A COMPARATIVE STUDY TO ANALYSE THE COMPLIANCE OF NORTH-EASTERN STATES EMLs WITH IPHS 2022 EMLs, WITH EMPHASIS ON NON-COMMUNICABLE MEDICINES

Dissertation By – Abhishek Rewaskar

Roll No – 0365

Batch - 14

Class – 2nd Year (Pharmaceutical Management)

Organization - National Health Systems And Research Centre (NHSRC) Quality and Patient Safety (Drug Cell)

Introduction

- Essential medicines are those that satisfy the priority health care needs of the population. They can save lives, reduce suffering, and improve health. They are selected based on disease prevalence and public health relevance, evidence of clinical efficacy and safety, and comparative costs and cost-effectiveness. The increasing need for essential medicines due to the growing burden of diseases is stretching country pharmaceutical systems and budgets.

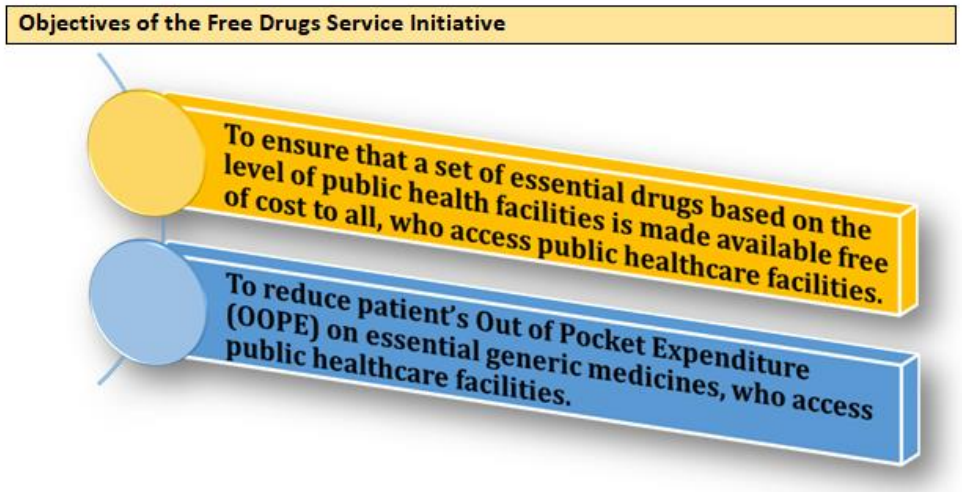
- World Health Organization (WHO) introduced the concept of essential medicines in 1977. Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness.

Indian Scenario

- Medication is one of the most important aspects of health care, and it accounts for a large amount of family spending. The overall expense of pharmaceuticals differs significantly throughout Indian states.
- The State Government's expenditure trend on drugs shows that the states differ significantly from one another, with less than 2% in Punjab and 17% in Kerala in 2001–2002. Medication costs account for more than 15% of the health expenditures in the southern states, such as Kerala and Tamil Nadu. States that rank lowest in terms of health and economic development also tend to spend the least on pharmaceuticals. Medication accounts for five percent or less of the health expenditures in states like Bihar, Orissa, U.P., Assam, and Bihar.
- Medication costs account for about 12% of the Central Government's total health expenditure. Medication purchases account for about 10 percent of India's health spending budget.

Free Drug Service Initiative

- The majority of patients in India seeking treatment for acute or chronic illnesses were coping with a crisis related to access to essential medications.
- India has some of the highest Out of Pocket Expenses (OOPE) in the world for healthcare; the NSSO 68th round reports that over 67% of OOPE is attributed to prescription drugs.
- If all patients who visit public health institutions had free access to essential, high-quality pharmaceuticals, they would save a significant amount of money.
- Thus, giving out free prescriptions is one of the most important things you can do to ease the load of healthcare bills.
- Achieving universal health care coverage through affordable, safe, high-quality, and acceptable generic, goals pharmaceuticals can contribute to achieving the Sustainable Development.
- The Ministry of Health and Family Welfare of the Indian government has recognized the need of having essential pharmaceuticals publicly accessible and readily available at public healthcare facilities. Consequently, the "Free Drugs Service Initiative" (FDSI) was established in 2015 by the National Health Mission (NHM).



