A Guide to Assessing the Efficiency of Health Systems

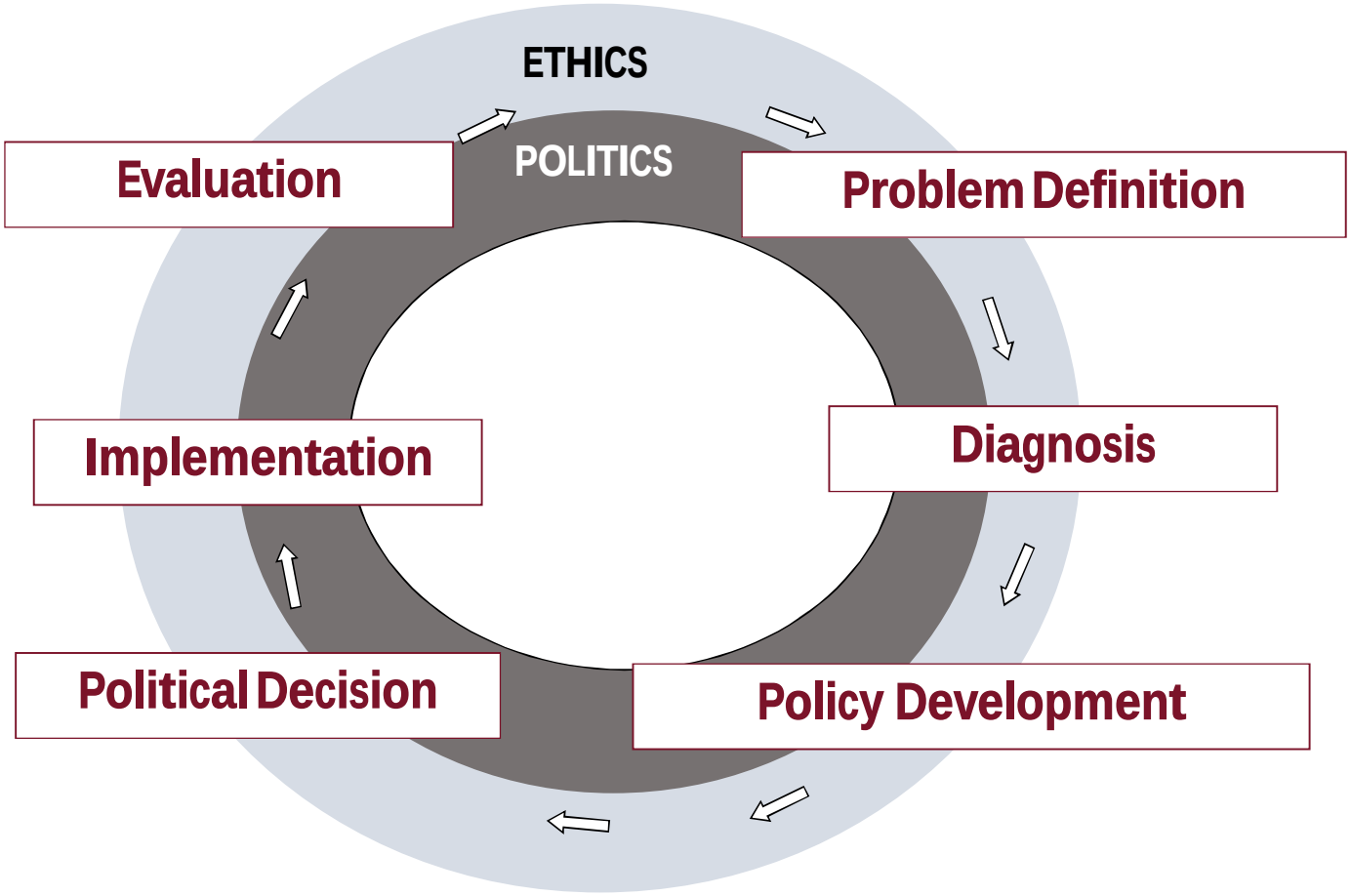
Bijetri Bose, Ph.D.

