcare resources and individualized treatment aimed at slowing disease progression, preventing complications and improving long-term outcomes. Treatment strategies evolve with advancing disease severity, progressing from measures aimed at preventing further kidney damage in the early stages to comprehensive management of complications and preparation for kidney replacement therapy in advanced stages. The Committee notes that early

initiation of evidence-based treatment has the potential to substantially delay progression to kidney failure and reduce the need for kidney replacement therapy.

CKD Stage	Clinical Focus	Key Management Measures
Stages G1 - G2 (Early CKD)	Prevent or slow disease progression and reduce cardiovascular risk	Control hypertension and diabetes mellitus; lifestyle modification including healthy diet, weight management, regular physical activity, smoking cessation and moderation of alcohol consumption; avoid nephrotoxic medications, particularly NSAIDs, unless medically indicated; regular monitoring of kidney function, albuminuria, blood pressure and metabolic parameters.
Stage G3 (Moderate CKD)	Preserve kidney function and identify CKD-related complications at an early stage	Periodic evaluation for anaemia, CKD-mineral and bone disorder, electrolyte abnormalities, metabolic acidosis and cardiovascular disease; adjust medication dosage according to renal function; nutritional assessment, immunization and cardiovascular risk reduction; timely referral to nephrology services for rapid decline in kidney function, persistent significant albuminuria or resistant hypertension.
Stages G4 - G5 (Advanced CKD)	Manage complications, delay kidney failure and prepare for kidney replacement therapy	Regular monitoring of renal function, blood pressure, fluid status, electrolyte balance and nutritional status; management of anaemia, CKD-mineral and bone disorder, metabolic acidosis, hyperkalaemia and cardiovascular disease; advance planning for kidney replacement therapy, including vascular access for haemodialysis, evaluation for kidney transplantation, peritoneal dialysis or conservative kidney management, based on the patient's clinical condition and preferences.

Conservative and Pharmacological Management

4.3 Lifestyle and Dietary Modification

4.3.1 The Committee was informed that conservative management of Chronic Kidney Disease (CKD) primarily focuses on slowing disease progression and reducing the risk of complications

through appropriate lifestyle and dietary modifications. As CKD progresses gradually, timely adoption of these measures plays a significant role in preserving kidney function and improving the quality of life of patients.

4.3.2 Lifestyle modification constitutes an essential & most effective component of conservative CKD management. Patients are advised to maintain a healthy body weight, engage in regular physical activity, reduce dietary salt intake, discontinue tobacco use, limit alcohol consumption, ensure adequate sleep, manage stress effectively and avoid nephrotoxic substances. These measures not only help slow disease progression but also reduce the risk of associated cardiovascular complications.

4.3.3 The Committee observes that awareness regarding lifestyle and dietary measures for CKD prevention and management remains limited among a large section of the population. It is, therefore, essential to strengthen community-based health education and integrate kidney health promotion with ongoing non-communicable disease programmes to encourage adoption of healthy lifestyles, facilitate early behavioural changes and improve long-term health outcomes.

4.4 Pharmacological Management of CKD and Associated Complications

4.4.1 The Committee finds that pharmacological management of CKD focuses on control of blood pressure using Angiotensin Converting Enzyme (ACE) inhibitors or Angiotensin Receptor Blockers (ARBs) in the early stages, strict glycaemic control in patients with diabetes and use of statins for protection against cardiovascular disease which remains the leading cause of mortality among CKD patients. As kidney function declines, medication dosages require careful adjustment and monitoring, particularly since a majority of CKD patients also live with diabetes, hypertension or cardiovascular disease and are consequently on multiple concurrent medications, increasing the risk of adverse drug interactions.

4.4.2 The Committee was apprised that anaemia and mineral and bone disorders constitute major complications requiring pharmacological management particularly in patients with End-Stage Kidney Disease. Anaemia in CKD arises principally from reduced production of erythropoietin, compounded by iron deficiency, chronic inflammation and blood loss during dialysis and is managed through iron supplementation, erythropoiesis-stimulating agents and correction of nutritional deficiencies, with haemoglobin maintained between 11 and 12 grams per decilitre in line with international guidelines. The Committee notes that Erythropoietin injection has been included in the Essential Medicine List under the Indian Public Health Standards (2022) at the district hospital level, thereby improving its availability within the public healthcare system.

4.4.3 The Committee observes that effective management of CKD extends beyond clinical treatment and is heavily dependent upon sustained patient education, dietary counselling and long-term adherence to prescribed medications and lifestyle modifications. However, the Committee expresses concern that patient education and counselling services remain inadequate across the healthcare system owing to the shortage of trained renal

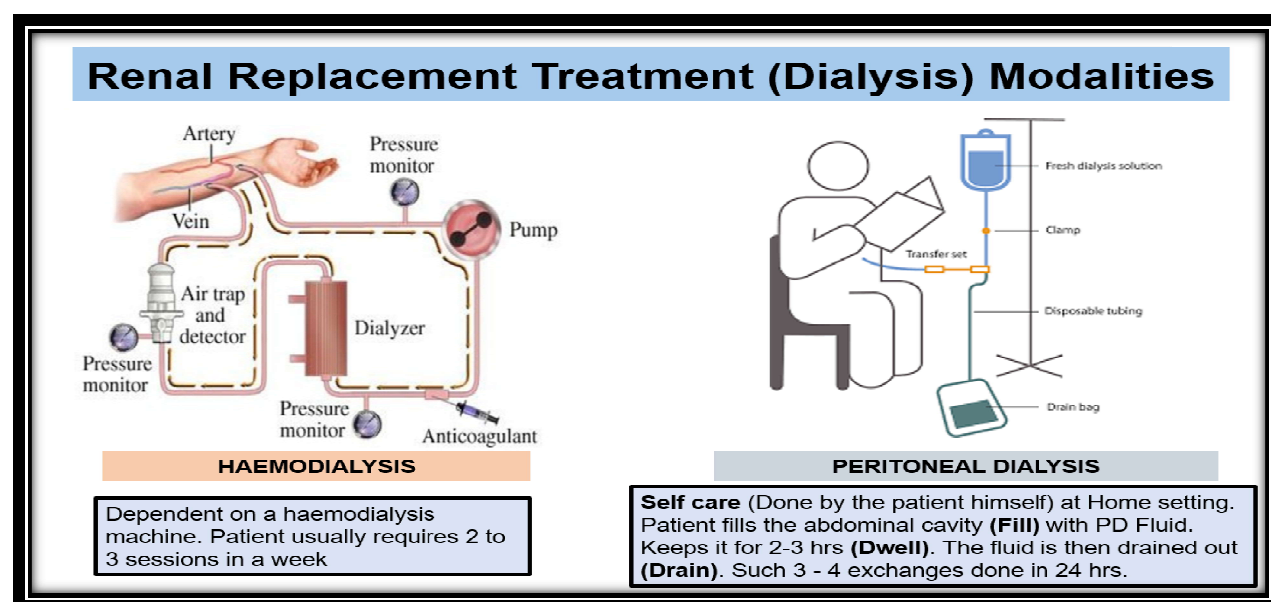
dietitians, limited counselling time during routine nephrology consultations and the absence of standardized, patient-friendly educational resources particularly for individuals with low health literacy especially in rural areas. The Committee, therefore views that unless these systemic gaps are addressed, patients are likely to experience poor treatment adherence, avoidable disease progression and increased healthcare costs. The Committee, in this regard, recommends that the Ministry of Health and Family Welfare must strengthen patient education and counselling services by developing standardized multilingual and low-literacy educational resources, establishing structured counselling protocols across all levels of healthcare facilities. The Committee also recommends for capacity building of Medical Officers, nurses and Community Health Officers to ensure professional proficiency at Ayushman Arogya Mandirs in CKD counselling and patient education, along with appropriate training and effective utilisation of ASHA workers for periodic household follow-up, counselling, reinforcement of dietary and medication adherence, and timely referral of CKD patients wherever necessary.

4.5 Kidney Replacement Therapy: Dialysis Services

Dialysis Modalities

4.5.1 The Committee was informed that once CKD progresses to End-Stage Kidney Disease, patients require kidney replacement therapy in the form of either dialysis or kidney transplantation. Dialysis is delivered through two principal modalities, namely haemodialysis, in which blood is filtered through a dialysis machine generally requiring two to three sessions a week at a dialysis centre and peritoneal dialysis, a self-care modality performed by the patient at home using the lining of the abdominal cavity as a natural filtering membrane.

Table 4.1: Comparison of Haemodialysis and Peritoneal Dialysis



A comparative summary of the two modalities: -

Parameter	Haemodialysis	Peritoneal Dialysis
Setting	Dialysis centre, using a haemodialysis machine	Home-based, self-administered by the patient
Frequency	Generally 2 to 3 sessions per week	3 to 4 fluid exchanges over 24 hours
Process	Blood filtered externally through a dialysis machine	Abdominal cavity filled with dialysis fluid (Fill), retained for 2–3 hours (Dwell), then drained (Drain)
Suitability	Patients with access to a dialysis centre	Patients in remote/inaccessible areas; reduces travel burden

4.5.2 The Committee was informed that the choice between haemodialysis and peritoneal dialysis is guided by clinical suitability, residual kidney function, cardiovascular status, patient preference and the practicality of home-based self-care and is arrived at through shared decision-making between the treating nephrologist and the patient. Peritoneal dialysis, in particular, is recognised as a valuable option for patients residing in remote or difficult-to-access areas, as it reduces the need for frequent travel to a dialysis centre.

4.6 Delivery of Dialysis Services

4.6.1 The Secretary informed the Committee that the Pradhan Mantri National Dialysis Programme (PMNDP) is the Government's flagship initiative for providing dialysis services to patients with kidney failure through the public health system. The programme provides free haemodialysis services to BPL patients, while non-BPL patients receive services at subsidised rates.

The programme has two components:

- **Haemodialysis (HD):** Delivered through dialysis centres established in government health facilities under the supervision of nephrologists. Patients generally require two to three dialysis sessions per week.
- **Peritoneal Dialysis (PD):** Can be undertaken at home for patients considered suitable by nephrologists. Although home-based, it requires three to four exchanges every 24 hours, thereby offering greater convenience and reducing the need for frequent hospital visits.

4.6.2 The Secretary highlighted the substantial growth in programme utilisation, noting that annual haemodialysis sessions increased from about 25 lakh in 2019-20 to around 70 lakh in 2024-25. Between 2019 and 2025, the number of cumulative beneficiaries increased nearly seven-fold, while the total dialysis sessions increased almost nine-fold. The Secretary further informed the Committee that the programme has significantly reduced patients' out-of-pocket

expenditure by nearly ₹ 9,400 crore, while the Government's expenditure on the programme has been around ₹ 1,500 crore, demonstrating substantial financial protection for patients.

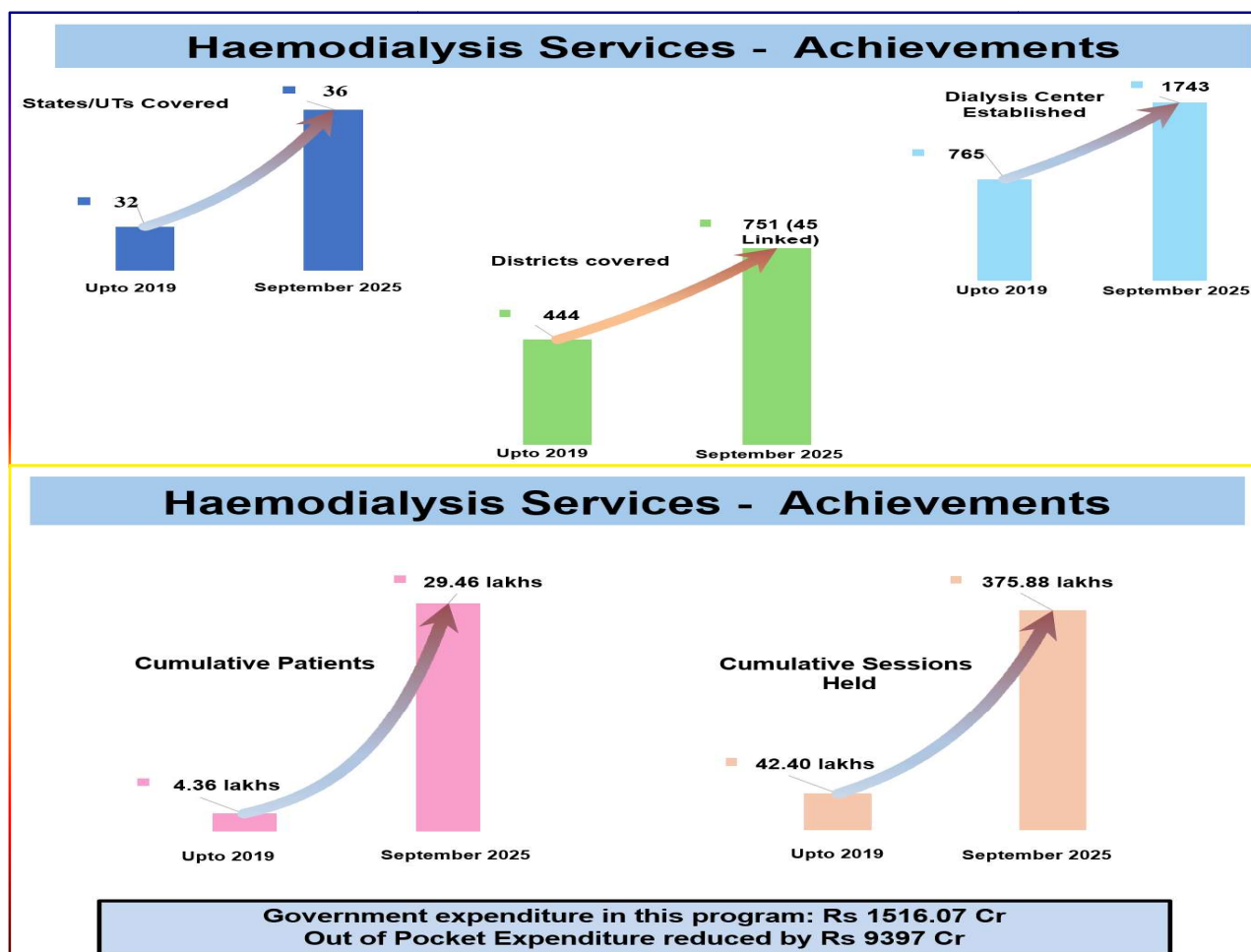


Table 4.2: National Status of PMNDP (as on 30 September 2025)

Particulars	Status
States/UTs Covered	36
Districts Covered	751
Dialysis Centres Functional	1,743
Haemodialysis Machines Installed	12,402
Patients Benefited	29.46 lakh
Haemodialysis Sessions Conducted	375.88 lakh

4.6.3 The Committee notes from the deposition of the Secretary, Ministry of Health and Family Welfare, that while the utilisation of haemodialysis services under the Pradhan Mantri National Dialysis Programme (PMNDP) has increased substantially, with annual dialysis sessions rising from about 25 lakh to 70 lakh over the last five years, the uptake of Peritoneal Dialysis (PD) remains limited despite its availability in selected States. The Committee observes that the continued reliance on facility-based haemodialysis, despite the advantages of home-based Peritoneal Dialysis in reducing travel burden, out-of-pocket expenditure and improving patients' quality of life, reflects gaps in awareness, trained manpower, availability of PD consumables, institutional support, and patient counselling, where haemodialysis continues to be presented as the default treatment option. The Committee is of the view that Peritoneal Dialysis is particularly suited to India's vast rural and remote population and should be promoted as the preferred first-line renal replacement therapy for clinically suitable patients. The Committee, therefore, recommends that the Ministry formulate and implement a comprehensive strategy to promote Peritoneal Dialysis under PMNDP through structured pre-dialysis patient counselling at the point of CKD diagnosis, strengthening healthcare provider capacity, ensuring uninterrupted availability of PD consumables, providing necessary financial and logistical support for home-based dialysis, and prescribing measurable national targets for increasing the proportion of patients on Peritoneal Dialysis, thereby reducing dependence on facility-based haemodialysis and improving access to affordable, patient-centric renal care.

4.7 Conservative (Non-Dialytic) Kidney Management and Integration of Palliative Care

4.7.1 Conservative Kidney Management (CKM), also referred to as Comprehensive Conservative Care, is a planned, patient-centred approach for the management of individuals with advanced Chronic Kidney Disease (CKD) who are unlikely to benefit from or choose not to undergo, kidney replacement therapy. It is also recognised under international clinical guidelines, including KDIGO as a legitimate and dignified treatment pathway for selected patients particularly the elderly and those with multiple serious comorbidities. Conservative Kidney Management is based on informed and shared decision-making between the patient, family and the treating team focussing on optimizing quality of life through active symptom control, management of complications such as anaemia and fluid overload, preservation of functional independence and provision of holistic medical, psychological, supportive and palliative care without initiation of dialysis.

4.7.2 The Committee appreciates the Ministry's efforts in expanding access to dialysis and kidney transplantation through the Pradhan Mantri National Dialysis Programme (PMNDP). However, it observes that Conservative Kidney Management (CKM) is an active and patient-centred treatment pathway and should not be regarded as the withdrawal or withholding of medical care. The Committee further observes that CKM has not received commensurate policy attention despite being a clinically recognised treatment option for elderly patients, those with multiple comorbidities and others who are unsuitable

for or choose not to undergo renal replacement therapy. The absence of structured CKM pathways and integrated palliative care services may lead to unnecessary interventions, increased financial burden, and compromised quality of life for such patients. The Committee, therefore, recommends that the Ministry of Health and Family Welfare should develop and institutionalise a structured framework for Conservative Kidney Management by incorporating standard treatment protocols, shared decision-making guidelines, symptom management and palliative care services under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) while ensuring adequate training of healthcare providers and counselling support for patients and their families.

4.8 Kidney Replacement Therapy: Kidney Transplantation

4.8.1 The Committee was informed that kidney transplantation is widely regarded as the optimal treatment for End-Stage Kidney Disease, generally offering better survival and quality of life than long-term dialysis in suitable patients. Transplantation may be performed using a kidney from a living donor, typically a genetically or emotionally related family member or from a deceased donor following brain-stem death, through the network coordinated under the National Organ Transplant Programme. Prospective recipients undergo a comprehensive clinical evaluation, including assessment of cardiovascular and infective status, tissue and blood group compatibility, and psychosocial readiness, prior to being placed on the transplant waiting list.

4.8.2 The Committee was informed that transplantation is associated with better long-term survival outcomes and lower healthcare expenditure over time when compared to lifelong dialysis. Consequently, transplantation is widely regarded as the preferred treatment modality for eligible patients. The National Organ Transplant Programme (NOTP) provides the institutional and policy framework for organ donation and transplantation in India. The programme seeks to strengthen organ donation systems, expand transplantation services and promote public awareness regarding organ donation.

4.8.3 The Committee notes that despite substantial progress in transplantation services, the demand for donor organs continues to far exceed availability. Information furnished to the Committee indicates that a waiting list of approximately 61,668 patients for kidney transplantation exists across the country. The Committee further notes that living donor transplants continue to substantially outnumber deceased donor transplants. Major transplantation centres are concentrated in a limited number of States including Delhi, Tamil Nadu, Maharashtra, Gujarat and Karnataka. While these States have developed relatively robust transplant ecosystems, access remains uneven across the country.