National List of Essential Medicines (NLEM)

- (NLEM) is a dynamic list of medications that are used to treat illnesses that are significant for a nation's public health.
- After updating the previous edition, which was released in 2015, In September 2022, India published the fifth version of the NLEM. The first three editions were published in 1996, 2003, and 2011.
- Drugs that address public health issues, are competitively priced, have a proven safety profile and efficacy, and comply with national practice recommendations have been included in the most recent edition.
- Every drug on the list has been approved by India's Drug Controller General and is supported by the relevant government programs.
- There are 384 medications on the list as of right now, up from 348 in NLEM 2011 and 376 in NLEM 2015.

IPHS EML LIST

- The Indian government's Ministry of Health & Family Welfare initially introduced the IPHS to establish guidelines for healthcare services and infrastructure at different levels of healthcare facilities.
- At first, the Primary Health Centers (PHCs), Community Health Centers (CHCs), and District Hospitals were to set criteria for their facilities, staffing, and services.
- A universal right to comprehensive health security and a comprehensive state obligation to provide enough food and nutrition, appropriate medical care, safe drinking water, proper sanitation, education, health-related information, and other factors that promote good health served as the cornerstones of UHC.
- For this reason, the IPHS for Sub Centers, PHCs, CHCs, Sub-District Hospitals (SDH), and District Hospitals (DH) was released in 2007 and updated in 2012 to serve as a guide for the development and renovation of public health care infrastructure in the States and UTs.

ESSENTIAL MEDICINES LIST - FACILITY WISE AS PER IPHS EML

Level of Health Facility	Total number of medicines
Health & Wellness centre, Sub centre	106
Health & Wellness centre, Primary Health Care (PHC)	172
Community Health Centre (CHC)	300
Sub District Hospital(SDH)	318
District Hospital (DH)	381

Non-Communicable Disease in India and North-Eastern Sates of India

An epidemiologic transition has resulted from the observation that non-communicable diseases (NCDs) are now the leading cause of disease burden in the majority of low- and middle-income countries (LMICs), surpassing infectious diseases. It is anticipated that by 2020, the number of deaths in India from Non-Communicable Diseases will nearly double, from around 4.5 million in 1998 to 8 million. India is home to about 20% of the world's diabetic population. According to estimates, cardiovascular disease accounts for around 2.4 million fatalities in India each year.

Given the increased incidence of these illnesses and the particular difficulties in the north-eastern Indian states confront, addressing Non-Communicable Diseases (NCDs) under the Essential Medicines List (EML) is highly relevant. Here's a closer look at the significance:

- With an increasing burden of non-communicable diseases (NCDs) like diabetes, hypertension, cardiovascular illnesses, and malignancies, the north-eastern states of India, like the rest of the country, are going through an epidemiological transformation.
- Due to food habits, environmental circumstances, or lifestyle choices, the North-Eastern states may have particular risk factors for non-communicable diseases (NCDs).
- The north-eastern states are home to a large number of isolated and rural communities with poor access to medical care. For NCDs to be effectively managed, local healthcare facilities must have essential medications on hand.
- Having access to necessary medications for noncommunicable diseases (NCDs) can improve management of these ailments, resulting in better health outcomes and fewer problems.
- Specialized programs under the NHM concentrate on controlling and preventing NCDs, with the distribution of necessary medications serving as a vital element.
- The Ayushman Bharat program's construction of HWCs includes the supply of necessary medications for NCDs, guaranteeing thorough primary healthcare.
- By guaranteeing that all facets of the population, including those living in rural and underserved areas, have access to important treatments, key medications for NCDs help to close the gap in health care.

Relevance

One important factor in determining health outcomes is having access to essential drugs, which are also a vital and frequently necessary part of medical care. "Essential drug policy" is a strategy that has been promoted to guarantee access to medications. Based on the current demographic profile and disease prevalence rate, the states must prioritize which medications should be made available.