Webinar Series on Health Systems Assessment

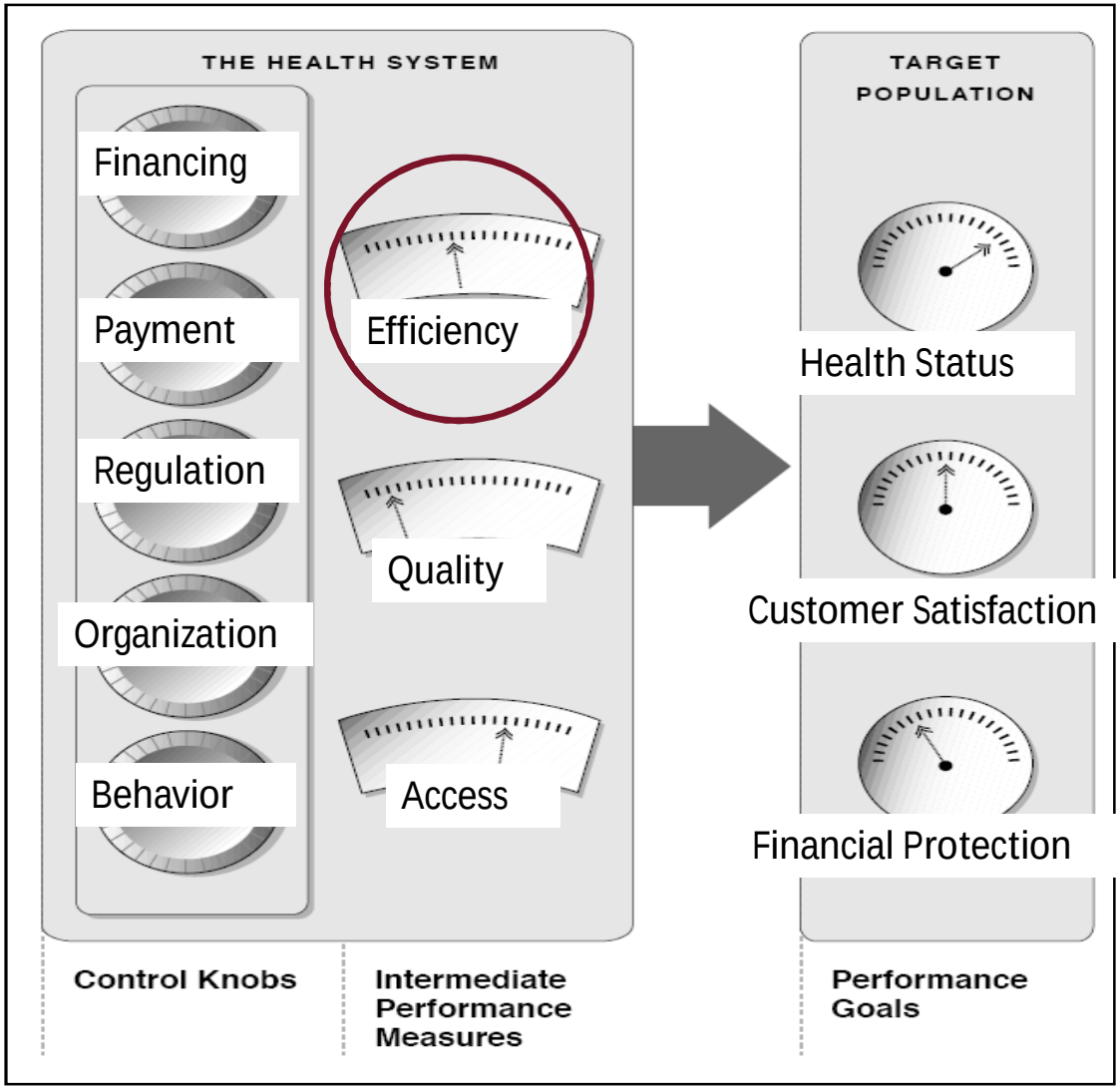
September 30, 2021

HARVARD T.H. CHAN
SCHOOL OF PUBLIC HEALTH

Health reform is a policy cycle



The Control Knob Framework



Overview of this session

- What is efficiency?
- Why is efficiency important?
- How is efficiency defined & measured?
- How are efficiency indicators analyzed?
- What are some of the commonly used efficiency indicators?
- Diagnosing the causes of inefficiency

2.1 Vision of the NHM

"Attainment of Universal Access to Equitable, Affordable and Quality health care services, accountable and responsive to people's needs, with effective inter-sectoral convergent action to address the wider social determinants of health".