4.9 Status of Transplantation in India

4.9.1 The Committee has examined data furnished by the Ministry on kidney transplantation across States and Union Territories for the year 2024, according to which 11,558 live-donor

kidney transplants and 1,918 deceased-donor kidney transplants were performed nationally. Against this, the Committee notes that as on 9th February, 2026, as many as 61,668 patients remained on the waiting list for kidney transplantation across the country. The Committee also notes that transplantation activity remains concentrated in a limited number of States and metropolitan centres, and that deceased-donor transplants continue to account for a comparatively small proportion of the total transplants performed nationally.

4.9.2 The Committee appreciates the initiatives undertaken by the government under the National Organ Transplant Programme (NOTP) to promote deceased organ donation through public awareness campaigns, stakeholder engagement, online pledging and financial assistance for the honourable cremation of deceased donors. However, it observes that India's deceased organ donation rate continues to remain significantly lower than global benchmarks due to persistent social misconceptions, inadequate public awareness, limited organ retrieval infrastructure and procedural bottlenecks. The Committee is of the view that increasing deceased organ donation is critical to bridging the widening gap between the demand and availability of organs for transplantation. The Committee, therefore, recommends that the Ministry of Health and Family Welfare must intensify nationwide behaviour change and awareness campaigns to remove misconceptions, strengthen hospital-based organ retrieval and transplant coordination infrastructure, simplify procedural processes and establish a robust performance monitoring mechanism for States to substantially enhance deceased organ donation across the country.

4.10 Post-Transplant Care

4.10.1 The Committee was informed that kidney transplantation requires lifelong follow-up care including continuous immunosuppressive therapy to prevent organ rejection, regular monitoring for rejection episodes and infections arising from immunosuppression, and periodic assessment of graft function. The Committee notes that adherence to immunosuppressive medication and regular follow-up are critical to long-term graft survival and that affordability of post-transplant medicines and access to specialist follow-up care remain important determinants of transplant outcomes, particularly for patients from economically weaker sections. The Committee has also taken note of the fact that Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) supplies immunosuppressant medicines at affordable prices through Jan Aushadhi Kendras. However, the initiative faces supply chain vulnerabilities, quality doubts and prescription bottlenecks that disproportionately affect critical therapies like immunosuppressants.

4.10.2 The Committee finds from the submissions of experts that lifelong immunosuppressive therapy is indispensable for preventing graft rejection and ensuring the long-term success of kidney transplantation. The Committee observes that the recurring cost of post-transplant medicines places a considerable financial burden on patients who have already incurred substantial expenditure on dialysis and transplantation. The Committee is of the view that uninterrupted access to immunosuppressive medicines is essential for treatment adherence and graft survival and

that their high cost should not become a barrier to continued care. The Committee views that inadequate post-transplant care and interruption of immunosuppressive therapy may result in graft failure, leading patients back to kidney failure pool of patients requiring dialysis or repeat transplantation, thereby imposing an even greater clinical and financial burden on both patients and the healthcare system. The Committee, therefore, recommends that the Ministry of Health and Family Welfare examine the feasibility of ensuring the availability of essential immunosuppressive medicines to kidney transplant recipients free of cost through transplant centres and Government hospitals so as to ensure uninterrupted treatment and improve long-term transplant outcomes.

4.11 Technology and Innovation in Treatment Delivery

4.11.1 The Committee notes that digital health tools and Artificial Intelligence hold considerable promise for improving the delivery and monitoring of CKD treatment, particularly in tribal and rural areas. The Committee was informed that such tools could be deployed for AI-driven risk scoring during routine screening to prioritise individuals requiring kidney function testing, embedding of Clinical Decision Support Systems to standardise testing, staging and referral decisions for Community Health Officers, ANMs and Medical Officers, linkage of abnormal results to hub-and-spoke teleconsultation so that nephrology advice reaches patients without the need for travel, and maintenance of longitudinal digital health records to support continuity of treatment.

4.11.2 The Committee also notes the continuing efforts of the Indian Council of Medical Research and the Department of Health Research towards development of low-cost, point-of-care diagnostic and monitoring technologies, including patented urinary exosome microRNA biomarkers developed at the Centre for Advanced Research on Kidney Disease, SGPGIMS, Lucknow, which hold potential not only for early diagnosis but also for monitoring disease progression and treatment response over time. The Committee is of the view that such indigenous research and innovation, once adequately validated at scale, could meaningfully improve the precision and accessibility of long-term CKD treatment monitoring, particularly in resource-constrained settings.

4.11.3 The Ministry has informed that the Pradhan Mantri National Dialysis Programme (PMNDP) Portal has been integrated with the Ayushman Bharat Health Account (ABHA) to facilitate seamless registration, portability and longitudinal tracking of dialysis patients across all States and Union Territories. The ABHA-enabled portal digitally links dialysis centres nationwide and provides functionalities such as patient registration, inter-State transfer and continuity of care, tracking of dialysis patients, management of waiting lists, and biometric authentication. The Ministry has further stated that the portal is fully operational across all States and Union Territories.

4.11.4 The Committee appreciates the Ministry's efforts in operationalising the PMNDP Portal integrated with the Ayushman Bharat Health Account (ABHA) for registration, portability and tracking of dialysis patients across the country. The Committee, however, observes that digital tracking presently commences largely at the stage of dialysis, whereas continuity of care requires longitudinal monitoring from the point of identification of high-risk individuals and diagnosis of CKD at Ayushman Arogya Mandirs and other primary healthcare facilities. The Committee is of the view that technology should enable seamless patient management across the entire continuum of CKD care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare expand the existing PMNDP digital platform into a comprehensive CKD patient management system by integrating ABHA-linked longitudinal tracking of high-risk individuals and CKD patients from the primary healthcare level, supported by Clinical Decision Support Systems and a National Tele-Nephrology Network through the eSanjeevani platform to ensure timely referrals, specialist consultations, treatment continuity and post-transplant follow-up across all levels of healthcare.

4.11.5 The Committee is concerned with the increasing incidents of renal failure in rural India. It has been observed that Zonal Transplant Committees' have been informed in major metropolitan centres and town that decides the eligibility criteria and parameters for deciding patient of organs for transplant. This puts the rural population at a disadvantage as they are placed in long wait listed queues wherein waiting patients do not get requisite organ as a result their survival rate is very low. The Committee, in order to, provide equal opportunity to get organs at the need of the hour for transplantation, recommends for development of transparent SOP so that the patient get decided on actual need basis.

CHAPTER - V

GOVERNMENT POLICY LANDSCAPE, INITIATIVES AND KEY PROGRAMMES

5.1.1 In this Chapter, the Committee examines the policy landscape governing CKD care in India, reviews the key initiatives undertaken by the Government across the continuum of care, and analyses the strengths, implementation gaps and areas requiring further strengthening to ensure a more comprehensive, equitable and effective national response to the growing burden of chronic kidney disease.

5.1.2 Chronic Kidney Disease (CKD) in India is addressed through a range of national health programmes and policy initiatives rather than through a standalone disease-specific programme. The Government's response spans the continuum of prevention, early detection, treatment and financial protection, with various interventions being implemented under the broader framework of the National Health Mission (NHM). The principal strategy for prevention and early detection is implemented through the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), which focuses on population-based screening for diabetes and hypertension, health promotion, risk-factor reduction and referral services. At the primary healthcare level, Ayushman Arogya Mandirs serve as the first point of contact for health promotion, screening of non-communicable diseases, counselling and referral. For patients progressing to End-Stage Kidney Disease (ESKD), the Pradhan Mantri National Dialysis Programme (PMNDP) seeks to provide accessible and affordable dialysis services through public health facilities. Financial protection against the high cost of treatment is supported through the Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), which provides health insurance coverage of up to ₹ 5 lakh per eligible family per year for secondary and tertiary care, including specified kidney-related treatments. In addition, the Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) seeks to improve access to affordable quality medicines, many of which are essential for the long-term management of CKD and its associated conditions.

5.2 National Health Policy, 2017 and Kidney Health

5.2.1 The Committee observes that the National Health Policy, 2017 provides the overarching policy framework guiding India's response to non-communicable diseases, including chronic kidney disease. The Policy emphasises preventive and promotive healthcare, strengthening of primary healthcare, financial protection against catastrophic health expenditure and achievement of Universal Health Coverage.

5.2.2 The Committee acknowledges that the integration of kidney health interventions within NP-NCD, Ayushman Bharat and other national programmes is broadly consistent with the objectives of the National Health Policy, 2017. The Committee further observes that CKD presents unique policy challenges owing to its chronic nature, high treatment costs and dependence upon specialised healthcare infrastructure. The Committee is of the view that

continued strengthening of preventive healthcare and early diagnosis, as envisaged under the National Health Policy will be essential for reducing the future burden of CKD.

5.3 National Health Mission: National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)

5.3.1 The Committee was informed that the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), implemented under the National Health Mission (NHM), constitutes the principal policy framework for prevention, early detection and management of chronic kidney disease (CKD) in India. The Ministry informed that, in line with the 2025 World Health Organization Resolution on *Strengthening Kidney Health for All*, CKD has been integrated within the NP-NCD framework, which emphasizes prevention, early diagnosis, continuity of care and integrated service delivery through the public healthcare system.

5.3.2 The Committee was informed that the Programme adopts a risk-based screening approach, focusing on individuals with diabetes, hypertension and other high-risk conditions who constitute the major contributors to CKD burden in the country. Population-based screening and opportunistic screening are undertaken through Ayushman Arogya Mandirs where individuals aged 30 years and above are screened for major non-communicable diseases, while CKD screening through serum creatinine estimation and urine albumin testing is recommended for identified high-risk groups in accordance with programme guidelines. The Ministry stated that this targeted approach has been adopted considering available resources and diagnostic capacity.

5.3.3 The Committee further note that under the Indian Public Health Standards (IPHS) 2022 and the Free Diagnostics Service Initiative, serum creatinine testing, urine albumin/protein assessment and other essential biochemical investigations have been incorporated at different levels of the public healthcare system. Primary Health Centres are being equipped to undertake serum creatinine and urine albumin testing, while Community Health Centres and District Hospitals provide higher diagnostic support including eGFR estimation, ultrasonography and referral services wherever required. The Ministry further informed that integrated public health laboratories established under the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) are strengthening diagnostic capacity and standardisation across States and Union Territories.

5.4.4 The Committee was also informed that CKD prevention under NP-NCD is supported through Information, Education and Communication (IEC) activities focusing on diabetes, hypertension, healthy lifestyles and early healthcare seeking behaviour. Awareness activities are conducted through Ayushman Arogya Mandirs, health camps, outreach programmes and community-based initiatives, particularly in underserved and rural areas. The Ministry also informed that the revised Community-Based Assessment Checklist (CBAC) includes symptoms suggestive of early CKD, enabling frontline health workers to identify at-risk individuals for facility-based evaluation and referral. The Committee further finds that the NP-NCD framework

envisages continuity of care through linkage of screening, diagnosis, treatment, follow-up and referral services across different levels of healthcare while advanced kidney care, including dialysis and transplantation, is supported through complementary programmes such as the Pradhan Mantri National Dialysis Programme (PMNDP), Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and the National Organ Transplant Programme (NOTP).

Table 5.1: Ayushman Arogya Mandir – Screening Achievements

Screening/Activity	Cumulative Achievement (as on 11 Nov 2025)
Hypertension Screening	39.44 crore persons
Diabetes Screening	39.29 crore persons
Oral Cancer Screening	33.28 crore persons
Breast Cancer Screening	15.57 crore persons
Cervical Cancer Screening	8.23 crore persons
Health and Wellness Sessions Conducted	6.43 crore sessions

5.4.5 The Committee finds that the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) has integrated CKD within its framework and encompasses targeted screening of high-risk individuals with diabetes, hypertension and other risk factors. The Committee, however, observes that CKD screening at the primary healthcare level continues to rely largely on opportunity and referral-based diagnosis. In many cases, individuals identified with diabetes or hypertension at Ayushman Arogya Mandirs are referred to higher facilities for serum creatinine estimation and eGFR assessment, resulting in loss to follow-up and delayed diagnosis. Considering the silent progression of CKD, the Committee is of the view that dependence on secondary-level referral weakens early detection and misses a significant proportion of high-risk individuals before irreversible kidney damage occurs. The Committee, therefore, strongly recommends that the Ministry of Health and Family Welfare must progressively integrate serum creatinine testing with automatic eGFR reporting into the routine screening protocol for all high-risk individuals attending Ayushman Arogya Mandirs and other primary healthcare facilities.

5.5 From Treatment to Prevention: Reordering National Priorities

5.5.1 The Committee is deeply concerned that India has an estimated 138 million persons living with chronic kidney disease (CKD), constituting the second-largest CKD burden globally. The Committee further notes that, as reflected on the Pradhan Mantri National Dialysis Programme (PMNDP) portal, nearly 2.2 lakh new patients with End-Stage Kidney Disease (ESKD) are added every year, resulting in an additional demand of approximately 3.4 crore dialysis sessions annually, apart from the continuing treatment requirements of patients already undergoing dialysis. The Committee is also conscious that dialysis is a lifelong, resource-intensive treatment which imposes severe financial hardship on most affected families despite the Government's financial support mechanisms. The Committee is, therefore, of the considered view that a country facing such a substantial and continuously growing CKD burden cannot afford to rely predominantly on a treatment-oriented strategy centred on dialysis and transplantation. There is an urgent need to reorient national priorities towards prevention, early detection and slowing disease progression, so as to reduce the future demand for kidney replacement therapy. In this regard, the Committee believes that Ayushman Arogya Mandirs should assume a far greater role in promoting kidney health awareness, lifestyle modification, risk-factor counselling and early identification of CKD among high-risk individuals at the community level.

5.5.2 The Committee observes that although the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) envisages the prevention and early detection of CKD, the focus on kidney health awareness at the primary healthcare level continues to remain highly inadequate. The Committee is of the view that public awareness regarding basic kidney health remains limited, as insufficient emphasis has been placed on sustained kidney health awareness, lifestyle modification, risk-factor counselling and community-based preventive interventions. There is an urgent need to reorient national priorities towards prevention, early detection and slowing disease progression in order to reduce the future demand for kidney replacement therapy. The Committee believes that unless preventive efforts at the primary healthcare level are substantially strengthened, the growing burden of CKD will continue to place increasing pressure on dialysis and transplantation services, thereby undermining the long-term sustainability of the healthcare system. The Committee further believes that Ayushman Arogya Mandirs should assume a much greater role in promoting kidney health awareness, encouraging lifestyle modification, providing risk-factor counselling and facilitating the early identification of CKD among high-risk individuals at the community level. The Committee, therefore, strongly recommends that the Ministry reorient the implementation of NP-NCD towards a prevention-first approach by substantially strengthening the role of Ayushman Arogya Mandirs in promoting kidney health awareness and behaviour change communication. The Committee further recommends that structured kidney health education, lifestyle modification counselling, risk-factor management and community awareness programmes be institutionalised as integral components of primary healthcare.

The Ministry should also strengthen the capacity of Medical Officers, Community Health Officers, ASHA workers and other frontline health workers through regular training on CKD prevention, risk communication and early behavioural interventions, and develop culturally appropriate Information, Education and Communication (IEC) material in regional languages.

5.6 Pradhan Mantri National Dialysis Programme (PMNDP)

5.6.1 The Committee was informed that the Prime Minister's National Dialysis Programme (PMNDP) was launched on 07th April, 2016 under the National Health Mission with the objective of providing accessible and affordable dialysis services to patients suffering from End-Stage Kidney Disease (ESKD). The Programme provides comprehensive dialysis care at District Hospitals including haemodialysis sessions, pre- and post-dialysis diagnostic investigations, medicines and consumables, surgical procedures related to dialysis access, and emergency care. The Committee was further apprised that dialysis services are provided free of cost to Below Poverty Line (BPL) patients, while non-BPL patients are charged at the same rates borne by the Government. The Committee was also informed that Peritoneal Dialysis (PD) was included under the Programme in 2019, with guidelines issued for establishing PD services to expand home-based renal replacement therapy. To facilitate continuity of care, the Ministry has also developed the PMNDP Portal under the 'One Nation – One Dialysis' initiative, enabling portability of dialysis services across participating States and Union Territories through features such as ABHA-linked patient registration, patient transfer, scheduling, analytics and performance monitoring.

Prime Minister's National Dialysis Programme (PMNDP)



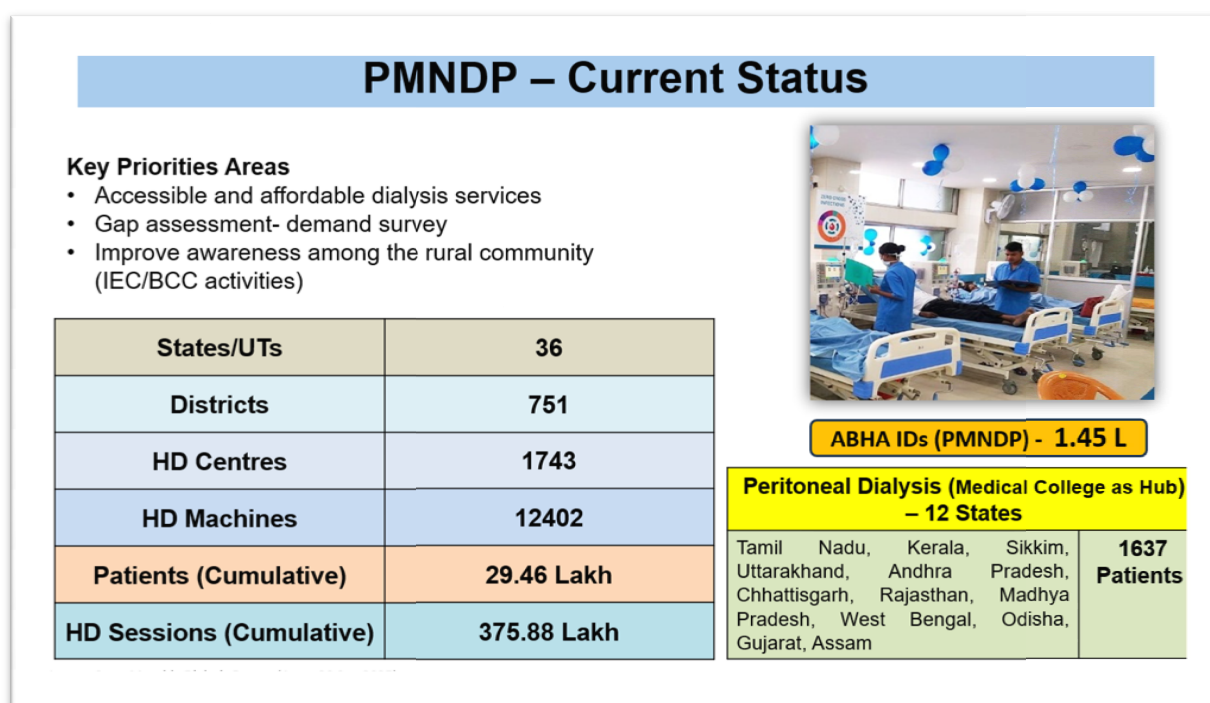
- Launched in 2016
- Provision of dialysis services at the District Hospitals
- Comprehensive dialysis services delivery including pre and post diagnostics, drugs, surgical procedures, emergency care and the dialysis sessions etc. at District Hospital level
- Dialysis services are completely free of cost for Below Poverty Line (BPL) patients
- Non-BPL patients have the benefit of accessing services at same rates as paid by Government for the BPL patient
- Peritoneal Dialysis (PD) was included in the National Dialysis Programme and guidelines for establishing PD services were released in July 2019

PMNDP Portal
<https://pmndp.mohfw.gov.in/en>

5.6.2 The Committee was informed that the Pradhan Mantri National Dialysis Programme (PMNDP) was launched with the objective of strengthening district hospitals to provide affordable, multi-specialty dialysis care closer to patients' residences. The Programme ensures

comprehensive service delivery, including pre- and post-dialysis diagnostics, drugs, surgical procedures, emergency care and dialysis sessions, completely free of cost for Below Poverty Line (BPL) patients, with non-BPL patients entitled to avail services at the same rates paid by the government on behalf of BPL patients. The Programme operates through in-house, Public-Private Partnership (PPP) and mixed delivery modes across States and Union Territories, with the PPP model presently in operation in 17 States/UTs, the in-house model in 14 States/UTs, and a mixed model in the remaining 5 States/UTs, depending on local capacity and preference, with States receiving support for establishing and running services based on proposals in their annual Programme Implementation Plans.