Free drug medicines under the Essential Medicines List (EML) are highly relevant in the North Eastern states of India for several reasons:

- The region faces a high burden of both communicable (like malaria, tuberculosis) and non-communicable diseases (like hypertension, diabetes).
- Many residents in the North Eastern states face economic challenges. Free medicines under the EML significantly reduce out-of-pocket expenses, making essential healthcare more accessible.
- North Eastern states might have fewer healthcare facilities and pharmacies compared to other parts of India. The EML ensures essential medicines are available in public health settings, even in remote areas.
- Compared to other regions of India, the North Eastern states may have a higher rate of certain diseases. By adding pertinent drugs, the EML can be modified to meet these local needs.
- The rugged topography and isolated locations of the north-eastern states make it difficult to reach medical facilities.
- Because of higher rates of poverty than in other parts of India, a sizable section of the populace cannot pay for their own medical bills.

Previous Studies Reviews

- In recent years, there has been increased focus on the expansion of north-eastern India.
- In its Annual Report 2014–2015, the Government of India's Ministry for Health and Family Welfare identified the following issues with the health systems of the north-eastern states.: the lack of qualified medical personnel, the difficulty of reaching remote, isolated, and sparsely inhabited places, the need for better governance in the health system, the high rate of tobacco use and the resulting elevated risk of cancer.
- In order to effectively serve the rural populations of India, the National Rural Health Mission (NRHM) was established. Its focus is primarily on 18 states, including all eight of the north-eastern states of Arunachal Pradesh, Assam, Manipur, Mizoram, Meghalaya, Nagaland, Sikkim, and Tripura.
- Despite the enormous progress made under the NRHM over the past ten years, there is still more to be done in the north-eastern states, where significant rural-urban disparities and restricted access to healthcare services in rural regions continue to be the so-called Achilles' heel.
- Due to the nation's weak health infrastructure, there are issues with access to quality medical care, a shortage of government hospitals in rural areas, and the provision of free medications for the impoverished in rural areas.
- 2010 saw the introduction of the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke by the Indian government, which was aware of the rising number of NCDs.
- By altering lifestyles, this initiative seeks to prevent and control non-communicable diseases (NCDs), offer early diagnosis and treatment, and equip the public health system with the tools necessary to handle the growing NCD burden.

Objectives And Methodology

A comparative analysis to evaluate the compliance of the Essential Medicine Lists (EMLs) of the north-eastern states of India with the 2022 Essential Medicine List (EML) of the Indian Public Health Standards (IPHS), with a particular emphasis on non-communicable disease (NCD) medicines. The methodology encompasses data collection, data mapping, comparative analysis, and compliance assessment. The study is designed to be comprehensive, systematically evaluating the extent to which state EMLs align with the national standards set by IPHS.

- **Research Question ?**

How compliant are the Essential Medicines Lists (EMLs) of the North-Eastern states of India with the Indian Public Health Standards (IPHS) 2022 EMLs, particularly concerning the availability of medicines for non-communicable diseases (NCDs) at various healthcare facility levels?

- **Research Objectives**

1. To compare the availability of non-communicable disease (NCD) medicines in the EMLs of the North-Eastern states with the IPHS 2022 EMLs.
2. To evaluate the availability of NCD medicines at different levels of healthcare facilities (DH, SDH, CHC, PHC, SHC-HWC) in each North-Eastern state.
3. To identify the states with the highest and lowest compliance with the IPHS 2022 EMLs regarding NCD medicines.
4. To analyse the availability of specific categories of NCD drugs (e.g., cardiovascular, diabetes, cancer) across the North-Eastern states.
5. To provide recommendations for improving the compliance of North-Eastern states' EMLs with IPHS 2022 standards, focusing on NCD medicines.
6. To conduct a secondary analysis of existing data on the availability of NCD medicines in the North-Eastern states.

- **Data Collection**

The primary data for this study consists of the latest available Essential Medicine Lists from the north-eastern states of India, which includes -

Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura.

These lists were obtained from the respective state health department websites, official government publications, and communication with state health officials when necessary. The IPHS 2022 EML was sourced from the Ministry of Health and Family Welfare, Government of India.

- **Comparative Analysis**

The comparative analysis involved both quantitative and qualitative assessment techniques:

i. **Quantitative Analysis**: The number and percentage of medicines listed in the state EMLs that are also present in the IPHS 2022 EML were calculated. This provided a measure of overall NCD drugs compliance for each state. To assess compliance in this crucial area, particular measures were also computed for NCD medications.