2.2 Core Values

- Safeguard the health of the poor, vulnerable and disadvantaged, and move towards a right based approach to health through entitlements and service guarantees
- Strengthen public health systems as a basis for universal access and social protection against the rising costs of health care.
- Build environment of trust between people and providers of health services.
- Empower community to become active participants in the process of attainment of highest possible levels of health.
- Institutionalize transparency and accountability in all processes and mechanisms.
- Improve efficiency to optimize use of available resources.

2.3 Guiding Principles

2.3.1 Build an integrated network of all primary, secondary and a substantial part of tertiary care, providing a continuum from community level to the district hospital, with robust referral linkages to tertiary care and a particular focus on strengthening the Primary Health Care System including outreach services in both rural areas and urban slums.

2.3.2 Ensure coordinated inter-sectoral action to address issues of food security and nutrition, access to safe drinking water and sanitation, education particularly girls education, occupational and environmental health determinants, women's rights and empowerment and different forms of marginalization and vulnerability.

2.3.3 Incentivize states and UTs to undertake health sector reforms that lead to greater efficiency and equity in health care delivery.

2.4 Goals, Outcomes and Strategies

2.8 Outcomes for NHM in the 12th Plan are synonymous with those of the 12th Plan[2], and are part of the overall vision. The endeavour would be to ensure achievement of those indicators in Box 1. Specific goals for the states will be based on existing levels, capacity and context. State specific innovations would be encouraged. Process and outcome indicators will be developed to reflect equity, quality, efficiency and responsiveness. Targets for communicable and non communicable disease will be set at state level based on local epidemiological patterns and taking into account the financing available for each of these conditions.

What is efficiency?

- Using the available resources in the best way possible to achieve your goals

- It implies making sure that the resources are used optimally without any wastage.

What is efficiency?

❖ Examples:

- If a country can improve its health outcomes by reallocating resources from hospital care to primary care, then it has not achieved efficiency.

- If a nation could shift tasks among the workforce to produce the same level of outpatient visits and hospital admissions while spending less, that nation has not yet achieved efficiency.

POLL: Should ensuring efficiency be a policy priority?

- In order to achieve UHC, which of these two options should a government prioritize?

A. Increase in health expenditure

B. Improve efficiency to optimize use of available resources

Why is efficiency important?

- In its 2010 report, the World Health Organization (WHO) identified:

- inefficient use of resources as one of the main barriers to UHC

- estimated 20-40% of the total health spending lost every year.

Why is efficiency important?

OPTION 1

Keep as is.

X

OPTION 2

Fix the holes.

OPTION 3

Trash it.

?

Why is efficiency important?

- Reducing health system inefficiencies will lead to improvements in the availability of quality healthcare to the population, including those who were previously denied access to care, which in turn will yield better health outcomes.

- Achieving greater health system efficiency is particularly relevant in times of financial or health crises.

- It will also help mobilize additional resources from the people and finance ministries by demonstrating “good stewardship of the health system”.

How is efficiency defined?

❖ The two important concepts of efficiency are:

- Technical efficiency
- Allocative efficiency

How is efficiency defined?

❖ **Technical efficiency**

- A health system is technically efficient when the least possible amounts of inputs are used to produce a given amount of output.

- It involves making sure that the right mix of inputs such as health workers, medical equipment and supplies, and health facilities are used to produce a good or service.

How is efficiency defined?

❖ **Allocative efficiency**

- The idea of allocative efficiency captures whether health inputs are allocated in a way that produces the optimal mix of health outputs to maximize the health of society.

- When there is more than one output being produced, how inputs are distributed among the production of each output becomes significant.

How is efficiency defined?

❖ The two important concepts of efficiency are:

- **Technical efficiency**: doing things the right way

- **Allocative efficiency**: doing the right thing

What is efficiency?

❖ Examples:

- If a country can improve its health outcomes by reallocating resources from hospital care to primary care, then it has not achieved **allocative** efficiency.