Current Status of PMNDP:



5.6.3 The Committee was further informed that the Prime Minister's National Dialysis Programme (PMNDP) is presently operational across 36 States and Union Territories, covering 751 districts through 1,743 HaemodialysisCentres equipped with 12,402 haemodialysis machines. As on 30 September 2025, the Programme had cumulatively provided dialysis services to 29.46 lakh patients through 375.88 lakh haemodialysis sessions.

5.6.4 The Committee notes that the Programme has also been integrated with the Ayushman Bharat Digital Mission (ABDM) through the creation of 1.45 lakh ABHA IDs, facilitating digital health records, seamless patient identification, continuity of care and improved monitoring of dialysis services. The Committee was further informed that Peritoneal Dialysis (PD) has been operationalised in 12 States under a Medical College Hub model, benefitting 1,637 patients, with the objective of expanding home-based dialysis services and reducing dependence on facility-

based haemodialysis. The Ministry further submitted that the current priorities under PMNDP include expanding accessible and affordable dialysis services, undertaking gap assessments and demand surveys to identify underserved areas, and strengthening Information, Education and Communication (IEC) and Behaviour Change Communication (BCC) activities to improve awareness regarding kidney disease and dialysis services, particularly in rural areas.

5.6.5 The Committee acknowledges the expansion of the Prime Minister's National Dialysis Programme, however, several operational challenges continue to affect the delivery and quality of dialysis services. The Committee expresses the concerns over shortage of trained dialysis technicians and nurses, inadequate supervision and maintenance of dialysis equipment, deficiencies in vascular access monitoring and delays in the availability of consumables and release of funds to service providers. The Committee views that merely augmenting dialysis infrastructure without ensuring adequate skilled manpower, quality assurance, timely maintenance and uninterrupted supply of consumables may compromise the quality, continuity and accessibility of dialysis services. The Committee, therefore, recommends that the Ministry undertake a comprehensive assessment of operational capacity under PMNDP, covering not only the availability of haemodialysis machines but also trained human resources, machine utilisation, maintenance protocols, adequacy of consumables and timeliness of fund release. The Committee further recommends that uniform quality standards and periodic clinical audits be instituted across all PMNDP centres and that vacancies of dialysis technicians and nurses be filled up on priority so as to ensure safe, uninterrupted and quality dialysis services.

5.6.6 The Committee takes into account that the Programme has provided 375.88 lakh haemodialysis sessions to 29.46 lakh patients, which translates to an average of approximately 12.8 dialysis sessions per patient. The Committee notes that patients with End-Stage Kidney Disease ordinarily require maintenance haemodialysis two to three times a week, amounting to approximately 8-12 sessions every month. While the Committee recognises that the figures furnished by the Ministry represent cumulative programme data and do not necessarily reflect the treatment history of individual patients, the Committee is nevertheless of the view that the reported indicators are insufficient to assess whether beneficiaries are receiving adequate and uninterrupted dialysis over the duration clinically required. The Committee observes that reporting only cumulative patients and cumulative sessions may overstate programme reach while providing limited insight into treatment continuity, patient retention, adequacy of dialysis, or long-term outcomes. The Committee, therefore, recommends the Ministry to supplement the existing reporting framework with patient-centric outcome indicators including the average number of dialysis sessions per active patient per month, the number of patients receiving the recommended frequency of dialysis, treatment adherence, drop-out rates, transplantation rates, mortality and reasons for discontinuation of treatment to enable a more meaningful assessment of the effectiveness and quality of dialysis services under the Programme.

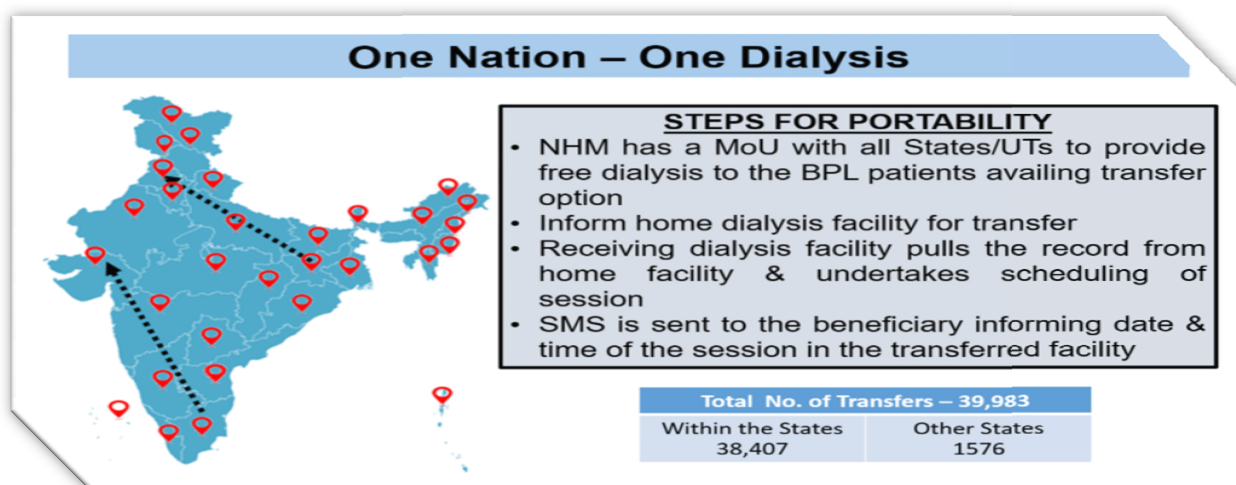
5.7 Continuous Ambulatory Peritoneal Dialysis (CAPD)

5.7.1 The Committee was further informed that, with a view to improving access to renal replacement therapy for patients residing in remote, rural and geographically inaccessible areas, Continuous Ambulatory Peritoneal Dialysis (CAPD) has been included under the Prime Minister's National Dialysis Programme. The Committee has asked specific question regarding the steps being taken to promote CAPD as it offers a home-based modality of dialysis, thereby reducing the need for frequent travel to dialysis centres and easing the burden on patients requiring long-term treatment. The Committee was informed that under the National Health Mission, financial assistance is provided to States and Union Territories through the annual Programme Implementation Plans (PIPs) for operationalisation of CAPD services. Such assistance includes a one-time reimbursement of ₹ 14,000 towards CAPD equipment and monthly financial support ranging from ₹ 18,000 to ₹ 26,400 for CAPD consumables, depending upon the treatment requirements of the patient.

5.7.2 The Committee finds from examination of 17th Common Review Mission Report 2025 that Peritoneal Dialysis services remain non-available in most States, therefore reflects not merely the lack of basic treatment modality, but the failure to establish the institutional ecosystem required for delivering home-based dialysis under the Pradhan Mantri National Dialysis Programme. The Committee observes that although Peritoneal Dialysis is a home-based renal replacement therapy, its successful implementation is dependent upon a well-functioning hospital-based support system comprising patient selection, catheter insertion, structured training, uninterrupted supply of consumables, periodic monitoring and management of complications.

5.7.3 The Committee observes that the inclusion of CAPD under PMNDP supported through dedicated financial assistance under NHM has the potential to improve equity in access to dialysis services, particularly for patients in remote areas, elderly persons, and those for whom regular travel to haemodialysiscentres is difficult. The Committee, however, finds that the utilisation of CAPD remains limited with the Ministry reporting only 1,637 beneficiaries across 12 States (approx. 1.1 % of active PMNDP beneficiaries) indicating significant scope for further expansion of this home-based dialysis modality. The Committee, therefore, strongly recommends that the Ministry should expand the coverage of Continuous Ambulatory Peritoneal Dialysis (CAPD), particularly in rural and remote areas, by ensuring uninterrupted availability of consumables, strengthening the Medical College hub-and-spoke model, enhancing patient counseling for informed modality selection and building the capacity of Peritoneal Dialysis nurses and healthcare personnel to improve the quality and uptake of home-based dialysis services.

5.8 ONE NATION - ONE DIALYSIS INITIATIVE VIS-A-VIS PMNDP PORTAL:



5.8.1 The Committee was further informed that the PMNDP Portal launched on 5th May, 2022 and integrated with the Ayushman Bharat Health Account (ABHA) has been operationalised across all States and Union Territories under the 'One Nation, One Dialysis' initiative. The portal supports patient registration, biometric and OTP-based authentication of dialysis sessions, creation of waiting lists, tracking of vacant slots, generation of reports, an analytics dashboard and patient health reports and portability of dialysis services under which the National Health Mission has entered into a Memorandum of Understanding with all States/UTs to provide free dialysis to BPL patients availing the transfer option. A total of 39,983 such transfers had been facilitated through the portal, of which 38,407 were within the same State and 1,576 involved inter-State transfers. The Committee was also informed that facility registration on the portal is being integrated with the National Identification Number and Health Facility Registry under the Ayushman Bharat Digital Mission.

5.8.2 The Committee appreciates the operationalisation of the the 'One Nation – One Dialysis' initiative under PMNDP Portal which has enabled nationwide portability of dialysis services through ABHA integration, digital patient records, OTP-based authentication, and real-time scheduling of dialysis sessions. The Committee is of the view that the Portal has the potential to significantly improve continuity of care for patients who migrate for employment, education or medical treatment. However, considering that only 39,983 patient transfers have been facilitated since its launch in May 2022, the Committee believes that the portability feature remains underutilised. The Committee, therefore, recommends that the Ministry undertake wider awareness and capacity-building initiatives among healthcare providers and beneficiaries to promote utilisation of the portability facility. The Ministry should also ensure real-time integration of all PMNDP centres with the PMNDP Portal and the Ayushman Bharat Digital Mission (ABDM), strengthen interoperability with other national health platforms, and develop a comprehensive patient management system capable of tracking treatment continuity, dialysis adequacy, patient outcomes and inter-State referrals.

5.9 AYUSHMAN BHARAT - PRADHAN MANTRI JAN AROGYA YOJANA (AB-PMJAY)

5.9.1 The Committee was informed that in addition to the Prime Minister's National Dialysis Programme (PMNDP), financial protection for dialysis services is provided under the Ayushman Bharat -Pradhan Mantri Jan Arogya Yojana (AB-PMJAY). The Scheme provides cashless dialysis services through empanelled public and private hospitals to eligible beneficiaries under defined treatment packages, namely Peritoneal Dialysis, Acute Haemodialysis and Chronic Haemodialysis. The Committee was further apprised that since 2024, the coverage under AB-PMJAY has been expanded to include all senior citizens aged 70 years and above irrespective of income, thereby extending financial protection to a larger segment of the population requiring dialysis. The Committee was informed that across all States and Union Territories, 83,33,113 pre-authorisations have been raised for dialysis packages involving a total pre-authorised amount of ₹ 3,342.33 crore. The Ministry has also informed that over 55 crore beneficiaries are covered under AB-PMJAY, with a health cover of up to ₹ 5 lakh per family per year for hospitalization. For CKD, the scheme covers not only dialysis but also kidney transplantation under defined packages.

5.9.2 The Committee was further informed that financial assistance for dialysis, medicines, diagnostics and transplantation is additionally channelled through the Rashtriya Arogya Nidhi (RAN) for eligible beneficiaries and that post-transplant immunosuppressant medicines are supported for Below Poverty Line patients at the rate of Rs. 10,000 per month under the NOTP. Affordable generic medicines including for CKD management are made available through the Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) and Erythropoietin injection has been included in the Essential Medicine List under the Indian Public Health Standards (2022) at the district hospital level. The Committee also notes that Public-Private Partnerships have played a major role in improving dialysis access and affordability, with private service providers contracted under PMNDP to establish and operate haemodialysis units within Government facilities for fixed terms, fostering competition and lowering session costs.

5.9.3 The Committee observes that the long-term nature of chronic kidney disease often entails treatment costs that extend beyond the existing Health Benefit Packages under AB-PMJAY. The Department-related Parliamentary Standing Committee on Health and Family Welfare, in its 172nd Report had observed that the existing ₹ 5 lakh health insurance cover per family under AB-PMJAY may be inadequate for high-cost medical treatments and has recommended enhancement of limit of health insurance coverage to ₹ 10 lakh per family per year. The Committee is, therefore, of the view that the Health Benefit Packages relating to chronic kidney disease under AB-PMJAY require periodic review to ensure that they adequately reflect prevailing treatment costs, advances in clinical practice and the long-term nature of CKD management. The Committee therefore, recommends that the Ministry of Health and Family Welfare, in consultation with National Health Authority, nephrology experts and other stakeholders undertake a comprehensive review of the CKD-specific Health Benefit Packages under AB-PMJAY, including package

rates, treatment protocols and the scope of covered services so as to ensure that eligible beneficiaries receive timely, comprehensive and uninterrupted treatment across the continuum of dialysis, kidney transplantation and post-transplant care to ensure that the scheme remains responsive to evolving clinical standards and treatment costs. The Committee further reiterates its recommendation made in 172nd Report of the Department must undertake a comprehensive review of the scheme with a view to further widening coverage, including rationalisation of the eligibility criteria under AB-PMJAY for senior citizens by considering lowering the age threshold from 70 years to 60 years irrespective of socio-economic status.

5.9.4 The Committee takes into consideration the Health Benefit Package Guidelines under Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and observes that post-hospitalisation care under the kidney transplantation package is presently admissible for a period of only 15 days. The Committee, therefore, is of the strong view that kidney transplantation is not a one-time surgical intervention but requires intensive post-transplant management, particularly during the first year which carries the highest risk of graft rejection and infections. The Committee considers that limiting post-transplant coverage to 15 days does not adequately correspond to the clinical requirements of kidney transplant recipients. The Committee, therefore, recommends that the Ministry of Health and Family Welfare in consultation with the National Health Authority and nephrology experts review the existing Health Benefit Package for kidney transplantation under AB-PMJAY and extend the admissible period of post-transplant care from the present 15 days to one year. The revised package should provide financial support for follow-up consultations, essential diagnostic investigations, immunosuppressive medicines and the management of transplant-related complications during the first year after transplantation so as to improve treatment adherence, reduce graft rejection and maximise long-term transplant outcomes.

5.10 National Organ Transplant Programme (NOTP)

5.10.1 The Committee was informed that kidney transplantation services are supported nationally through the National Organ Transplant Programme (NOTP) under which the National Organ and Tissue Transplant Organisation (NOTTO) coordinates a network that has over the past five years, been strengthened to comprise 5 Regional Organ and Tissue Transplant Organisations (ROTTOs) and 26 State Organ and Tissue Transplant Organisations (SOTTOs), including 14 newly established SOTTOs, of which 4 are located in North-Eastern States. New and upgraded transplant centres have been established in Bihar, Puducherry and Uttar Pradesh, along with 4 biomaterial centres and a cadaver organ retrieval training centre in Maharashtra. As health is a State subject, State/UT Governments are responsible for establishing Organ Retrieval Centres and kidney transplant facilitation centres, with the Central Government providing financial grant assistance for infrastructure and for engagement of transplant coordinators at Government hospitals under the NOTP.

5.10.2 The Committee was informed that measures taken under the NOTP to promote deceased organ donation include nationwide awareness campaigns conducted by NOTTO through its regional and State units, stakeholder engagement with government bodies, institutions, non-governmental organisations and the media, regular promotion through social media, operation of a dedicated Aadhaar-verified online portal for organ donation pledges, outreach to the district and village level through local administration, provision of financial assistance for dignified last rites of deceased donors, and observance of the Indian Organ Donation Day to honour donor families and transplant professionals.

5.10.3 The Committee notes that, as reported by hospitals for the year 2024, 11,558 live-donor and 1,918 deceased-donor kidney transplants were performed nationally, drawing upon 1,128 deceased donors and 15,508 living donors, against a national waiting list of 61,668 patients as on 9th February, 2026.

5.10.4 The Committee acknowledges the concern of the expert that equitable access to kidney transplantation continues to remain a significant challenge in the country. The Committee was informed that the availability of living donors is becoming increasingly constrained owing to smaller family sizes and the rising prevalence of diabetes and hypertension among potential donors. It was further submitted that the deceased donor programme remains unevenly developed across the country, particularly in the northern and eastern regions. The Committee also notes the concern that even where a suitable donor is available, many economically weaker patients are unable to undergo kidney transplantation or sustain post-transplant care due to financial constraints, despite transplantation being a more cost-effective renal replacement therapy with better long-term clinical outcomes than maintenance dialysis.

5.10.5 The Committee appreciates the initiatives taken by the government under the National Organ Transplant Programme to strengthen the institutional framework for organ transplantation. The Committee, however, observes from the expert evidence that equitable access to kidney transplantation remains a challenge due to the limited availability of living donors, uneven development of deceased organ donation programmes across States, particularly in northern and eastern India, and the inability of many economically weaker patients to afford transplantation and post-transplant care. The Committee is of the view that these factors continue to create significant regional and socio-economic disparities in access to kidney transplantation. The Committee, therefore, recommends that the Ministry adopt a targeted strategy to reduce regional disparities in kidney transplantation by strengthening deceased organ donation programmes in underperforming States, expanding transplant facilities in underserved regions, and ensuring that economically weaker patients receive adequate support for transplantation and post-transplant care.

5.10.6 The Committee places on record that the Ministry of Health & Family Welfare has over the past decade built a wide-ranging policy architecture for the prevention, screening, treatment and management of chronic kidney disease, spanning integration of CKD into national NCD policy, a dedicated national dialysis programme, a national organ transplant programme, multiple

financial protection schemes, sustained research and capacity-building efforts. The Committee acknowledges the scale of these efforts reflected in the expansion of dialysis infrastructure to 751 districts and the coverage of crores of citizens under national screening drives. At the same time, the Committee reiterates that the effectiveness of this architecture is contingent upon the addressing the systemic gaps with urgency.

CHAPTER - VI

HEALTH SYSTEMS: GAPS AND CHALLENGES

6.1.1 Chronic Kidney Disease (CKD) has emerged as a major public health challenge requiring sustained and coordinated intervention across all levels of the healthcare system. While considerable progress has been achieved through various initiatives of the Government of India, including the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), the Pradhan Mantri National Dialysis Programme (PMNDP), Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), and the National Organ Transplant Programme (NOTP), significant health system challenges continue to impede the delivery of equitable, affordable and comprehensive kidney healthcare services.

6.2 Need for National Kidney Registry

6.2.1 The substantial and steadily increasing burden of Chronic Kidney Disease (CKD) in India, estimated to affect between 13 and 16 per cent of the adult population - the country continues to lack a comprehensive national database on the prevalence, incidence, progression, treatment and outcomes of the disease. The Ministry relies primarily on disparate regional, hospital-based and community-based studies to estimate the prevalence of CKD, with reported rates varying widely from as low as 1 per cent to over 20 per cent across different regions. Such variations arising from differences in study design, sample size, demographic characteristics and geographical coverage make these estimates unsuitable for accurately assessing the true national burden of CKD.