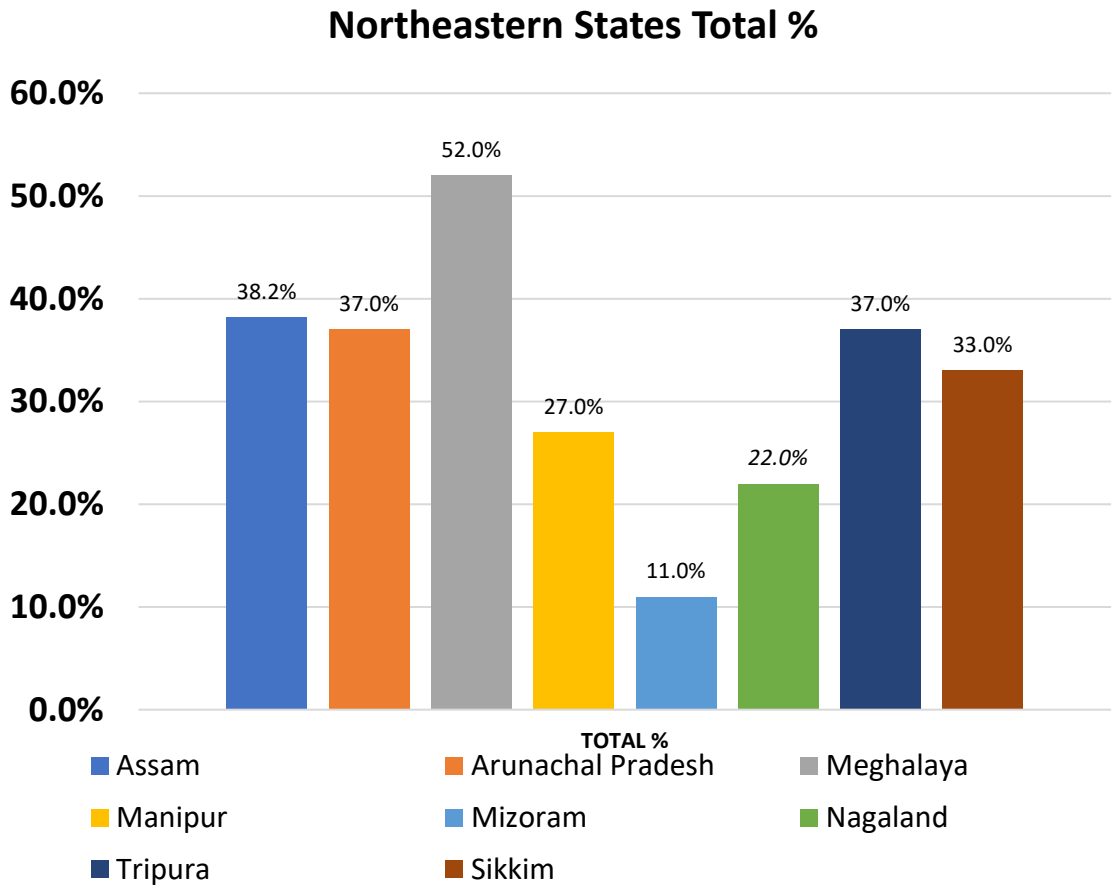
Molecules/ Medicine Mapping

To facilitate a structured comparison, the medicines listed in each state's EML were mapped against the IPHS 2022 EML. This process involved the following steps:

- **Categorization**: Medicines were categorized based on their therapeutic class and indication, with a specific focus on those used for non-communicable diseases, Under three main categories such as Medicines for cardiovascular diseases and stroke, diabetes, and cancer, only these 3 were finalised based on NPCPCDS guideline and IPHS drugs categories and final list was prepared.
- **Standardization**: Drug names were standardized to their International Non-proprietary Names (INNs) to ensure consistency and accuracy in comparison. Variations in brand names, dosage forms, and strengths were noted.
- **Mapping**: Each medicine in the state EMLs was cross-referenced with the IPHS 2022 EML. The presence or absence of each medicine was recorded, and discrepancies were highlighted as (YES/NO)

Results

From our study we found that in the north-eastern states of India the availability of NCD as per the category wise drugs at different level of facility has the following results.