6.2.2 The Committee further notes that India has no real-time, nationwide Kidney registry to systematically capture patient-level data on disease occurrence, progression, treatment modalities, clinical outcomes and mortality across the continuum of care from Health and Wellness Centres and Primary Health Centres to secondary and tertiary healthcare facilities. Consequently, except PMNDP portal for tracking dialysis, there is no mechanism to accurately determine the number of patients diagnosed annually, those progressing to kidney failure, those receiving dialysis or transplantation, or those lost to follow-up or dying from the disease. The absence of such longitudinal data significantly weakens disease surveillance and limits the Government's ability to understand the natural history and epidemiological trends of CKD in the country.

6.2.3 The Committee is of the considered view that the lack of reliable national data has far-reaching implications for public health planning. In the absence of robust epidemiological evidence, healthcare infrastructure, dialysis capacity, nephrology workforce, financial allocations and procurement of essential medicines are planned on estimates rather than actual disease burden, resulting in inefficient resource allocation and widening regional disparities in renal care. The absence of a national registry also impedes identification of high-risk populations, evaluation of screening and treatment programmes,

assessment of patient outcomes, monitoring of government interventions and evidence generation for clinical research, health technology assessment and informed policymaking. The Committee, therefore, strongly recommends the Ministry of Health & Family Welfare to establish a comprehensive National Renal Registry integrated with the Ayushman Bharat Digital Mission & PMNDP portal to provide real-time, standardised and longitudinal data across all stages of CKD strengthening disease surveillance and improved monitoring of treatment outcomes leading to evidence-based policymaking and align India's renal care ecosystem with international best practices.

6.3 Acute shortage of nephrologists and trained dialysis workforce

6.3.1 The Committee has been apprised of the acute shortage of Nephrologists and trained dialysis workforce as mentioned below:

State/UT	Nephrologist (Sanctioned)	Nephrologist (In-position)	Urologist (Sanctioned)	Urologist (In-position)	Dialysis Technician (Sanctioned)	Dialysis Technician (Inposition)
Andaman & Nicobar Islands	0	0	0	0	1	1
Andhra Pradesh	0	0	0	0	0	0
Arunachal Pradesh	0	0	0	0	0	0
Assam	0	0	0	0	0	0
Bihar	0	0	0	0	0	0
Chandigarh	0	0	0	0	0	1
Chhattisgarh	0	0	0	0	0	0
Delhi	0	0	3	3	0	0
Dadra & Nagar Haveli and Daman & Diu	0	0	0	0	0	0
Goa	0	0	1	0	0	0
Gujarat	4	1	1	0	133	105
Haryana	0	0	1	0	0	0
Himachal Pradesh	0	0	0	0	0	0
Jammu & Kashmir	0	0	0	0	40	18
Jharkhand	0	0	0	0	0	0
Karnataka	27	13	0	0	20	0
Kerala	3	3	1	1	60	21
Ladakh	0	0	1	1	4	4
Lakshadweep	0	0	0	0	0	0
Madhya Pradesh	7	0	0	0	26	0
Maharashtra	34	18	1	1	227	165
Manipur	0	0	0	0	34	0
Meghalaya	1	0	1	0	9	7
Mizoram	0	0	0	0	0	0
Nagaland	0	0	0	0	14	8
Odisha	0	0	0	0	0	0
Puducherry	1	1	2	1	13	9
Punjab	0	0	0	0	44	9

Rajasthan	0	0	0	0	0	0
Sikkim	0	0	0	0	17	8
Tamil Nadu	2	2	0	0	0	0
Telangana	0	0	1	0	0	0
Tripura	5	0	5	0	0	0
Uttar Pradesh	17	0	16	0	0	0
Uttarakhand	0	0	0	0	0	0
West Bengal	60	19	66	31	122	114

**Note: This data does not include Human Resources for Health (HRH) working under the PPP model. Source – Based on data reported by States/Union Territories.*

6.3.2 The Committee finds from above table that there is severe shortage of nephrologists, urologists and trained dialysis technicians across all states particularly in rural and remote areas, continues to constrain the delivery of treatment services for CKD. Data furnished by the Ministry in respect of human resources viz Nephrologists/ Urologists/Dialysis Technician- sanctioned and in position at district hospitals across the country reveals wide inter-State disparity with a majority of States reporting no sanctioned posts of nephrologists at the district hospital level, while a limited number of States account for the bulk of the sanctioned and working nephrology workforce in the country.

6.3.3 The Committee was informed that the Ministry has sought to bridge this gap by permitting physicians holding an MD degree in General Medicine, who complete one year of specialised training at a recognised nephrology centre to supervise and manage dialysis units. While the Committee considers this a pragmatic interim measure, it is of the view that such measures cannot substitute for a sustained expansion of dedicated nephrology and allied specialist capacity.

6.3.4 The Committee has also come across the findings of the 17th Common Review Mission (CRM), 2025 Report under the National Health Mission and notes with concern that the persistent non-availability of nephrologists at District Hospitals continues to worsen the situation. The Report reveals that dialysis services in many District Hospitals are being delivered primarily by dialysis technicians or other hospital staff without regular specialist supervision, as nephrologists are either unavailable, available only on a visiting basis, or visit the hospitals only once every three to four months.

6.3.5 The Committee takes into account that the nephrologist non availability at District hospitals reflects a serious disconnect between infrastructure creation and the availability of specialised human resources compromising the quality, safety and continuity of CKD care, delays clinical decision-making, limits the management of complications and reduces the effectiveness of dialysis services, particularly in rural and underserved regions. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in coordination with the State Governments, undertake a time-bound exercise to fill all vacant sanctioned posts of nephrologists, urologists and dialysis technicians at District Hospitals, with priority accorded to States reporting nil or severely inadequate availability of such specialists especially in Bihar, Rajasthan, Odisha, Assam, Chattisgarh etc. The Ministry should also mandate and support the phased establishment of dedicated Nephrology

Departments in all Government Medical Colleges and substantially expand DM Nephrology seats and allied training capacity to geographically balanced adequacy to address the acute shortage of nephrologists and trained specialist manpower in all States to ensure equitable access of needy patients to specialist kidney care across the country, especially at District hospitals.

6.4 Persistent Out-of-Pocket Expenditure Despite Financial Protection Schemes

6.4.1 The Ministry informed the Committee that Chronic Kidney Disease (CKD), particularly in its advanced stages, imposes a substantial financial, physical and emotional burden on patients and their families. The high cost of renal replacement therapies, including dialysis and kidney transplantation, often results in significant out-of-pocket expenditure, pushing many households into financial distress. The burden is particularly severe for rural and economically weaker populations, who face considerable barriers in accessing specialised nephrology services. In the absence of timely diagnosis and affordable treatment, patients are at a high risk of progressing to End Stage Kidney Disease (ESKD), necessitating lifelong dialysis or kidney transplantation.

6.4.2 The Ministry further informed that the Government has undertaken several initiatives to reduce the financial burden of dialysis treatment. Under the Pradhan Mantri National Dialysis Programme (PMNDP), free haemodialysis services are provided to Below Poverty Line (BPL) families, while subsidised dialysis services are made available to non-BPL patients through district hospitals. In addition, under the Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), eligible beneficiaries are entitled to cashless dialysis services under predefined treatment packages.

6.4.3 The Committee has taken into consideration the National Health Accounts (NHA) Estimates for India for 2020-21 and 2021-22, which indicate that the share of Out-of-Pocket Expenditure (OOPE) in Total Health Expenditure declined significantly from 64.2 per cent in 2013-14 to 39.4 per cent in 2021-22, thus attributing hike of 4% increase in OOPE. The Committee, however, notes with concern that the latest National Health Accounts Estimates for India 2022-23 show a reversal of this trend, with OOPE increasing to 43.4 per cent in 2022-23 from 39.4 per cent in 2021-22. This reversal trend suggests that the earlier decline in OOPE may have been influenced, at least in part, by the exceptional increase in public health expenditure during the COVID-19 pandemic, rather than reflecting a sustained structural reduction in household health spending. The recent increase in OOPE indicates that households continue to bear a substantial financial burden for healthcare and underscores the need for sustained public investment and stronger financial risk protection mechanisms to prevent further escalation in out-of-pocket health expenditure.

6.4.4 The Committee finds that despite the implementation of PMNDP and AB-PMJAY, the financial burden of Chronic Kidney Disease continues to remain substantial due to the lifelong nature of treatment, recurring dialysis costs, expenditure on medicines, diagnostics, travel, nutritional requirements and loss of livelihood. The recent 4% increase in Out-of-

Pocket Expenditure (OOPE) from 39.4 per cent in 2021-22 to 43.4 per cent in 2022-23 further indicates that existing financial protection mechanisms have not adequately insulated households from catastrophic health expenditure. The Committee is of the view that merely expanding access to renal replacement therapies is insufficient unless the overall economic burden borne by CKD patients and their families is comprehensively addressed. The Committee, therefore, recommends the Ministry to undertake a comprehensive national costing study of CKD vis-a-vis financial protection available to Chronic Kidney Disease patients under existing government schemes to access the actual out-of-pocket expenditure incurred by CKD patients across different stages of the disease, identify expenditure not covered under existing schemes and recommend measures to reduce catastrophic health expenditure. The Ministry should also develop a long-term strategy to progressively reduce out-of-pocket expenditure for CKD care by strengthening public financing, expanding the scope of financial assistance beyond dialysis procedures especially to post transplant care where necessary and ensuring equitable access to affordable kidney care particularly for rural and economically vulnerable populations, both in public and private sector hospitals.

6.5 Need for expanding Insurance Coverage

6.5.1 The Ministry also informed that apart from PMNDP services, under Ayushman Bharat-Pradhan mantri Jan Arogya Yojna , over 55 crore beneficiaries receive upto to Rs. 5 lakh per family annually for hospitalisation (IPD) including dialysis and transplantation. The Ministry further stated that across all States and Union Territories, a total of 83,33,113 pre-authorisations have been raised under the dialysis package, amounting to a cumulative pre-authorised value of ₹3,342.33 crore, reflecting the extensive utilisation of dialysis services and the expanding reach of the scheme in meeting the treatment needs of patients suffering from CKD.

6.5.2 The Committee observes with concern that despite availability of financial protection schemes like PMNDP & PM-JAY, a significant gap in the financial protection framework for CKD is the limited scope of insurance coverage which remains largely focused on expensive end-stage interventions such as dialysis and kidney transplantation. The costs incurred during the earlier stages of the disease including screening of high-risk individuals, regular diagnostic investigations, outpatient consultations, essential medicines and management of complications are generally excluded or inadequately covered. Consequently, patients bear substantial out-of-pocket expenditure throughout the course of the disease often leading to delayed diagnosis, poor treatment adherence, catastrophic health expenditure and faster progression to kidney failure. The absence of financial coverage for preventive and pre-dialysis care also undermines public health efforts aimed at early detection and cost-effective disease management, despite evidence that timely intervention can significantly delay the need for renal replacement therapy.

6.5.3 The Committee appreciates the financial protection being provided under PMNDP and Ayushman Bharat-PM-JAY or state specific insurance schemes which has

significantly reduced the burden and improved access to dialysis and kidney transplantation for patients with advanced CKD. The Committee, however, believes that for addressing the CKD effectively, there is a need for financial protection for CKD patients beyond end-stage interventions which remains inadequately covered under existing framework. The Committee, therefore, strongly recommends that the Ministry explore the feasibility of implementing mandatory health insurance coverage for each individual, partially funded by each the government and the individual to address the entire continuum of CKD care especially screening of high-risk individuals, periodic diagnostic investigations, outpatient consultations, essential medicines, management of CKD-related complications and pre-dialysis care. The Committee believes that comprehensive mandatory financial coverage for each individual across all stages of the disease would promote early diagnosis, improve treatment adherence, reduce out-of-pocket expenditure, prevent catastrophic health spending and delay progression to kidney failure, thereby reducing the long-term burden on both patients and the public healthcare system.

6.6 Inequities in Access and Outcomes

6.6.1 The Committee was informed that tribal and geographically isolated populations face particularly severe barriers in accessing kidney healthcare services. Limited transportation infrastructure, shortage of healthcare personnel and lower health literacy levels often result in delayed presentation and poorer treatment outcomes. Stakeholders further informed the Committee that awareness regarding CKD remains inadequate in many underserved communities, leading to low uptake of screening and preventive healthcare services. The Committee also notes that socio-economic status significantly influences access to care. Although government schemes have improved financial protection for vulnerable populations, indirect treatment costs continue to pose substantial barriers. Patients from lower-income households frequently delay treatment or discontinue therapy due to financial constraints.

6.6.2 The Committee observes that despite significant expansion of healthcare infrastructure and financial protection mechanisms, substantial inequities continue to characterize access to CKD-related services in India especially rural, tribal and remote populations. These inequities manifest across geographical, socio-economic, gender and regional dimensions and have important implications for disease outcomes and quality of life. The Committee notes that rural populations continue to face considerable disadvantages in accessing kidney healthcare services. While urban centres possess relatively better availability of nephrologists, dialysis facilities, transplant centres and diagnostic services, rural and remote areas remain underserved. Patients residing in these regions often have to travel long distances for consultations, investigations and treatment. Such travel not only increases financial burden but also contributes to delayed diagnosis and treatment discontinuation.

6.6.3 The Committee expresses deep concern over gender disparities that continue to affect access to kidney healthcare services. Evidence placed before the Committee suggests that

women often experience delays in diagnosis and treatment owing to social, economic and cultural factors. Stakeholders informed the Committee that women may be less likely to seek timely healthcare and often receive lower priority in resource-constrained households. These disparities become particularly evident in relation to transplantation services where access remains unequal in certain regions.

6.6.4 The Committee is of the considered view that regional and gender inequities reflect persistent systemic gaps in the equitable distribution of specialised kidney care services and undermine the objective of universal health coverage. Unless barriers relating to geography, affordability, gender and social vulnerability are addressed through targeted policy interventions, the benefits of ongoing investments in CKD infrastructure and financial protection schemes are unlikely to reach rural, tribal and geographically isolated populations who infact remain in the greater and immediate need of CKD treatment and care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in coordination with State Governments, prepare a targeted strategy to reduce disparities in CKD care by strengthening specialist and diagnostic services in rural and underserved districts, improving referral and transport support for rural and tribal populations, expanding community-based screening and awareness programmes, ensuring financial support for indirect treatment costs and adopting gender-responsive measures to promote equitable access to diagnosis, dialysis and kidney transplantation.

6.7 Widening Gap between Kidney Transplant Demand and Capacity

6.7.1 The Committee has assessed data furnished by the Ministry on kidney transplantation for the year 2024, according to which 11,558 live-donor and 1,918 deceased-donor kidney transplants were performed nationally against which, as on 9th February, 2026, as many as 61,668 patients remained on the waiting list for kidney transplantation across the country i.e. a number nearly five times the total number of transplants performed in a year. The Committee notes with concern that deceased-donor transplants continue to account for a small proportion of the total, underscoring continued heavy reliance on living donors.

6.7.2 The Committee is of the considered opinion that demand supply mismatch of kidney requires a two-pronged strategy - substantially strengthening deceased organ donation rates through sustained public awareness and expanding transplantation infrastructure and specialist capacity in under-served States, particularly in the North-Eastern and hilly regions. The Committee, therefore, recommends the Ministry of Health and Family Welfare to set time-bound targets for expanding the network of organ retrieval centres and kidney transplant facilities to at least three Government medical colleges in every large State & one govt. medical college in small state or UTs and strengthen financial and technical support by extending to States for transplant infrastructure and transplant coordinators and intensify public awareness campaigns for deceased organ donation, particularly in States presently reporting negligible deceased-donor transplant activity.

6.7.3 The Committee finds with concern that data of the National Organ and Tissue Transplant Organization (NOTTO) for the period 2019–2023 reveals a significant gender imbalance in living organ donation and transplantation. While women accounted for 63.8 per cent of all living organ donors, predominantly for kidney and liver donations, men constituted 69.8 per cent of transplant recipients. The Committee is of the view that such a disparity warrants careful examination to ascertain whether it is attributable solely to epidemiological factors or is also influenced by socio-economic, cultural, financial or gender-related barriers affecting equitable access to transplantation and living organ donation.

6.7.4 The Committee is of the considered view that the significant gender disparity observed in living organ donation and kidney transplantation warrants careful examination to ensure that access to transplantation is guided solely by clinical need and not influenced by socio-economic or gender-related barriers. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, through the National Organ and Tissue Transplant Organization (NOTTO), undertake a comprehensive study to identify the factors contributing to the disproportionate representation of women as living organ donors and men as transplant recipients. Based on the findings, the Ministry should formulate appropriate policy interventions, strengthen counselling and informed consent processes, enhance gender-disaggregated data collection and monitoring, and ensure equitable access to kidney transplantation and organ donation services across all sections of society.

6.8 Health Literacy, Awareness and Delayed Diagnosis

6.8.1 The Committee notes with concern the submission of stakeholder that owing to the silent and asymptomatic nature of CKD in its early stages, a substantial proportion of patients remain unaware that their kidney function has already deteriorated significantly by the time the disease is diagnosed. The Committee has been informed that CKD is more common among women than men, an outcome attributed principally to lower health-seeking behaviour and awareness among women, resulting in later presentation, often at the stage of established kidney failure requiring dialysis or transplantation and that the disease burden and diagnostic delay are more pronounced in rural areas, including in Tier-II and Tier-III cities as compared to major urban centres. However, urban population shows higher reported CKD prevalence than rural area due to lifestyle differences, environment exposures and better access to diagnostic services.

6.8.2 The Committee further notes that the complexity of CKD management involving dietary restriction of sodium, potassium and phosphorus alongside multiple concurrent medications poses considerable difficulty for patients with limited health literacy, contributing to poor treatment adherence and placing a significant emotional and financial burden on caregivers, particularly in low-income and rural households.

6.8.3 The Committee observes that the complexity of CKD management involving dietary restrictions, long-term medication and regular monitoring presents considerable challenges

for patients with limited health literacy. The Committee is of the considered view that inadequate public awareness, poor understanding of disease progression and limited access to counselling and supportive care contribute significantly to delayed diagnosis, poor treatment adherence and avoidable progression to End-Stage Kidney Disease. The Committee further observes that the absence of sustained patient education and psychosocial support may lead to discontinuation of treatment, missed follow-up visits and poor compliance with prescribed dietary and medication regimens, particularly among economically vulnerable patients. Further, these challenges also place a disproportionate emotional, social and financial burden on caregivers, especially in low-income and rural households, thereby widening existing inequities in CKD outcomes. The Committee, therefore, strongly recommends that the Ministry of Health and Family Welfare scale up gender and region-sensitive awareness campaigns on CKD with particular focus on rural areas and Tier-II and Tier-III towns; develop and disseminate culturally appropriate dietary and treatment-adherence counselling material in regional languages and strengthen the capacity of frontline health workers including ASHA workers to provide sustained community-level counselling and support to CKD patients and their caregivers.

6.9 Unregulated Medication Use and Quality Assurance Gaps

6.9.1 Members of the Committee raised concern regarding the widespread and largely unsupervised use of over-the-counter analgesics and other medications with known potential for kidney toxicity and the limited public awareness of the risk that unsupervised or prolonged use of such medications poses to kidney health. The Committee is of the view that this risk is compounded by the fact that once initiated, medications for control of blood pressure and diabetes conditions strongly associated with the onset and progression of CKD are frequently required for life, underscoring the need for informed and supervised use.

6.9.2 The Committee is concerned that inadequate public awareness regarding the nephrotoxic effects of certain commonly used medicines, coupled with the absence of a robust framework for promoting their rational use, continues to expose individuals to avoidable kidney damage. The Committee recommends that the Ministry in coordination with the concerned regulatory authorities should strengthen public awareness on the risks associated with the unsupervised and prolonged use of medicines known to adversely affect kidney function, particularly over-the-counter analgesics. The Committee further recommends promoting rational use of medicines through appropriate patient counselling and strengthening pharmacovigilance and prescription practices, especially for individuals with diabetes, hypertension and other high-risk conditions requiring long-term medication.

6.10 Research and Evidentiary Gaps

6.10.1 The Committee expresses deep concern over the fact that the significant proportion of Chronic Kidney Disease of Unknown Aetiology (CKDu), accounts for nearly one-sixth of CKD

cases in India, such facts & figure highlights a major gap in the country's understanding of the epidemiology and causative factors of kidney disease. The existing research framework has not adequately identified region-specific environmental, occupational, genetic and lifestyle determinants responsible for CKDu, thereby limiting the ability of the health system to design targeted preventive interventions. The absence of standardised national epidemiological studies and longitudinal surveillance further constrains evidence-based policymaking and resource allocation.

6.10.2 The Committee has been apprised of the following facts about Indian Research and Institutional and Efforts in recent CKD management that indicate remarkable achievement:

- i. **Indian Council of Medical Research (ICMR) and the Department of Health Research (DHR)** have been at the forefront of CKD research and innovation.
- ii. **Centre for Advanced Research on Kidney Disease at SGPGIMS, Lucknow**, developed two ICMR patents (2023–24) on urinary exosome miRNA biomarkers for early detection and diabetic nephropathy differentiation.
- iii. **Chronic Kidney Disease of Unknown Etiology (CKDu) in Andhra Pradesh**
 - a. Heat Exposure and environmental Action for Limiting the burden of Chronic Kidney Disease of Undetermined etiology in Andhra Pradesh (**HEAL-CKDu**).
 - b. CKDu in Srikakulam District, Andhra Pradesh (Andhra Medical College, Visakhapatnam).

Indian Research and Institutional Efforts	
- Indian Council of Medical Research (ICMR) and the Department of Health Research (DHR) have been at the forefront of CKD research and innovation - Centre for Advanced Research on Kidney Disease at SGPGIMS, Lucknow, developed two ICMR patents (2023–24) on urinary exosome miRNA biomarkers for early detection and diabetic nephropathy differentiation - Chronic Kidney Disease of Unknown Etiology (CKDu) in Andhra Pradesh ➤ Heat Exposure and environmental Action for Limiting the burden of Chronic Kidney Disease of Undetermined etiology in Andhra Pradesh (HEAL-CKDu) ➤ CKDu in Srikakulam District, Andhra Pradesh (Andhra Medical College, Visakhapatnam)	Key Research Initiatives
	 Mitigation of Environmental and Occupational Risks
	 Genetic and Molecular Studies
	 Community-Level Screening and Lifestyle Interventions
	 Anemia Management
	 Pediatric CKD Research
	 Operational Research

6.10.3 The Committee further observes that while Indian researchers have developed promising indigenous diagnostic biomarkers such as urinary exosome microRNA and Cystatin-C, however, such innovations remain confined to limited research institutions and have not progressed to

large-scale multicentric validation or integration into routine clinical practice. This reflects the persistent translational gap between laboratory research and public health implementation. Equally concerning is the Ministry's confirmation that India presently lacks significant international collaborative research on novel CKD interventions, thereby limiting access to global scientific advances, multicentric clinical trials and emerging therapeutic innovations.

6.10.4 The Committee also notes that the Ministry of Ayush has acknowledged the absence of scientifically validated clinical evidence demonstrating that Ayush interventions can reverse CKD, improve glomerular filtration rate, or alter disease progression. The absence of dedicated Ayush facilities for CKD treatment and the lack of systematic research into their efficacy indicate that the current evidence base remains insufficient to support therapeutic claims.

6.10.5 The Committee finds that India's response to CKD is constrained not only by gaps in healthcare delivery but also by deficiencies in the country's research and evidence-generation ecosystem. Significant knowledge gaps regarding the causes of CKD, limited translation of indigenous scientific innovations into clinical practice, inadequate multicentric and collaborative research and insufficient scientific validation of complementary therapies collectively impede the formulation of evidence-based policies and effective interventions for CKD prevention and management. The Committee, therefore, recommends that the Department of Health Research and the Indian Council of Medical Research formulate a coordinated national research agenda to reconcile the variance in estimates of CKD of unknown aetiology, fast-track large-scale validation of indigenous diagnostic biomarkers, and actively pursue international research collaboration. The Committee further recommends that the Ministry of Ayush in collaboration with ICMR and DHR, design and undertake rigorous, adequately powered clinical studies to scientifically evaluate the role of Yoga and other Ayush modalities in CKD management, while expanding the geographic footprint of Yoga Therapy Centres and Preventive Health Care Units across the country.

6.11 Need for Pediatric Kidney Care – A distinct CKD priority

6.11.1 An expert has submitted before the Committee that there is unique epidemiological and clinical characteristics of paediatric chronic kidney disease, emphasizing that it remains an under-recognised component of India's overall CKD burden. He pointed out that although paediatric CKD receives comparatively little policy attention, available data indicate that approximately one child is affected by CKD for every three adults with the disease, demonstrating that the paediatric burden is substantial and warrants dedicated health system planning. Further, he distinguished paediatric CKD from adult CKD by explaining that adult kidney disease is predominantly caused by diabetes mellitus and hypertension and generally manifests after the age of 40-60 years whereas CKD in children is primarily congenital, hereditary or developmental in origin, with manifestations occurring as early as two to three years of age. Consequently, the disease trajectory in children differs fundamentally from that of adults, requiring interventions from infancy and continuing throughout life.

6.11.2 A major concern raised by the expert was that children diagnosed with CKD require lifelong medical care. Unlike adult patients, whose treatment pathway may extend over one or two decades, paediatric patients often require medical supervision for several decades. Many children are likely to undergo multiple kidney transplants typically two or three over their lifetime as transplanted kidneys have a limited functional lifespan of approximately 10–15 years. This makes paediatric CKD not merely a medical condition but a lifelong health commitment requiring sustained institutional support.

6.11.3 Expert further emphasized that the management of paediatric CKD is fundamentally different from adult nephrology. Children require specialized paediatric nephrology centres equipped with age-appropriate dialysis facilities, paediatric transplant expertise, nutritional support, developmental monitoring, and multidisciplinary care. He observed that India has made encouraging progress over the past three decades by establishing paediatric nephrology facilities in many major cities; however, the specialised nature of paediatric kidney care necessitates continued strengthening and expansion of such services.

6.11.4 The Committee understands that paediatric Chronic Kidney Disease (CKD) is predominantly congenital, hereditary or developmental in origin with clinical manifestations often appearing as early as two to three years of age. Unlike adult CKD, paediatric CKD requires continuous medical care from infancy through adulthood, with many patients likely to undergo multiple kidney transplants during their lifetime due to the limited functional lifespan of transplanted kidneys. The Committee, therefore, views paediatric CKD as a lifelong healthcare commitment requiring sustained institutional support. The Committee is of the view that children with CKD require dedicated paediatric nephrology centres equipped with age-appropriate dialysis facilities, paediatric transplant expertise and multidisciplinary support. The Committee believes that paediatric CKD should be addressed as a distinct healthcare priority rather than being subsumed within adult CKD programmes. The Committee therefore, recommends the Ministry of Health & Family Welfare to recognise paediatric CKD as a separate component under the national CKD framework and formulate a National Paediatric Kidney Wellness and Equity Programme encompassing early diagnosis, comprehensive care and a structured transition to adult nephrology services. The Committee further recommends that dedicated paediatric CKD clinics be progressively established in tertiary care institutions across the country to ensure equitable access to specialised care for affected children.

6.12 Low Priority, Communication Gaps and Provider Challenges

6.12.1 CKD often remains under-recognised within the broader framework of non-communicable disease management. While significant attention is accorded to conditions such as diabetes, cardiovascular disease and cancer, kidney disease frequently receives comparatively lower policy and clinical priority despite its substantial impact on mortality, morbidity and healthcare expenditure. The Committee was informed that many patients with diabetes and hypertension remain unaware of their risk of developing kidney disease. Routine kidney function assessment is not always prioritised during management of these conditions, resulting in missed opportunities for early diagnosis and intervention.

6.12.2 Stakeholders highlighted communication gaps between healthcare providers and patients as another important challenge. Effective management of CKD requires long-term adherence to medicines, dietary modifications and lifestyle changes. However, limited consultation time and high patient loads in public healthcare facilities often restrict the ability of providers to offer detailed counselling. The Committee further observes that healthcare providers themselves face constraints arising from workforce shortages, infrastructure limitations and competing clinical priorities. Consequently, comprehensive counselling and psychosocial support often receive inadequate attention. The Committee is also concerned that palliative and supportive care services remain underdeveloped in the context of advanced kidney disease. Patients with limited treatment options frequently require counselling regarding symptom management, end-of-life care and quality-of-life considerations. However, institutional capacity in this area remains limited.

6.12.3 The Committee observes that inadequate communication and counseling often contribute to poor treatment adherence, delayed decision-making and sub-optimal management of Chronic Kidney Disease (CKD). Experience suggests patients frequently face difficulty in understanding disease progression, dietary restrictions and treatment options, particularly during the transition from conservative management to dialysis or transplantation. The Committee further observes that counseling on symptom management, quality-of-life issues and end-of-life care for patients with limited treatment options remains inadequate. The Committee is of the view that strengthening communication, counseling and patient engagement is essential for improving treatment outcomes and ensuring patient-centered care. The Committee therefore, recommends that the Ministry accord greater emphasis to health literacy, shared decision-making and structured long-term counseling to promote sustained adherence to medicines, dietary modifications and lifestyle changes.

6.13 National CKD Performance Dashboard

6.13.1 The Committee recommends the Government to develop a district-wise CKD Performance Dashboard to monitor screening coverage, early diagnosis, dialysis outcomes, transplant waiting lists and specialist vacancies. The Committee understands that use of real time data would be beneficial in identifying regional gaps and improve accountability. Evidence based planning and resource allocation is required to achieve the objective of maintaining healthy kidney.

6.14 Workplace Kidney Health Programme

6.14.1 The Committee desires the Government to launch a Kidney Health Programme for higher risk occupations such as agricultural workers, construction workers and factory laborers. The Committee also recommends to generate the public awareness for periodic screening, provide hydration facilities, shaded rest areas and occupational health education and awareness against CKD associated with heat stress, dehydration and environmental exposure.

6.15 National Policy for Healthy Kidney

6.15.1 The Committee understands that the CKD poses huge challenge, therefore, there is need to generate public awareness and formulate policy for its control early identification diagnostic test and treatment and long term kidney care by strengthening integrated management. Keeping in view the importance of Ayush system in preventing CKD, the Committee recommends All India Ayurved Institutes to undertake in depth research. The Committee desires that there should be facilities for free dialysis in Ayushman Arogya Mandirs.

6.13 Conclusion

6.13.1 The Committee observes that Chronic Kidney Disease (CKD) continues to remain under-recognised within the broader framework of non-communicable disease management. While considerable policy attention has been devoted to conditions such as diabetes, cardiovascular diseases and cancer, kidney disease has not received commensurate priority despite its significant contribution to mortality, morbidity and the growing burden on the healthcare system. The Committee acknowledges the noteworthy progress made in recent years through the expansion of dialysis services under the National Dialysis Programme, strengthening of financial protection mechanisms, and promotion of kidney transplantation. These initiatives have substantially improved access to life-saving treatment and laid the foundation for a more responsive and inclusive kidney care ecosystem. The Committee, however, is constrained to observe that significant systemic challenges continue to impede the delivery of equitable, accessible and comprehensive kidney healthcare across the country. Persistent shortages of trained nephrologists and allied healthcare personnel, inadequacies in diagnostic and treatment infrastructure, pronounced inter-State and rural-urban disparities, financial barriers to long-term care, gaps in disease surveillance and data systems, and limited access to organ transplantation continue to undermine the effectiveness of existing interventions. The Committee is of the considered view that the rapidly increasing burden of CKD warrants a comprehensive, multi-sectoral and life-course approach that accords kidney health the priority it deserves within the national public health agenda requiring strengthened preventive and primary healthcare, systematic screening of high-risk populations, timely referral mechanisms, enhanced specialist capacity, robust surveillance and research systems, promotion of deceased organ donation, and comprehensive financial protection for patients across the continuum of care.

6.13.2 The Committee is confident that sincere and time-bound implementation of its recommendations will substantially strengthen India's preparedness to prevent, detect and manage CKD, reduce the burden of end-stage kidney disease, and ensure equitable, affordable and quality kidney healthcare for all citizens, thereby contributing meaningfully to the achievement of Universal Health Coverage and the Sustainable Development Goals.

RECOMMENDATIONS / OBSRVATIONS OF THE COMMITTEE - AT A GLANCE

Overview and Burden Of Chronic Kidney Disease

1. The Committee observes with concern that Chronic Kidney Disease (CKD) has emerged as one of the fastest-growing non-communicable diseases in the country, with a steadily increasing prevalence and a substantial proportion of patients being diagnosed only at advanced stages. The Committee further notes that although CKD constitutes a major public health challenge, the disease has not yet received commensurate policy attention in proportion to its growing burden and long-term socioeconomic impact. The Committee is of the considered view that addressing CKD requires a comprehensive and coordinated national response involving prevention, early detection, treatment, research and long-term patient care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare accord higher priority to CKD within the national health agenda and formulate a comprehensive national strategy with clearly defined objectives, measurable outcomes and coordinated implementation across all levels of healthcare.

(Para 1.4.4)

Major Epidemiological Studies on CKD in India

2. The Committee observes that Chronic Kidney Disease (CKD) is a progressive multisystem disease associated with several serious complications with cardiovascular disease being the leading cause of mortality among CKD patients. The Committee is of the view that delayed diagnosis and inadequate management often accelerate disease progression, resulting in increased morbidity, mortality and the need for dialysis or kidney transplantation. The Committee, therefore, believes that timely detection and comprehensive management are essential to improve clinical outcomes and reduce the overall burden of CKD. Accordingly, the Committee recommends strengthening early screening, timely diagnosis and integrated management of CKD to prevent disease progression, reduce complications and improve patient survival and quality of life.

(Para 1.5.2)

Environmental and Occupational Determinants of CKD

3. The Committee recommends that the Ministry accord priority to focused research, strengthened surveillance and targeted preventive interventions to address CKD risk factors, particularly among agricultural and economically vulnerable populations.

(Para 1.8.2)

4. The Committee underscores that while diabetes mellitus and hypertension continue to be the leading causes of Chronic Kidney Disease in India, increasing evidence points towards the growing burden of Chronic Kidney Disease of Unknown Etiology (CKDu), particularly among agricultural workers and populations exposed to environmental and occupational hazards. The Committee further observes that chronic heat stress, recurrent dehydration, exposure to pesticides, contaminated drinking water and heavy metals have emerged as important areas requiring scientific investigation. The Committee is of the considered opinion that greater understanding of these determinants is essential for designing effective preventive interventions. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in collaboration with the Indian Council of Medical Research, Department of Health Research and other concerned Ministries and scientific institutions, undertake comprehensive multidisciplinary research on CKDu and other environmental and occupational determinants of CKD, strengthen surveillance in identified endemic regions and develop evidence-based preventive strategies for vulnerable populations.

(Para 1.9.2)

Regional Disparities in Kidney Healthcare:

5. The Committee observes from the evidence furnished by the Ministry and the programme implementation data placed before it that considerable disparities continue to exist in the availability and accessibility of kidney healthcare services across different States and Union Territories. The Committee was informed that rural populations, economically weaker sections, tribal communities and residents of remote and geographically difficult areas continue to face limited access to nephrologists, diagnostic facilities, dialysis centres and transplantation services. The Committee finds that variations in healthcare infrastructure, specialist availability and programme implementation have contributed to inequitable access to kidney care, often resulting in delayed diagnosis, interrupted treatment and poorer health outcomes. The Committee is, therefore, of the considered view that reducing regional disparities and ensuring equitable access to quality kidney healthcare should remain a central objective of the Ministry's strategy for prevention and management of Chronic Kidney Disease.

(Para 1.10.1)

Economic and Social Burden

6. The Committee expresses concern to observe that affordability and accessibility continue to remain major barriers to equitable kidney healthcare across the country, particularly in rural and underserved regions where specialized nephrology services remain limited. The Committee is of the considered view that financial hardship should not

become a barrier to accessing life-saving kidney care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare strengthen financial protection mechanisms for CKD patients, expand access to affordable renal care services, including dialysis in underserved regions, enhance insurance coverage for kidney disease and periodically assess regional disparities in kidney healthcare to ensure equitable distribution of specialized services across the country.

(Para 1.11.4)

Consequences of Late Diagnosis

7. The Committee observes with concern that delayed diagnosis continues to be one of the principal factors contributing to poor clinical outcomes, increased mortality, higher treatment costs and greater dependence on dialysis and kidney transplantation. The Committee believes that the asymptomatic nature of CKD during its early stages, coupled with inadequate public awareness, delayed health-seeking behavior and limited identification of high-risk individuals, results in a substantial proportion of patients presenting only after irreversible kidney damage has occurred. The Committee is of the considered view that reducing delays in diagnosis is essential for improving long-term patient outcomes and reducing the overall burden of CKD. The Committee, therefore, recommends that the Ministry of Health and Family Welfare strengthen mechanisms for early identification and timely referral of individuals at high risk of CKD through the primary healthcare system, while enhancing awareness among healthcare providers and the general public regarding the importance of early evaluation of kidney disease. The Committee further recommends that appropriate protocols for risk-based assessment and referral be implemented across all levels of healthcare to facilitate timely intervention and delay disease progression.

(Para 1.12.2)

CKD and Climate Change: An Emerging Public Health Concern

8. The Committee observes that climate change and environmental degradation have emerged as important determinants influencing the burden of Chronic Kidney Disease, particularly CKDu, among vulnerable occupational groups. The Committee is of the considered view that the health impacts of climate change on kidney disease require greater policy attention, scientific research and coordinated action across sectors. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in collaboration with the Ministries of Environment, Forest and Climate Change, Labour and Employment, Agriculture and Farmers' Welfare, and Jal Shakti, develop a coordinated national framework to address the environmental and climate-related determinants of

Chronic Kidney Disease. The Committee further recommends that climate-resilient kidney health strategies, including surveillance of vulnerable populations, promotion of occupational heat mitigation measures, access to safe drinking water, and region-specific research on CKDu, be integrated into national policies and programmes for the prevention and control of Chronic Kidney Disease.

(Para 1.13.2)

Need for Early Detection and Preventive Healthcare

9. The Committee observes that a substantial proportion of CKD cases remain undiagnosed until advanced stages due to low public awareness regarding kidney health, inadequate understanding of risk factors and delayed health-seeking behaviour. The Committee is of the considered opinion that sustained public awareness and preventive health promotion constitute the most effective long-term strategy for reducing the burden of CKD. The Committee, therefore, recommends that the Ministry accord greater emphasis to kidney health promotion through sustained Information, Education and Communication (IEC) campaigns, community outreach programmes and integration of kidney health messages within existing non-communicable disease awareness initiatives. The Committee further recommends that special emphasis be placed on educating high-risk populations regarding healthy lifestyle practices, early symptoms, risk factors and the importance of timely medical consultation.