STATE	TOTAL %
Assam	38.2%
Arunachal Pradesh	37.0%
Meghalaya	52.0%
Manipur	27.0%
Mizoram	11.0%
Nagaland	22.0%
Tripura	37.0%
Sikkim	33.0%

Major Findings

As per state wise, we have analysed each state particularly at every facility for all 3 categories:

1. **Cardiovascular & Stroke Medicines,**
2. **Anti-Diabetic Medicines, and**
3. **Anti- Neoplastic Medicines**

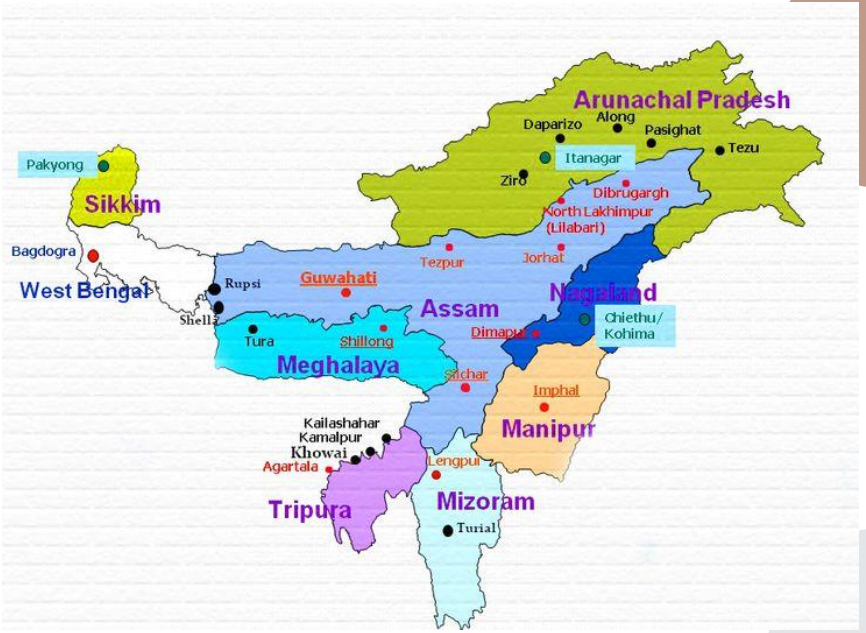
- **The key findings which are found are**

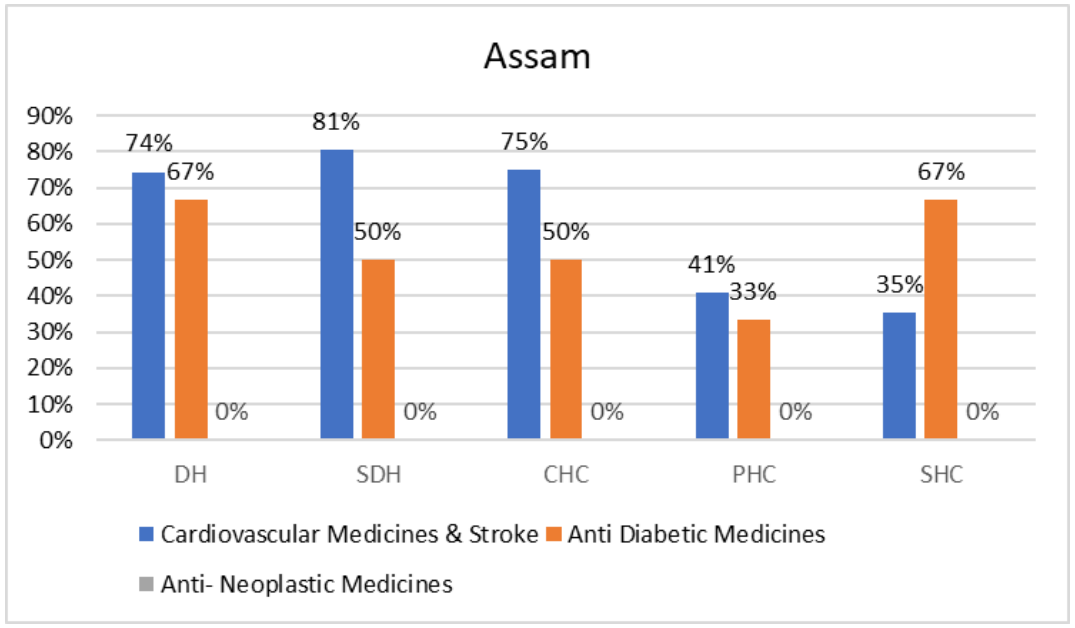
1. **Meghalaya** stands out for its highest compliance with the IPHS 2022 EML, particularly in cardiovascular and cancer drug availability at the DH level.
2. **Mizoram** has the lowest compliance, reflecting significant gaps in essential NCD drug availability.
3. **Cancer Drugs:** Across all states, cancer drugs are notably absent at most facility levels, except for the DH level in Meghalaya.
4. **Cardiovascular Drugs:** Assam and Meghalaya show relatively better availability of cardiovascular drugs compared to other states.