(Para 1.14.2)

PREVENTION STRATEGIES

Prevention of Chronic Kidney Disease: An Overview:

10. The Committee acknowledges that the Ministry has recognised prevention of chronic kidney disease as an integral component of the National Programme for Prevention and Control of Non-Communicable Diseases and has initiated several measures aimed at promoting healthy lifestyles and reducing major risk factors. Prevention should not be viewed only as a medical intervention but also as a public health strategy involving behavioural change, lifestyle modification, nutrition, environmental protection and community participation. The Committee observes that the growing burden of Chronic Kidney Disease (CKD) has significant economic implications for patients, families and the public health system. The Committee is concerned that while substantial resources are being devoted to dialysis and other renal replacement therapies, preventive nephrology has not received commensurate policy and financial attention despite its potential to reduce disease progression and long-term healthcare costs. Strengthening preventive nephrology would reduce long-term healthcare expenditure, improve quality of life and lessen the growing burden on dialysis services. The Committee is of the considered view that

sustained investment in prevention, early detection and risk factor management would not only improve health outcomes but also substantially reduce the future demand for costly tertiary care services. The Committee, therefore, recommends that the Ministry of Health and Family Welfare accord higher priority to preventive nephrology in health planning and resource allocation, undertake periodic evaluation of the cost-effectiveness of preventive interventions and incorporate measurable kidney health indicators within the national monitoring framework for non-communicable diseases to facilitate evidence-based planning and performance assessment. The Committee endorses the views that comprehensive prevention strategy must therefore address lifestyle, environmental, occupational and systemic factors while leveraging existing health infrastructure at the community level.

(Para 2.1.5)

Primordial and Primary Prevention: Reducing Risk Factors Before Disease Onset

11. The Committee acknowledges the efforts of the Ministry in conducting over 6.43 crore Health and Wellness Sessions through approximately 1.8 lakh Ayushman Arogya Mandirs to promote healthy lifestyles and create awareness on non-communicable diseases. However, the Committee is constrained to observe that the burden of chronic kidney disease (CKD) continues to rise, indicating that preventive efforts require further strengthening beyond facility-based wellness sessions. The Committee is of the considered view that the effectiveness of these sessions is inherently dependent upon attendance at Ayushman Arogya Mandirs and, therefore, may not adequately reach a large section of the at-risk population. Considering the largely asymptomatic nature of CKD in its early stages, the Committee recommends that the Ministry adopt a proactive, community-based approach by taking kidney health awareness beyond health facilities through sustained door-to-door campaigns, village and ward-level outreach programmes, and targeted IEC activities involving ASHAs, ANMs and other frontline health workers. The Committee believes that such measures would improve community participation, enhance awareness of CKD risk factors and symptoms, and facilitate early detection and timely intervention.

(Para 2.2.5)

12. The Committee is of the considered view that, given India's large population and the substantial burden on the healthcare system, prevention is a far more effective and sustainable approach than treatment in addressing Chronic Kidney Disease. Accordingly, the Committee recommends that the Ministry of Health and Family Welfare accord priority to preventive and community-based interventions by institutionalising healthy hydration practices and heat stress awareness through Self-Help Groups, schools,

workplaces, and local community organisations. The Committee further recommends that such preventive messages be integrated into existing flagship programmes such as *Swachh Bharat Mission* and *Poshan Abhiyaan* to maximise outreach, promote sustained behavioural change and reduce the incidence of CKD, particularly in vulnerable rural and agricultural communities.

(Para 2.2.6)

13. The Committee observes that effective prevention of CKD is intrinsically linked to sustained behavioural change through the adoption of healthy lifestyles and effective management of modifiable risk factors. However, the Committee is constrained to observe that kidney health has not received adequate prominence in existing public health awareness campaigns. The Committee, therefore, strongly recommends that the Ministry of Health and Family Welfare must formulate and implement a dedicated National Chronic Kidney Disease Awareness Programme with sustained nationwide outreach through print, electronic, digital and social media on the lines of successful public health awareness campaigns such as those for Tuberculosis (TB) and HIV/AIDS. The Committee further recommends strengthening community engagement by organising awareness campaigns and health education programmes in schools, workplaces and communities. The Committee also recommends promoting healthy dietary practices, including reduced salt intake, regular physical activity, avoidance of tobacco and alcohol, adequate hydration, and periodic screening of high-risk individuals in its awareness campaigns. The Committee therefore, strongly recommends the Ministry of Ayush to actively complement these efforts by promoting evidence-based healthy lifestyle practices and preventive healthcare through its existing wellness programmes in coordination with the Ministry of Health and Family Welfare.

(Para 2.2.9)

Awareness of Chronic Kidney Disease (CKD):

14. The Committee observes that an effective awareness strategy for the prevention of Chronic Kidney Disease (CKD) must extend beyond healthcare facilities and place greater emphasis on primary prevention through health education and awareness from an early age. The Committee is of the view that younger populations is more prone and behaviourally sensitive to unhealthy dietary habits, sedentary lifestyles, obesity, tobacco and alcohol consumption and poor awareness regarding kidney health. The Committee observes that kidney health literacy in the country continues to remain largely patient oriented which is inadequate for achieving meaningful prevention at the population level. The Committee believes that preventing CKD requires a paradigm shift from a predominantly patient-centric approach to a whole-of-society approach by strengthening kidney health literacy among school children, the general public, healthcare providers and

communities. Accordingly, the Committee recommends that the Ministry of Health and Family Welfare, in coordination with the Ministry of Education, incorporate basic concepts of kidney health, healthy dietary practices, adequate hydration, physical activity, prevention of non-communicable diseases and the importance of protecting kidney function into school health education programmes and appropriate school curricula. The Committee further recommends that sustained nationwide awareness campaigns be undertaken through Ayushman Arogya Mandirs, educational institutions, workplaces, mass media and digital platforms to improve kidney health literacy among the general population and foster lifelong healthy behavioural practices for the prevention of CKD.

(Para 2.3.3)

15. The Committee finds that the growing burden of Chronic Kidney Disease (CKD) in the country is closely associated with the increasing prevalence of metabolic risk factors such as diabetes, hypertension, obesity and cardiovascular diseases, which are, in turn, driven by changing dietary patterns, increasing consumption of ultra-processed and packaged foods high in salt, sugar and saturated fats, sedentary lifestyles and inadequate public awareness regarding healthy living. The Committee appreciates that the Ministry of Health and Family Welfare has undertaken several initiatives under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), Poshan Abhiyaan and other health promotion programmes, the Committee is of the considered view that substantially greater emphasis is required on primordial prevention aimed at preventing the emergence of these risk factors before they progress to chronic disease. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in coordination with the Food Safety and Standards Authority of India (FSSAI) and other concerned stakeholders, examine appropriate measures for strengthening consumer awareness regarding the nutritional quality of packaged food products through suitable front-of-pack food labelling, colour coding and other evidence-based regulatory interventions that enable informed dietary choices. The Committee further recommends that the Ministry launch a targeted, high-impact national mass media campaign on the dangers of excessive dietary sodium and hidden salts. Furthermore, the Ministry should institutionalize community-based lifestyle modification programs specifically leveraging Ayush wellness systems and daily physical activity modules across schools, workplaces, and local Ayushman Arogya Mandirs to curb metabolic risk factors at the population level.

(Para 2.3.4)

16. The Committee observes with concern that indiscriminate and unsupervised use of non-steroidal anti-inflammatory drugs (NSAIDs) and other nephrotoxic medications continues to contribute to preventable kidney injury in the country. The Committee further finds that limited public awareness regarding the potential adverse effects of prolonged self-medication and inadequate regulation of inappropriate drug use remain

important public health concerns, particularly in rural and underserved areas. The Committee is of the considered view that prevention of drug-induced kidney disease requires a combination of public awareness, rational prescribing practices and effective regulatory oversight. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in consultation with the Central Drugs Standard Control Organisation (CDSCO), review existing regulatory and awareness measures relating to over-the-counter availability and irrational use of nephrotoxic medicines. The Committee further recommends that appropriate public education campaigns be undertaken to sensitise citizens regarding the risks associated with indiscriminate use of painkillers and other potentially nephrotoxic medications. The Government should also undertake effective measures to regulate the indiscriminate use of antibiotics as the same exert lethal impact on kidney health, therefore, the Committee desires that a robust, science driven and evidence based policy is essential to address such growing threat.

(Para 2.3.5)

17. The Committee appreciates the Ministry's efforts in organising large-scale health camps and community outreach programmes under various initiatives such as the Swasth Nari, Sashakt Parivar Abhiyaan, Poshan Maah, Ayushman Shivar and the National NCD Campaign, as well as the regular conduct of wellness and screening activities through the Ayushman Arogya Mandir network. Such initiatives have significantly expanded access to screening for major non-communicable diseases and have contributed to improving public awareness regarding preventive healthcare. The Committee, however, observes that such campaigns have primarily focused on common NCDs such as diabetes, hypertension and cancer, while kidney health and Chronic Kidney Disease (CKD), despite being closely linked with these conditions and have not received commensurate attention within community-based outreach activities. The Committee is therefore, of the considered view that such large-scale public health platforms utilise the ideal opportunity for integrating kidney health promotion, early risk identification and public education, particularly among high-risk populations. The Committee, therefore, recommends that the Ministry of Health and Family Welfare institutionalise kidney health promotion as an integral component of all major national health outreach campaigns and community screening initiatives. The Committee further recommends that standardised kidney health education, risk assessment, counselling on preventive lifestyle measures and referral pathways for high-risk individuals be incorporated into health camps conducted under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) and through Ayushman Arogya Mandirs. The Committee strongly desires that dedicated awareness and screening activities be organised on occasions such as World Kidney Day and other national public health campaigns to enhance early detection, improve community awareness and reduce the long-term burden of CKD in the country.

(Para 2.3.7)

Role of Ayush Systems in Primary Prevention

18. The Committee finds that the Ministry has adopted an integrative approach wherein Ayush interventions are intended to complement modern medicine through health promotion, lifestyle counselling, stress management and preventive care. The Committee desires that Ayush institutions must undertake health promotion activities through non-communicable disease outpatient clinics, health camps, school health programmes and community outreach initiatives aimed at early identification and management of diabetes and hypertension, thereby contributing indirectly to the prevention of kidney diseases and slowing disease progression among high-risk individuals.

(Para 2.4.3)

19. The Committee observes that Chronic Kidney Disease (CKD) is largely driven by lifestyle-related risk factors such as diabetes, hypertension, obesity and unhealthy dietary practices which necessitate sustained behavioural change and adoption of healthy lifestyles. The Committee further observes that India's traditional systems of medicine have a wide community reach and place considerable emphasis on preventive healthcare through balanced nutrition, physical activity, yoga, stress management and healthy living. The Committee is of the considered view that while modern medicine remains the cornerstone for the diagnosis and clinical management of CKD, the preventive principles of Ayush can complement ongoing public health efforts particularly in promoting healthy lifestyles, creating awareness and preventing lifestyle disorders that predispose individuals to CKD. The Committee, therefore, strongly recommends that the Ministry of Health & Family Welfare in coordination with the Ministry of Ayush develop an integrated preventive framework for CKD that leverages the strengths of both systems focussing on health promotion, yoga-based wellness interventions, dietary counselling, public awareness, behavioural change communication and early risk-factor management through Ayushman Arogya Mandirs and other community-based platforms. The Ministry of Ayush should work aggressively for preventive healthcare by undertaking health promotion activities through OPD clinics, organising health camps, school health initiatives and community reach initiatives aimed at kidney health awareness. The Committee is of the view that an evidence-based integrative approach would strengthen preventive healthcare, support early identification of at-risk individuals and contribute to reducing the long-term burden of CKD.

(Para 2.4.6)

Secondary Prevention: Early Detection and Risk Factor Control

20. The Committee commends that the Ministry has initiated population-based screening for non-communicable diseases under NP-NCD and strengthened comprehensive

primary healthcare through Ayushman Arogya Mandirs. The Committee notes the evidence placed before it that CKD continues to be detected predominantly in advanced stages because kidney health assessment is not yet uniformly integrated into routine management of diabetes, hypertension and other high-risk conditions. The Committee endorses the view of experts and strongly advocates for systematic risk-based screening to facilitate early identification, monitoring and policy planning. The Committee is of the considered view that strengthening secondary prevention represents one of the most effective interventions for reducing progression to End Stage Kidney Disease and lowering the future demand for dialysis and transplantation. The Committee, therefore, recommends that the Ministry of Health and Family Welfare integrate targeted risk-based kidney health assessment into all NP-NCD services by ensuring periodic evaluation of individuals with diabetes mellitus, hypertension, cardiovascular disease, obesity, family history of kidney disease and other recognised risk factors.

(Para 2.5.4)

Tertiary Prevention

21. The Committee observes that Chronic Kidney Disease (CKD) is a complex, progressive and multisystem disorder that is frequently accompanied by diabetes, hypertension, cardiovascular disease, anaemia, mineral and bone disorders, nutritional deficiencies and psychosocial challenges. The Committee is of the considered view that effective tertiary prevention cannot be achieved through nephrology care alone but requires a coordinated, multidisciplinary approach involving physicians, nephrologists, diabetologists, cardiologists, dieticians, clinical pharmacists, nurses, physiotherapists, mental health professionals and social workers. However, multidisciplinary CKD care services remain limited and are largely confined to tertiary care institutions with inadequate coordination and continuity of care across different levels of the healthcare system. The Committee, therefore, recommends that the Ministry institutionalise multidisciplinary CKD management as an integral component of tertiary prevention by adoption of integrated care pathways, shared electronic patient records, structured follow-up mechanisms, patient education programmes and regular multidisciplinary case reviews to ensure continuity of care and improve long-term clinical outcomes while delaying progression to End-Stage Kidney Disease (ESKD).

(Para 2.6.2)

Environmental and Occupational Prevention

22. The Committee observes with concern the emerging evidence indicating that environmental and occupational factors are emerging contributors to the occurrence of Chronic Kidney Disease of Unknown Etiology (CKDu) in certain parts of the country.

Taking into account the approx. 16% prevalence of CKDu, the Committee is of the firm view that the increasing burden of CKDu among agricultural workers and other outdoor labourers necessitates a precautionary and proactive public health response. The Committee observes that existing preventive efforts remain fragmented across multiple sectors and there is no comprehensive framework for surveillance, risk assessment and coordinated intervention in vulnerable districts. The Committee appreciates the research initiatives undertaken by the Department of Health Research and the Indian Council of Medical Research to generate evidence on the environmental and occupational determinants of CKDu. The Committee, however, believes that preventive public health action should proceed alongside scientific research and should not be deferred until complete causal certainty is established. The Committee, therefore, recommends that the Ministry of Health and Family Welfare in coordination with the Ministries of Labour and Employment, Agriculture and Farmers' Welfare, Jal Shakti, Environment, Forest and Climate Change and the concerned State Governments formulate a National Framework for Prevention and Surveillance of CKDu with district-specific implementation strategies for identified high-risk areas. The framework should provide for systematic surveillance of CKDu hotspots; periodic occupational health screening of vulnerable workers; access to safe drinking water and adequate hydration facilities at workplaces; implementation of heat mitigation measures in occupations including regular hydration breaks in prolonged outdoor work; strengthening of environmental monitoring wherever warranted; regulation and safe handling of agrochemicals in accordance with existing laws and guidelines; and continued multidisciplinary research to generate robust evidence for future policy interventions. The Committee, in this regard, recommends the establishment of an inter-ministerial coordination mechanism to periodically review implementation and facilitate convergence of health, occupational safety, environmental and climate adaptation measures in CKDu-prone regions.

(Para 2.7.2)

SCREENING AND DIAGNOSIS

23. The Committee also believes that early detection of Chronic Kidney Disease (CKD) is fundamental to effective management, as the disease often remains asymptomatic until significant kidney function (up to 60-70%) is lost. The Committee is of the considered view that Screening and diagnosis form the critical bridge between prevention and treatment. In India, where the pooled prevalence of CKD is estimated at approximately 13.24% with substantial regional variation, a robust, accessible and cost-effective screening system is essential to reduce progression to End-Stage Kidney Disease (ESKD), lower treatment costs and improve patient outcomes. The Committee, keeping in view that the growing burden of diabetes, hypertension and other non-communicable diseases continues to drive the increasing prevalence of kidney disease across the country, is of the view that a precautionary approach or strategic course of action is needed to address it and

accordingly, recommends for regular screening for high risk groups particularly individuals with diabetes and hypertension through Non Communicable programmes.

(Para 3.1.4)

Screening for Chronic Kidney Disease

Rationale for Screening

24. The Committee strongly believes that early detection through systematic screening is not only clinically beneficial but also economically advantageous for the Indian healthcare system. The cost of screening high-risk individuals and initiating timely treatment is significantly lower than the expenditure incurred in managing advanced Chronic Kidney Disease (CKD), which often necessitates dialysis, kidney transplantation and the treatment of multiple complications. Screening, therefore, represents one of the most cost-effective public health interventions for reducing the overall burden of CKD. The Committee recommends that the Government encourage regular medical consultation and adherence to evidence-based clinical guidance for periodic monitoring and effective control of blood pressure and blood glucose levels and also emphasizes the need for timely lifestyle modifications and the early initiation of evidence-based pharmacological therapy wherever clinically advised, to preserve kidney function and reduce the risk of progression to End-Stage Kidney Disease (ESKD). The Committee is of the considered view that investing in prevention and early intervention is far more cost-effective than treating advanced kidney disease, which imposes a substantial financial burden on the healthcare system while being associated with prolonged patient suffering, diminished quality of life, and increased mortality.

(Para 3.3.2)

Screening Tests

25. The Committee notes that serum creatinine continues to be the most widely prescribed laboratory test for assessing kidney function across the country. However, the Committee is constrained to observe that reliance on serum creatinine values alone is inadequate for the early detection of Chronic Kidney Disease (CKD), as serum creatinine often remains within the normal range until nearly half of the kidney function has already been lost. Moreover, interpretation of raw creatinine values without adjustment for age and sex may lead to under-recognition of early CKD, particularly at the primary care level. The Committee also acknowledges the unanimous opinion of experts that kidney function assessment in high-risk individuals should include automatic estimation of the Estimated Glomerular Filtration Rate (eGFR), preferably using the CKD-EPI equation, along with urine albumin estimation rather than relying solely on serum creatinine. In view of the

foregoing, the Committee recommends that the Ministry of Health and Family Welfare mandate automatic estimation and reporting of the Estimated Glomerular Filtration Rate (eGFR), preferably using the CKD-EPI equation, along with every serum creatinine test conducted in public and private diagnostic laboratories, without requiring a separate test request or additional cost to the patient. The Committee further recommends that appropriate laboratory standards and quality assurance protocols be revised to ensure uniform implementation of this requirement across the country. The Committee believes that mandatory eGFR reporting will facilitate early detection of Chronic Kidney Disease, enable timely clinical intervention and referral, and significantly strengthen the national strategy for CKD prevention and control.

(Para 3.4.3)

Target Population for Risk-Based Screening

26. The Committee observes that Chronic Kidney Disease (CKD) remains largely asymptomatic during its early stages and is therefore frequently diagnosed only after significant and irreversible loss of kidney function has occurred. The Committee notes with serious concern the indiscriminate use of pain killers by the young generation who are inclined towards sedentary life style and associated risks. Instances of undiagnosed hypertension have increased amongst the younger generation leading to silent onset of kidney disease which is now assuming epidemic proportion. Although CKD screening has been integrated under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD), the present approach is largely based on opportunistic screening of individuals attending Ayushman Arogya Mandirs and other health facilities. The Committee is concerned that such occasional approach intervention does not ensure periodic screening of all high-risk individuals and largely depends on patient attendance for check up resulting in delayed diagnosis and missed opportunities for early intervention. The Committee, therefore, recommends that the Ministry institutionalise regular Annual CKD screening of all high-risk individuals and mandatory biannual Kidney Function Test (KFT) of all persons aged 20 years & above, free of cost for persons Below Poverty Line (BPL) and on nominal cost for Above Poverty Line (APL) persons under the NP-NCD to enable early diagnosis and delay disease progression. The screening should include assessment of kidney function using eGFR and urine albumin/protein testing, along with appropriate referral and follow-up. The Committee further recommends maintaining longitudinal digital records of screened individuals to monitor disease progression, support continuity of care, strengthen programme monitoring, and generate reliable evidence for future policy formulation and resource planning.

(Para 3.5.2)

27. The Committee understands that principal high-risk groups requiring periodic screening include individuals with diabetes mellitus and hypertension, which together account for the majority of CKD cases in the country. Such individuals should undergo regular kidney function assessment, preferably on an annual basis, to facilitate early detection and timely intervention. Other priority groups include adults above 60 years of age; individuals with a family history of kidney disease; persons with obesity or tobacco use; and individuals with a history of acute kidney injury (AKI), recurrent urinary tract infections, recurrent kidney stones or prolonged exposure to nephrotoxic medications, including non-steroidal anti-inflammatory drugs (NSAIDs). The Committee takes into account the immediate increasing significance of screening among occupational and agrarian populations residing in regions affected by Chronic Kidney Disease of Unknown Etiology (CKDu), particularly in parts of Andhra Pradesh, Odisha and Karnataka. Evidence suggests that prolonged exposure to heat stress, recurrent dehydration and agrochemicals that may contribute to kidney damage in these populations. The Committee, therefore, that targeted screening in such endemic regions is therefore essential for early identification of affected individuals and for generating epidemiological evidence to better understand the disease burden and its determinants for early detection and necessary medical intervention.

(Para 3.5.3)

Existing Screening Framework in India

28. The Committee acknowledges that the Ministry has integrated Chronic Kidney Disease screening within the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) and has leveraged the extensive network of Ayushman Arogya Mandirs (AAMs) to undertake large-scale population-based screening population-based screening of major non-communicable diseases. The Committee, however, expresses concern that implementation of kidney health assessment remains inconsistent across States owing to variations in infrastructure, availability of trained manpower, diagnostic facilities and referral mechanisms. The Committee observes that the existing screening framework needs to be streamlined to provide a strong foundation for early detection of Chronic Kidney Disease among vulnerable groups. Keeping into account, the absence of standardized protocols, uneven implementation across States and inadequate integration of kidney health assessment in routine management of diabetes and hypertension continue to limit its effectiveness, the Committee, therefore, recommends that the Ministry of Health and Family Welfare should develop and implement a uniform national screening protocol for Chronic Kidney Disease under the NP-NCD. The Committee further recommends that all primary health facilities including Ayushman Arogya Mandirs, must adopt mandatory standardized screening pathways for individuals with high-risk factors, supported by clearly defined referral mechanisms, standard operating procedures and periodic monitoring of programme outcomes.

(Para 3.6.3)

29. The Committee believes that the effectiveness of screening for Chronic Kidney Disease (CKD) under the National Programme for Prevention and Control of Non-Communicable Diseases undertaken through Ayushman Arogya Mandirs is inherently dependent upon individuals voluntarily visiting these facilities. Given that CKD remains largely asymptomatic during its early stages and public awareness regarding kidney health continues to be low, a significant proportion of at-risk individuals do not seek screening until the disease has progressed to advanced stages. Consequently, valuable opportunities for early diagnosis and timely intervention are often missed. The Committee is therefore of the opinion that community-based outreach should complement facility-based screening. In this regard, frontline workers like Accredited Social Health Activists (ASHAs), by virtue of their regular household visits and close engagement with the community, should play a pivotal role in identifying individuals at risk of CKD. The Committee, therefore, recommends that the Ministry examine the feasibility of training ASHA workers to undertake preliminary urine dipstick testing for proteinuria among high-risk individuals during home visits or village health activities. Individuals exhibiting adverse findings may thereafter be referred to the nearest Ayushman Arogya Mandir or higher health facility for confirmatory investigations, including serum creatinine estimation, urine albumin assessment and eGFR evaluation. Such a decentralised screening approach system would substantially improve early case detection, enhance coverage among vulnerable populations, reduce delays in diagnosis and ultimately lessen the burden of advanced CKD requiring expensive renal replacement therapy.

(Para 3.6.4)

Diagnostic Modalities for Chronic Kidney Disease

30. The Committee takes note of the various diagnostic techniques currently available, as well as the emerging biomarkers and technologies for the diagnosis of Chronic Kidney Disease (CKD). The Committee observes that no single diagnostic modality is effective enough for the accurate detection and assessment of CKD and that each investigation has a distinct and complementary role depending on the clinical presentation, stage of disease and underlying cause. The Committee is of the considered view that the diagnosis of CKD should be based on a comprehensive clinical assessment incorporating kidney function tests, urine examination, imaging studies and, where clinically indicated, histopathological evaluation. The Committee further believes that strengthening diagnostic infrastructure, ensuring quality-assured laboratory services, promoting standardised reporting practices and facilitating equitable access to advanced diagnostic technologies are essential for improving early diagnosis, guiding appropriate treatment and enhancing long-term patient outcomes.

(Para 3.10.2)

31. The Committee notes that while these emerging biomarkers viz Cystatin-C, NGAL, KIM-1, IL-18, Microglobulin etc. offer significant potential for earlier and more precise diagnosis, current costs, infrastructure requirements and limited availability may restrict their immediate applicability for large-scale population screening. The Committee, however, recommends that the initial use of emerging biomarkers may therefore be prioritised for pilot projects, tertiary care settings and CKDu research programmes and upon success of pilot projects, may later be implemented at macro level.

(Para 3.10.3)

Staging of Chronic Kidney Disease

32. The Committee understands that combined assessment of kidney function and albuminuria provides a comprehensive estimate of disease severity and the risk of disease progression. It also serves as the basis for determining the frequency of monitoring, the intensity of therapeutic intervention, management of associated complications and the need for referral to specialised nephrology services. The Committee, therefore, recommends the Ministry for adoption of a standardised staging system which further facilitates uniform clinical decision-making and comparability of patient data across healthcare institutions. The Committee observes that uniform adoption of the KDIGO staging framework across all levels of the healthcare system would promote consistency in diagnosis, facilitate standardised clinical management and enable meaningful aggregation of CKD data for surveillance, programme monitoring and health policy planning.

(Para 3.11.2)

Referral for Specialist Care

33. The Committee expresses concern that referral pathways between primary, secondary and tertiary healthcare facilities remain inadequately developed in several parts of the country. Limited availability of nephrologists, particularly in rural, tribal and geographically remote regions, often delays specialist consultation and continuity of care. Strengthening referral mechanisms and improving access to specialist services are therefore critical for ensuring timely diagnosis and appropriate management of CKD. The Committee, therefore, recommends the Ministry to plan necessary institutional arrangements for early referral & comprehensive disease management leading to timely preparation for kidney replacement therapy where required and improved long-term clinical outcomes.

(Para 3.13.3)

Research and Innovation in Early Diagnosis

34. The Committee is pleased to note that several Indian institutions are undertaking research to improve early diagnosis of CKD through development of novel biomarkers and advanced diagnostic tools. The Committee appreciates that the Centre for Advanced Research on Kidney Disease at SGPGIMS, Lucknow has developed patented urinary exosome microRNA biomarkers for early detection of CKD and diabetic nephropathy. The Committee understands that research must continue on genomic testing, kidney genetics services and artificial intelligence-based prediction models integrating retinal imaging and clinical parameters. The Committee believes that such technologies hold promise for improving risk stratification and early detection, particularly among high-risk populations.

(Para 3.15.1)

Integration with Digital Health Infrastructure

35. The Committee acknowledges that the Ayushman Bharat Digital Mission offers significant opportunities for strengthening screening, diagnosis and long-term management of Chronic Kidney Disease through digital health records, electronic referrals and improved continuity of care. The Committee also notes that experts have highlighted the importance of leveraging digital technologies for disease surveillance, patient tracking and clinical decision support. The Committee is of the considered view that digital health interventions should complement existing healthcare services and contribute to more efficient implementation of risk-based screening and referral mechanisms, particularly in rural and underserved areas. The Committee, therefore, recommends that the Ministry of Health and Family Welfare to leverage the Ayushman Bharat Digital Mission to develop an integrated digital framework for Chronic Kidney Disease, including electronic referral pathways, longitudinal patient records, monitoring of high-risk individuals and linkage with a proposed National CKD Registry. The Committee further recommends that suitable digital decision-support tools be developed for primary healthcare providers to facilitate timely identification and referral of suspected CKD cases while ensuring appropriate safeguards for data privacy and security.

(Para 3.16.4)

TREATMENT MODALITIES

Pharmacological Management of CKD and Associated Complications

36. The Committee observes that effective management of CKD extends beyond clinical treatment and is heavily dependent upon sustained patient education, dietary counselling and long-term adherence to prescribed medications and lifestyle modifications. However, the Committee expresses concern that patient education and counselling services remain inadequate across the healthcare system owing to the shortage of trained renal dietitians, limited counselling time during routine nephrology consultations and the absence of standardized, patient-friendly educational resources particularly for individuals with low health literacy especially in rural areas. The Committee, therefore views that unless these systemic gaps are addressed, patients are likely to experience poor treatment adherence, avoidable disease progression and increased healthcare costs. The Committee, in this regard, recommends that the Ministry of Health and Family Welfare must strengthen patient education and counselling services by developing standardized multilingual and low-literacy educational resources, establishing structured counselling protocols across all levels of healthcare facilities. The Committee also recommends for capacity building of Medical Officers, nurses and Community Health Officers to ensure professional proficiency at Ayushman Arogya Mandirs in CKD counselling and patient education, along with appropriate training and effective utilisation of ASHA workers for periodic household follow-up, counselling, reinforcement of dietary and medication adherence, and timely referral of CKD patients wherever necessary.

(Para 4.4.6)

Delivery of Dialysis Services

37. The Committee notes from the deposition of the Secretary, Ministry of Health and Family Welfare, that while the utilisation of haemodialysis services under the Pradhan Mantri National Dialysis Programme (PMNDP) has increased substantially, with annual dialysis sessions rising from about 25 lakh to 70 lakh over the last five years, the uptake of Peritoneal Dialysis (PD) remains limited despite its availability in selected States. The Committee observes that the continued reliance on facility-based haemodialysis, despite the advantages of home-based Peritoneal Dialysis in reducing travel burden, out-of-pocket expenditure and improving patients' quality of life, reflects gaps in awareness, trained manpower, availability of PD consumables, institutional support, and patient counselling, where haemodialysis continues to be presented as the default treatment option. The Committee is of the view that Peritoneal Dialysis is particularly suited to India's vast rural and remote population and should be promoted as the preferred first-line renal replacement therapy for clinically suitable patients. The Committee, therefore, recommends that the Ministry formulate and implement a comprehensive strategy to promote Peritoneal Dialysis under PMNDP through structured pre-dialysis patient counselling at the point of CKD diagnosis, strengthening healthcare provider capacity, ensuring uninterrupted availability of PD consumables, providing necessary financial and logistical support for home-based dialysis, and prescribing measurable national targets for

increasing the proportion of patients on Peritoneal Dialysis, thereby reducing dependence on facility-based haemodialysis and improving access to affordable, patient-centric renal care.

(Para 4.6.3)

Conservative (Non-Dialytic) Kidney Management and Integration of Palliative Care

38. The Committee appreciates the Ministry's efforts in expanding access to dialysis and kidney transplantation through the Pradhan Mantri National Dialysis Programme (PMNDP). However, it observes that Conservative Kidney Management (CKM) is an active and patient-centred treatment pathway and should not be regarded as the withdrawal or withholding of medical care. The Committee further observes that CKM has not received commensurate policy attention despite being a clinically recognised treatment option for elderly patients, those with multiple comorbidities and others who are unsuitable for or choose not to undergo renal replacement therapy. The absence of structured CKM pathways and integrated palliative care services may lead to unnecessary interventions, increased financial burden and compromised quality of life for such patients. The Committee, therefore, recommends that the Ministry of Health and Family Welfare should develop and institutionalise a structured framework for Conservative Kidney Management by incorporating standard treatment protocols, shared decision-making guidelines, symptom management and palliative care services under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) while ensuring adequate training of healthcare providers and counselling support for patients and their families.

(Para 4.7.2)

Status of Transplantation in India

39. The Committee appreciates the initiatives undertaken by the government under the National Organ Transplant Programme (NOTP) to promote deceased organ donation through public awareness campaigns, stakeholder engagement, online pledging and financial assistance for the honourable cremation of deceased donors. However, it observes that India's deceased organ donation rate continues to remain significantly lower than global benchmarks due to persistent social misconceptions, inadequate public awareness, limited organ retrieval infrastructure and procedural bottlenecks. The Committee is of the view that increasing deceased organ donation is critical to bridging the widening gap between the demand and availability of organs for transplantation. The Committee, therefore, recommends that the Ministry of Health and Family Welfare must intensify nationwide behaviour change and awareness campaigns to remove misconceptions, strengthen hospital-based organ retrieval and transplant coordination infrastructure,

simplify procedural processes and establish a robust performance monitoring mechanism for States to substantially enhance deceased organ donation across the country.

(Para 4.9.2)

Post-Transplant Care

40. The Committee finds from the submissions of experts that lifelong immunosuppressive therapy is indispensable for preventing graft rejection and ensuring the long-term success of kidney transplantation. The Committee observes that the recurring cost of post-transplant medicines places a considerable financial burden on patients who have already incurred substantial expenditure on dialysis and transplantation. The Committee is of the view that uninterrupted access to immunosuppressive medicines is essential for treatment adherence and graft survival and that their high cost should not become a barrier to continued care. The Committee views that inadequate post-transplant care and interruption of immunosuppressive therapy may result in graft failure, leading patients back to kidney failure pool of patients requiring dialysis or repeat transplantation, thereby imposing an even greater clinical and financial burden on both patients and the healthcare system. The Committee, therefore, recommends that the Ministry of Health and Family Welfare examine the feasibility of ensuring the availability of essential immunosuppressive medicines to kidney transplant recipients free of cost through transplant centres and Government hospitals so as to ensure uninterrupted treatment and improve long-term transplant outcomes.

(Para 4.10.2)

Technology and Innovation in Treatment Delivery

41. The Committee appreciates the Ministry's efforts in operationalising the PMNDP Portal integrated with the Ayushman Bharat Health Account (ABHA) for registration, portability and tracking of dialysis patients across the country. The Committee, however, observes that digital tracking presently commences largely at the stage of dialysis, whereas continuity of care requires longitudinal monitoring from the point of identification of high-risk individuals and diagnosis of CKD at Ayushman Arogya Mandirs and other primary healthcare facilities. The Committee is of the view that technology should enable seamless patient management across the entire continuum of CKD care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare expand the existing PMNDP digital platform into a comprehensive CKD patient management system by integrating ABHA-linked longitudinal tracking of high-risk individuals and CKD patients from the primary healthcare level, supported by Clinical Decision Support Systems and a National Tele-Nephrology Network through the eSanjeevani platform to ensure timely referrals,

specialist consultations, treatment continuity and post-transplant follow-up across all levels of healthcare.

(Para 4.11.4)

4.11.5 The Committee is concerned with the increasing incidents of renal failure in rural India. It has been observed that Zonal Transplant Committees' have been informed in major metropolitan centres and town that decides the eligibility criteria and parameters for deciding patient of organs for transplant. This puts the rural population at a disadvantage as they are placed in long wait listed queues wherein waiting patients do not get requisite organ as a result their survival rate is very low. The Committee, in order to, provide equal opportunity to get organs at the need of the hour for transplantation, recommends for development of transparent SOP so that the patient get decided on actual need basis.

(Para 4.11.5)

GOVERNMENT POLICY LANDSCAPE, INITIATIVES AND KEY PROGRAMMES

43. The Committee finds that the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) has integrated CKD within its framework and encompasses targeted screening of high-risk individuals with diabetes, hypertension and other risk factors. The Committee, however, observes that CKD screening at the primary healthcare level continues to rely largely on opportunity and referral-based diagnosis. In many cases, individuals identified with diabetes or hypertension at Ayushman Arogya Mandirs are referred to higher facilities for serum creatinine estimation and eGFR assessment, resulting in loss to follow-up and delayed diagnosis. Considering the silent progression of CKD, the Committee is of the view that dependence on secondary-level referral weakens early detection and misses a significant proportion of high-risk individuals before irreversible kidney damage occurs. The Committee, therefore, strongly recommends that the Ministry of Health and Family Welfare must progressively integrate serum creatinine testing with automatic eGFR reporting into the routine screening protocol for all high-risk individuals attending Ayushman Arogya Mandirs and other primary healthcare facilities.

(Para 5.4.5)

From Treatment to Prevention: Reordering National Priorities

44. The Committee observes that although the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) envisages the prevention and early detection of CKD, the focus on kidney health awareness at the primary healthcare level continues to remain highly inadequate. The Committee is of the view that public awareness

regarding basic kidney health remains limited, as insufficient emphasis has been placed on sustained kidney health awareness, lifestyle modification, risk-factor counselling and community-based preventive interventions. There is an urgent need to reorient national priorities towards prevention, early detection and slowing disease progression in order to reduce the future demand for kidney replacement therapy. The Committee believes that unless preventive efforts at the primary healthcare level are substantially strengthened, the growing burden of CKD will continue to place increasing pressure on dialysis and transplantation services, thereby undermining the long-term sustainability of the healthcare system. The Committee further believes that Ayushman Arogya Mandirs should assume a much greater role in promoting kidney health awareness, encouraging lifestyle modification, providing risk-factor counselling and facilitating the early identification of CKD among high-risk individuals at the community level. The Committee, therefore, strongly recommends that the Ministry reorient the implementation of NP-NCD towards a prevention-first approach by substantially strengthening the role of Ayushman Arogya Mandirs in promoting kidney health awareness and behaviour change communication. The Committee further recommends that structured kidney health education, lifestyle modification counselling, risk-factor management and community awareness programmes be institutionalised as integral components of primary healthcare. The Ministry should also strengthen the capacity of Medical Officers, Community Health Officers, ASHA workers and other frontline health workers through regular training on CKD prevention, risk communication and early behavioural interventions, and develop culturally appropriate Information, Education and Communication (IEC) material in regional languages.

(Para 5.5.2)

Pradhan Mantri National Dialysis Programme (PMNDP)

45. The Committee acknowledges the expansion of the Prime Minister's National Dialysis Programme, however, several operational challenges continue to affect the delivery and quality of dialysis services. The Committee expresses the concerns over shortage of trained dialysis technicians and nurses, inadequate supervision and maintenance of dialysis equipment, deficiencies in vascular access monitoring and delays in the availability of consumables and release of funds to service providers. The Committee views that merely augmenting dialysis infrastructure without ensuring adequate skilled manpower, quality assurance, timely maintenance and uninterrupted supply of consumables may compromise the quality, continuity and accessibility of dialysis services. The Committee, therefore, recommends that the Ministry undertake a comprehensive assessment of operational capacity under PMNDP, covering not only the availability of haemodialysis machines but also trained human resources, machine utilisation, maintenance protocols, adequacy of consumables and timeliness of fund release. The Committee further recommends that uniform quality standards and periodic clinical audits be instituted across all PMNDP

centres and that vacancies of dialysis technicians and nurses be filled up on priority so as to ensure safe, uninterrupted and quality dialysis services.