1) Assam

Here are the state wise data which will show the total number of % at each state particularly and for every facility **(DH, SDH, CHC, PHC, SHC-HWC)** respectively -

- **Overall Availability: 38.2%** of NCD drugs available across all facility levels.
- **Cardiovascular Drugs:** Higher availability compared to other North-Eastern states **61.2%.**
- **Anti Diabetic Drugs :** Are present at all facility level for about **53.4%**
- **Cancer Drugs:** Not available at any facility level.





State	Classification	DH	SDH	CHC	PHC	SHC
Assam	Cardiovascular Medicines & Stroke	74%	81%	75%	41%	35%
	Anti-Diabetic Medicines	67%	50%	50%	33%	67%
	Anti- Neoplastic Medicines	0%	0%	NA	NA	NA

Conclusion And Recommendations

In conclusion, while there are strengths in the detailed and focused nature of your study, addressing the limitations and broadening the scope to include more factors could provide a more holistic understanding of healthcare challenges in the North-Eastern states. Future research could explore the impact of these disparities on health outcomes and identify strategies to bridge the gaps in healthcare delivery.

Implications

1. **Inequity in Drug Availability:** The stark differences in the availability of essential NCD drugs highlight the inequity in healthcare access within the North-Eastern region. This inequity could exacerbate health disparities and outcomes for populations in these states.

2. **Cancer Drug Availability:** The general absence of cancer drugs across most states and facility levels, except for Meghalaya, suggests a significant gap in addressing cancer care, which is crucial given the rising burden of cancer in India.