(Para 5.6.5)

46. The Committee takes into account that the Programme has provided 375.88 lakh haemodialysis sessions to 29.46 lakh patients, which translates to an average of approximately 12.8 dialysis sessions per patient. The Committee notes that patients with End-Stage Kidney Disease ordinarily require maintenance haemodialysis two to three times a week, amounting to approximately 8-12 sessions every month. While the Committee recognises that the figures furnished by the Ministry represent cumulative programme data and do not necessarily reflect the treatment history of individual patients, the Committee is nevertheless of the view that the reported indicators are insufficient to assess whether beneficiaries are receiving adequate and uninterrupted dialysis over the duration clinically required. The Committee observes that reporting only cumulative patients and cumulative sessions may overstate programme reach while providing limited insight into treatment continuity, patient retention, adequacy of dialysis, or long-term outcomes. The Committee, therefore, recommends the Ministry to supplement the existing reporting framework with patient-centric outcome indicators including the average number of dialysis sessions per active patient per month, the number of patients receiving the recommended frequency of dialysis, treatment adherence, drop-out rates, transplantation rates, mortality and reasons for discontinuation of treatment to enable a more meaningful assessment of the effectiveness and quality of dialysis services under the Programme.

(Para 5.6.6)

Continuous Ambulatory Peritoneal Dialysis (CAPD)

47. The Committee observes that the inclusion of CAPD under PMNDP supported through dedicated financial assistance under NHM has the potential to improve equity in access to dialysis services, particularly for patients in remote areas, elderly persons, and those for whom regular travel to haemodialysiscentres is difficult. The Committee, however, finds that the utilisation of CAPD remains limited with the Ministry reporting only 1,637 beneficiaries across 12 States (approx. 1.1 % of active PMNDP beneficiaries) indicating significant scope for further expansion of this home-based dialysis modality. The Committee, therefore, strongly recommends that the Ministry should expand the coverage of Continuous Ambulatory Peritoneal Dialysis (CAPD), particularly in rural and remote areas, by ensuring uninterrupted availability of consumables, strengthening the Medical College hub-and-spoke model, enhancing patient counseling for informed modality selection and building the capacity of Peritoneal Dialysis nurses and healthcare personnel to improve the quality and uptake of home-based dialysis services.

(Para 5.7.3)

ONE NATION - ONE DIALYSIS INITIATIVE *VIS-A-VIS* PMNDP PORTAL

48. The Committee appreciates the operationalisation of the the 'One Nation – One Dialysis' initiative under PMNDP Portal which has enabled nationwide portability of dialysis services through ABHA integration, digital patient records, OTP-based authentication, and real-time scheduling of dialysis sessions. The Committee is of the view that the Portal has the potential to significantly improve continuity of care for patients who migrate for employment, education or medical treatment. However, considering that only 39,983 patient transfers have been facilitated since its launch in May 2022, the Committee believes that the portability feature remains underutilised. The Committee, therefore, recommends that the Ministry undertake wider awareness and capacity-building initiatives among healthcare providers and beneficiaries to promote utilisation of the portability facility. The Ministry should also ensure real-time integration of all PMNDP centres with the PMNDP Portal and the Ayushman Bharat Digital Mission (ABDM), strengthen interoperability with other national health platforms, and develop a comprehensive patient management system capable of tracking treatment continuity, dialysis adequacy, patient outcomes and inter-State referrals.

(Para 5.8.2)

Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)

49. The Committee observes that the long-term nature of chronic kidney disease often entails treatment costs that extend beyond the existing Health Benefit Packages under AB-PMJAY. The Department-related Parliamentary Standing Committee on Health and Family Welfare, in its 172nd Report had observed that the existing ₹ 5 lakh health insurance cover per family under AB-PMJAY may be inadequate for high-cost medical treatments and has recommended enhancement of limit of health insurance coverage to ₹ 10 lakh per family per year. The Committee is, therefore, of the view that the Health Benefit Packages relating to chronic kidney disease under AB-PMJAY require periodic review to ensure that they adequately reflect prevailing treatment costs, advances in clinical practice and the long-term nature of CKD management. The Committee therefore, recommends that the Ministry of Health and Family Welfare, in consultation with National Health Authority, nephrology experts and other stakeholders undertake a comprehensive review of the CKD-specific Health Benefit Packages under AB-PMJAY, including package rates, treatment protocols and the scope of covered services so as to ensure that eligible beneficiaries receive timely, comprehensive and uninterrupted treatment across the continuum of dialysis, kidney transplantation and post-transplant care to ensure that the scheme remains responsive to evolving clinical standards and treatment costs. The Committee further reiterates its recommendation made in 172nd Report of the Department must undertake a comprehensive review of the scheme with a view to further widening

coverage, including rationalisation of the eligibility criteria under AB-PMJAY for senior citizens by considering lowering the age threshold from 70 years to 60 years irrespective of socio-economic status.

(Para 5.9.3)

50. The Committee takes into consideration the Health Benefit Package Guidelines under Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and observes that post-hospitalisation care under the kidney transplantation package is presently admissible for a period of only 15 days. The Committee, therefore, is of the strong view that kidney transplantation is not a one-time surgical intervention but requires intensive post-transplant management, particularly during the first year which carries the highest risk of graft rejection and infections. The Committee considers that limiting post-transplant coverage to 15 days does not adequately correspond to the clinical requirements of kidney transplant recipients. The Committee, therefore, recommends that the Ministry of Health and Family Welfare in consultation with the National Health Authority and nephrology experts review the existing Health Benefit Package for kidney transplantation under AB-PMJAY and extend the admissible period of post-transplant care from the present 15 days to one year. The revised package should provide financial support for follow-up consultations, essential diagnostic investigations, immunosuppressive medicines and the management of transplant-related complications during the first year after transplantation so as to improve treatment adherence, reduce graft rejection and maximise long-term transplant outcomes.

(Para 5.9.4)

National Organ Transplant Programme (NOTP)

51. The Committee appreciates the initiatives taken by the government under the National Organ Transplant Programme to strengthen the institutional framework for organ transplantation. The Committee, however, observes from the expert evidence that equitable access to kidney transplantation remains a challenge due to the limited availability of living donors, uneven development of deceased organ donation programmes across States, particularly in northern and eastern India, and the inability of many economically weaker patients to afford transplantation and post-transplant care. The Committee is of the view that these factors continue to create significant regional and socio-economic disparities in access to kidney transplantation. The Committee, therefore, recommends that the Ministry adopt a targeted strategy to reduce regional disparities in kidney transplantation by strengthening deceased organ donation programmes in underperforming States, expanding transplant facilities in underserved regions, and ensuring that economically weaker patients receive adequate support for transplantation and post-transplant care.

(Para 5.10.5)

HEALTH SYSTEMS: GAPS AND CHALLENGES

Need for National Kidney Registry

52. The Committee is of the considered view that the lack of reliable national data has far-reaching implications for public health planning. In the absence of robust epidemiological evidence, healthcare infrastructure, dialysis capacity, nephrology workforce, financial allocations and procurement of essential medicines are planned on estimates rather than actual disease burden, resulting in inefficient resource allocation and widening regional disparities in renal care. The absence of a national registry also impedes identification of high-risk populations, evaluation of screening and treatment programmes, assessment of patient outcomes, monitoring of government interventions and evidence generation for clinical research, health technology assessment and informed policymaking. The Committee, therefore, strongly recommends the Ministry of Health & Family Welfare to establish a comprehensive National Renal Registry integrated with the Ayushman Bharat Digital Mission& PMNDP portal to provide real-time, standardised and longitudinal data across all stages of CKD strengthening disease surveillance and improved monitoring of treatment outcomes leading to evidence-based policymaking and align India's renal care ecosystem with international best practices.

(Para 6.2.3)

Acute shortage of nephrologists and trained dialysis workforce

53. The Committee takes into account that the nephrologist non availability at District hospitals reflects a serious disconnect between infrastructure creation and the availability of specialised human resources compromising the quality, safety and continuity of CKD care, delays clinical decision-making, limits the management of complications and reduces the effectiveness of dialysis services, particularly in rural and underserved regions. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in coordination with the State Governments, undertake a time-bound exercise to fill all vacant sanctioned posts of nephrologists, urologists and dialysis technicians at District Hospitals, with priority accorded to States reporting nil or severely inadequate availability of such specialists especially in Bihar, Rajasthan, Odisha, Assam, Chattisgarh etc. The Ministry should also mandate and support the phased establishment of dedicated Nephrology Departments in all Government Medical Colleges and substantially expand DM Nephrology seats and allied training capacity to geographically balanced adequacy to address the acute shortage of nephrologists and trained specialist manpower in all States to ensure equitable access of needy patients to specialist kidney care across the country, especially at District hospitals.

(Para 6.3.5)

Persistent Out-of-Pocket Expenditure despite Financial Protection Schemes

54. The Committee finds that despite the implementation of PMNDP and AB-PMJAY, the financial burden of Chronic Kidney Disease continues to remain substantial due to the lifelong nature of treatment, recurring dialysis costs, expenditure on medicines, diagnostics, travel, nutritional requirements and loss of livelihood. The recent 4% increase in Out-of-Pocket Expenditure (OOPE) from 39.4 per cent in 2021-22 to 43.4 per cent in 2022-23 further indicates that existing financial protection mechanisms have not adequately insulated households from catastrophic health expenditure. The Committee is of the view that merely expanding access to renal replacement therapies is insufficient unless the overall economic burden borne by CKD patients and their families is comprehensively addressed. The Committee, therefore, recommends the Ministry to undertake a comprehensive national costing study of CKD vis-a-vis financial protection available to Chronic Kidney Disease patients under existing government schemes to access the actual out-of-pocket expenditure incurred by CKD patients across different stages of the disease, identify expenditure not covered under existing schemes and recommend measures to reduce catastrophic health expenditure. The Ministry should also develop a long-term strategy to progressively reduce out-of-pocket expenditure for CKD care by strengthening public financing, expanding the scope of financial assistance beyond dialysis procedures especially to post transplant care where necessary and ensuring equitable access to affordable kidney care particularly for rural and economically vulnerable populations, both in public and private sector hospitals.

(Para 6.4.4)

Need for expanding Insurance Coverage

55. The Committee appreciates the financial protection being provided under PMNDP and Ayushman Bharat-PM-JAY or state specific insurance schemes which has significantly reduced the burden and improved access to dialysis and kidney transplantation for patients with advanced CKD. The Committee, however, believes that for addressing the CKD effectively, there is a need for financial protection for CKD patients beyond end-stage interventions which remains inadequately covered under existing framework. The Committee, therefore, strongly recommends that the Ministry explore the feasibility of implementing mandatory health insurance coverage for each individual, partially funded by each the government and the individual to address the entire continuum of CKD care especially screening of high-risk individuals, periodic diagnostic investigations, outpatient consultations, essential medicines, management of CKD-related complications and pre-dialysis care. The Committee believes that comprehensive mandatory financial coverage for each individual across all stages of the disease would promote early diagnosis, improve treatment adherence, reduce out-of-pocket

expenditure, prevent catastrophic health spending and delay progression to kidney failure, thereby reducing the long-term burden on both patients and the public healthcare system.

(Para 6.5.3)

Inequities in Access and Outcomes

56. The Committee is of the considered view that regional and gender inequities reflect persistent systemic gaps in the equitable distribution of specialised kidney care services and undermine the objective of universal health coverage. Unless barriers relating to geography, affordability, gender and social vulnerability are addressed through targeted policy interventions, the benefits of ongoing investments in CKD infrastructure and financial protection schemes are unlikely to reach rural, tribal and geographically isolated populations who infact remain in the greater and immediate need of CKD treatment and care. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, in coordination with State Governments, prepare a targeted strategy to reduce disparities in CKD care by strengthening specialist and diagnostic services in rura and underserved districts, improving referral and transport support for rural and tribal populations, expanding community-based screening and awareness programmes, ensuring financial support for indirect treatment costs and adopting gender-responsive measures to promote equitable access to diagnosis, dialysis and kidney transplantation.

(Para 6.6.4)

Widening Gap between Kidney Transplant Demand and Capacity

57. The Committee is of the considered opinion that demand supply mismatch of kidney requires a two-pronged strategy -- substantially strengthening deceased organ donation rates through sustained public awareness and expanding transplantation infrastructure and specialist capacity in under-served States, particularly in the North-Eastern and hilly regions. The Committee, therefore, recommends the Ministry of Health and Family Welfare to set time-bound targets for expanding the network of organ retrieval centres and kidney transplant facilities to at least three Government medical colleges in every large State & one govt. medical college in small state or UTs and strengthen financial and technical support by extending to States for transplant infrastructure and transplant coordinators and intensify public awareness campaigns for deceased organ donation, particularly in States presently reporting negligible deceased-donor transplant activity.

(Para 6.7.2)

58. The Committee is of the considered view that the significant gender disparity observed in living organ donation and kidney transplantation warrants careful examination to ensure that access to transplantation is guided solely by clinical need and not influenced by socio-economic or gender-related barriers. The Committee, therefore, recommends that the Ministry of Health and Family Welfare, through the National Organ

and Tissue Transplant Organization (NOTTO), undertake a comprehensive study to identify the factors contributing to the disproportionate representation of women as living organ donors and men as transplant recipients. Based on the findings, the Ministry should formulate appropriate policy interventions, strengthen counselling and informed consent processes, enhance gender-disaggregated data collection and monitoring, and ensure equitable access to kidney transplantation and organ donation services across all sections of society.

(Para 6.7.4)

Health Literacy, Awareness and Delayed Diagnosis

59. The Committee observes that the complexity of CKD management involving dietary restrictions, long-term medication and regular monitoring presents considerable challenges for patients with limited health literacy. The Committee is of the considered view that inadequate public awareness, poor understanding of disease progression and limited access to counselling and supportive care contribute significantly to delayed diagnosis, poor treatment adherence and avoidable progression to End-Stage Kidney Disease. The Committee further observes that the absence of sustained patient education and psychosocial support may lead to discontinuation of treatment, missed follow-up visits and poor compliance with prescribed dietary and medication regimens, particularly among economically vulnerable patients. Further, these challenges also place a disproportionate emotional, social and financial burden on caregivers, especially in low-income and rural households, thereby widening existing inequities in CKD outcomes. The Committee, therefore, strongly recommends that the Ministry of Health and Family Welfare scale up gender and region-sensitive awareness campaigns on CKD with particular focus on rural areas and Tier-II and Tier-III towns; develop and disseminate culturally appropriate dietary and treatment-adherence counselling material in regional languages and strengthen the capacity of frontline health workers including ASHA workers to provide sustained community-level counselling and support to CKD patients and their caregivers.

(Para 6.8.3)

Unregulated Medication Use and Quality Assurance Gaps

60. The Committee is concerned that inadequate public awareness regarding the nephrotoxic effects of certain commonly used medicines, coupled with the absence of a robust framework for promoting their rational use, continues to expose individuals to avoidable kidney damage. The Committee recommends that the Ministry in coordination with the concerned regulatory authorities should strengthen public awareness on the risks associated with the unsupervised and prolonged use of medicines known to adversely affect kidney function, particularly over-the-counter analgesics. The Committee further recommends promoting rational use of medicines through appropriate patient counselling

and strengthening pharmacovigilance and prescription practices, especially for individuals with diabetes, hypertension and other high-risk conditions requiring long-term medication.

(Para 6.9.2)

Research and Evidentiary Gaps

61. The Committee finds that India's response to CKD is constrained not only by gaps in healthcare delivery but also by deficiencies in the country's research and evidence-generation ecosystem. Significant knowledge gaps regarding the causes of CKDu, limited translation of indigenous scientific innovations into clinical practice, inadequate multicentric and collaborative research and insufficient scientific validation of complementary therapies collectively impede the formulation of evidence-based policies and effective interventions for CKD prevention and management. The Committee, therefore, recommends that the Department of Health Research and the Indian Council of Medical Research formulate a coordinated national research agenda to reconcile the variance in estimates of CKD of unknown aetiology, fast-track large-scale validation of indigenous diagnostic biomarkers, and actively pursue international research collaboration. The Committee further recommends that the Ministry of Ayush in collaboration with ICMR and DHR, design and undertake rigorous, adequately powered clinical studies to scientifically evaluate the role of Yoga and other Ayush modalities in CKD management, while expanding the geographic footprint of Yoga Therapy Centres and Preventive Health Care Units across the country.

(Para 6.10.5)

Need for Pediatric Kidney Care - A distinct CKD priority

62. The Committee understands that paediatric Chronic Kidney Disease (CKD) is predominantly congenital, hereditary or developmental in origin with clinical manifestations often appearing as early as two to three years of age. Unlike adult CKD, paediatric CKD requires continuous medical care from infancy through adulthood, with many patients likely to undergo multiple kidney transplants during their lifetime due to the limited functional lifespan of transplanted kidneys. The Committee, therefore, views paediatric CKD as a lifelong healthcare commitment requiring sustained institutional support. The Committee is of the view that children with CKD require dedicated paediatric nephrology centres equipped with age-appropriate dialysis facilities, paediatric transplant expertise and multidisciplinary support. The Committee believes that paediatric CKD should be addressed as a distinct healthcare priority rather than being subsumed within adult CKD programmes. The Committee therefore, recommends the Ministry of Health & Family Welfare to recognise paediatric CKD as a separate component under the national CKD framework and formulate a National Paediatric Kidney Wellness and Equity Programme encompassing early diagnosis, comprehensive care and a structured transition to adult nephrology services. The Committee further recommends that dedicated paediatric CKD clinics be progressively established in tertiary care institutions across the country to ensure equitable access to specialised care for affected children.

(Para 6.11.4)

Low Priority, Communication Gaps and Provider Challenges

63. The Committee observes that inadequate communication and counseling often contribute to poor treatment adherence, delayed decision-making and sub-optimal management of Chronic Kidney Disease (CKD). Experience suggests patients frequently face difficulty in understanding disease progression, dietary restrictions and treatment options, particularly during the transition from conservative management to dialysis or transplantation. The Committee further observes that counseling on symptom management, quality-of-life issues and end-of-life care for patients with limited treatment options remains inadequate. The Committee is of the view that strengthening communication, counseling and patient engagement is essential for improving treatment outcomes and ensuring patient-centered care. The Committee therefore, recommends that the Ministry accord greater emphasis to health literacy, shared decision-making and structured long-term counseling to promote sustained adherence to medicines, dietary modifications and lifestyle changes.

(Para 6.12.3)

National CKD Performance Dashboard

64. The Committee recommends the Government to develop a district-wise CKD Performance Dashboard to monitor screening coverage, early diagnosis, dialysis outcomes, transplant waiting lists and specialist vacancies. The Committee understands that use of real time data would be beneficial in identifying regional gaps and improve accountability. Evidence based planning and resource allocation is required to achieve the objective of maintaining healthy kidney.

(Para 6.13.1)

Workplace Kidney Health Programme

65. The Committee desires the Government to launch a Kidney Health Programme for higher risk occupations such as agricultural workers, construction workers and factory laborers. The Committee also recommends generating the public awareness for periodic screening, providing hydration facilities, shaded rest areas and occupational health education and awareness against CKD associated with heat stress, dehydration and environmental exposure.

(Para 6.14.1)

National Policy for Healthy Kidney

66. The Committee understands that the CKD poses huge challenge, therefore, there is need to generate public awareness and formulate policy for its control early identification diagnostic test and treatment and long term kidney care by strengthening integrated management. Keeping in view the importance of Ayush system in preventing CKD, the Committee recommends All India Ayurved Institutes to undertake in depth research. The Committee desires that there should be facilities for free dialysis in Ayushman Arogya Mandirs.

(Para 6.15.1)