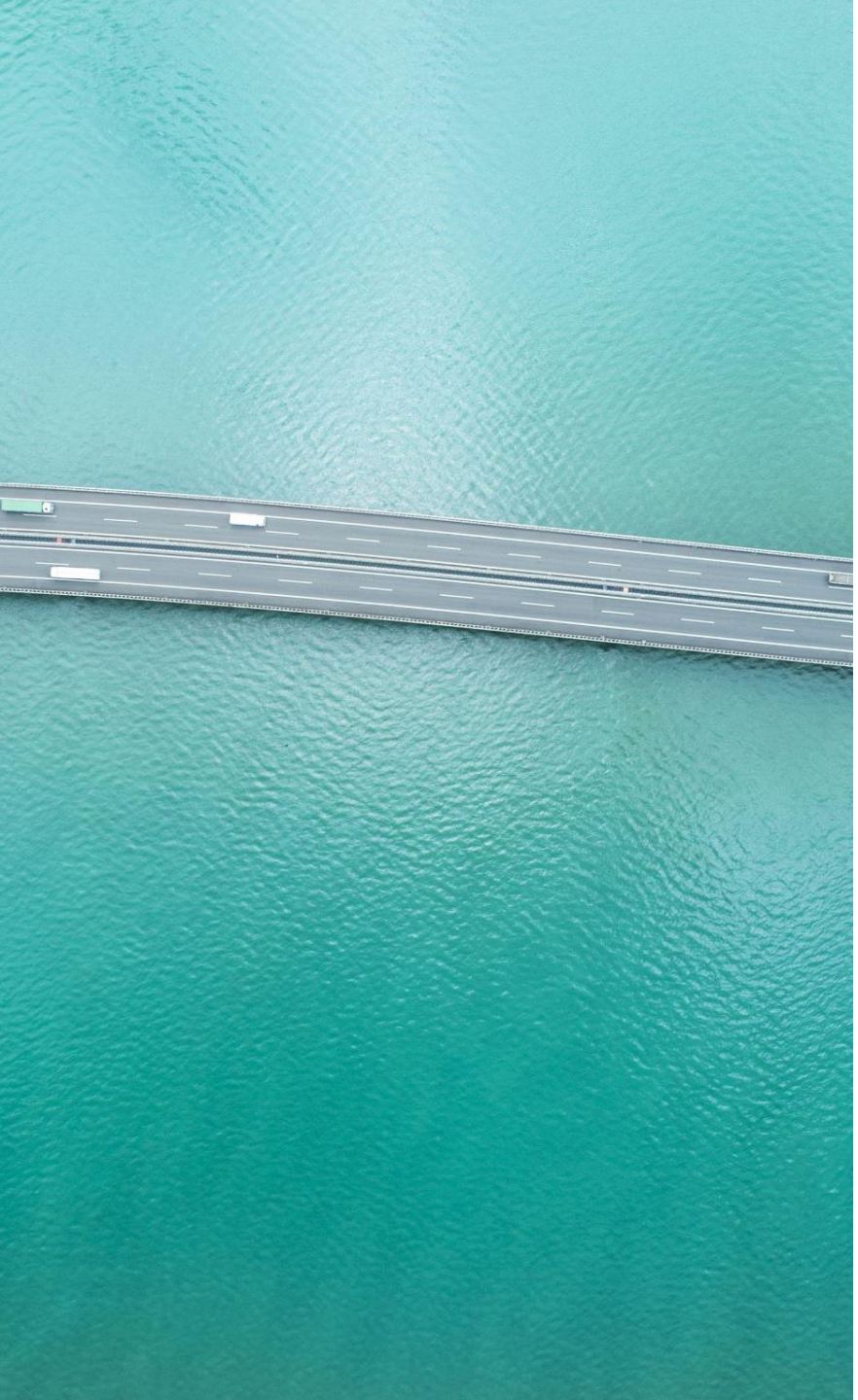
3. **Cardiovascular Drug Availability:** While Assam shows relatively better availability of cardiovascular drugs, other states, particularly Mizoram, lag considerably. This discrepancy can hinder effective management of cardiovascular diseases, which are a major component of NCDs.

4. **Primary and Secondary Health Care:** The unavailability of NCD drugs at primary and secondary healthcare levels in several states (e.g., Arunachal Pradesh) indicates a need for strengthening these foundational levels of care to improve overall health outcomes.

Recommendations

To address the identified gaps and improve the compliance of North-Eastern states' EMLs with IPHS 2022 EMLs, the following recommendations are proposed:

1. **Standardize EMLs Across States:** Ensure uniformity in EMLs across all North-Eastern states to align with IPHS 2022 EMLs. This standardization can be facilitated through central oversight and guidance.
2. **Enhance Drug Procurement and Distribution:** Improve the drug procurement and distribution systems to ensure a steady supply of essential NCD medicines, particularly in states with lower availability such as Mizoram.
3. **Focus on Cancer Drug Availability:** Develop specific strategies to enhance the availability of cancer drugs across all facility levels, learning from the relatively better performance of Meghalaya.
4. **Strengthen Primary and Secondary Healthcare:** To guarantee that PHC and SHC facilities can deliver necessary NCD medications, invest in infrastructure and resources at these levels. This is essential for NCD management and early identification.
5. **Capacity Building and Training:** Educate healthcare professionals on the value of following EMLs and successfully managing NCDs at all facility levels. This covers instruction on managing supply chains and making the most of currently available medications.
6. **Regular Monitoring and Evaluation:** Establish a strong structure for monitoring and evaluating the availability and use of NCD medications on a regular basis. This can assist in quickly identifying gaps and enabling immediate solutions.
7. **Public Awareness and Community Engagement:** Raise public knowledge of the availability and significance of critical medications for non-communicable diseases. Involve communities in the planning process for healthcare to guarantee that their needs are met and to promote responsibility.



THANK YOU