- If a nation could shift tasks among the workforce to produce the same level of outpatient visits and hospital admissions while spending less, that nation has not yet achieved **technical** efficiency.

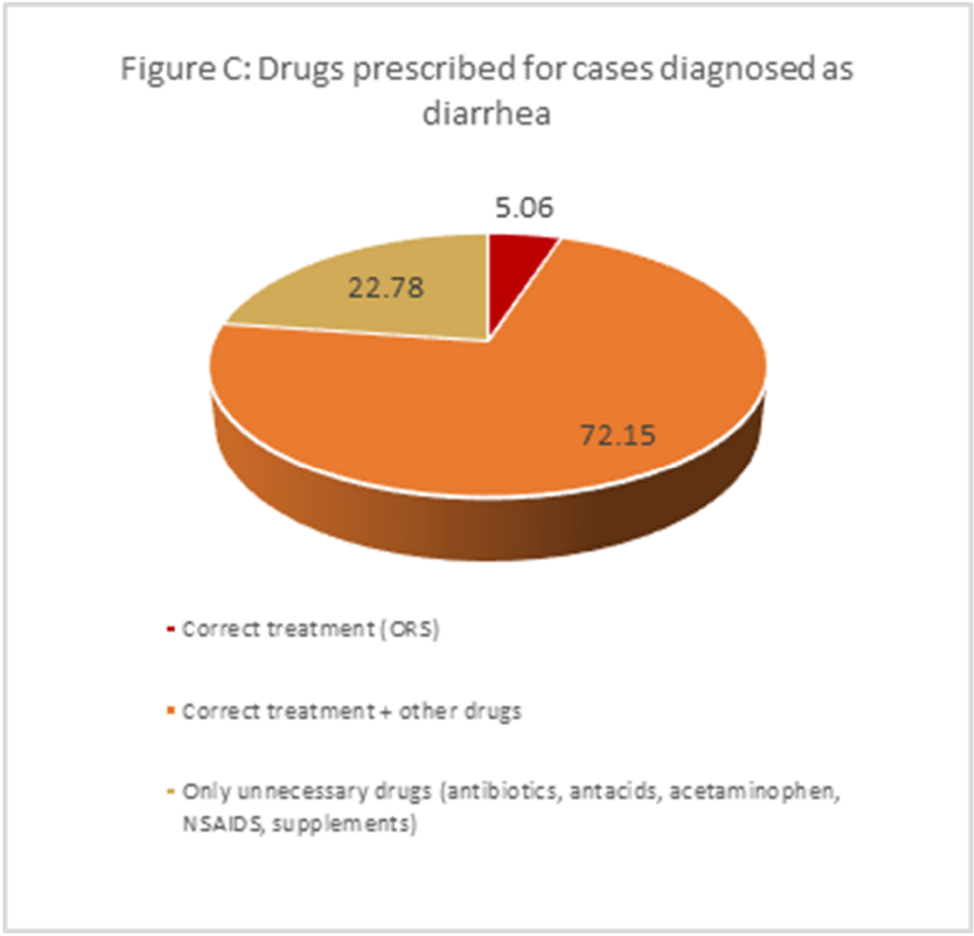
Breakout group discussion: Examples of technical & allocative efficiency

❖ For each of the case studies, discuss the following:

- **Is there any evidence of inefficiency?**
- **If yes, then what kind of inefficiency exists?**

[For the sake of efficiency, please focus on answering these 2 questions based on the case studies. Please nominate one person from your group to answer the questions when we return.]

Groups 1 and 2:



(Reference: From Clinical Effectiveness webinar by Anuska Kalita)

Groups 3 and 4:

- There were 1 225 381 health workers in urban areas and 844 159 in rural areas– an urban–rural ratio of 1.45.
- By contrast, the urban–rural population ratio was 0.39.
- Of all health workers, 59.2% were in urban areas, where 27.8% of the population resides, and 40.8% were in rural areas, where 72.2% of the population resides.

(Reference: Anand, S., & Fan, V. (2016). The health workforce in India: Human resources for health observer series no. 16. Geneva: World Health Organization, 85.)

Groups 5 and 6:

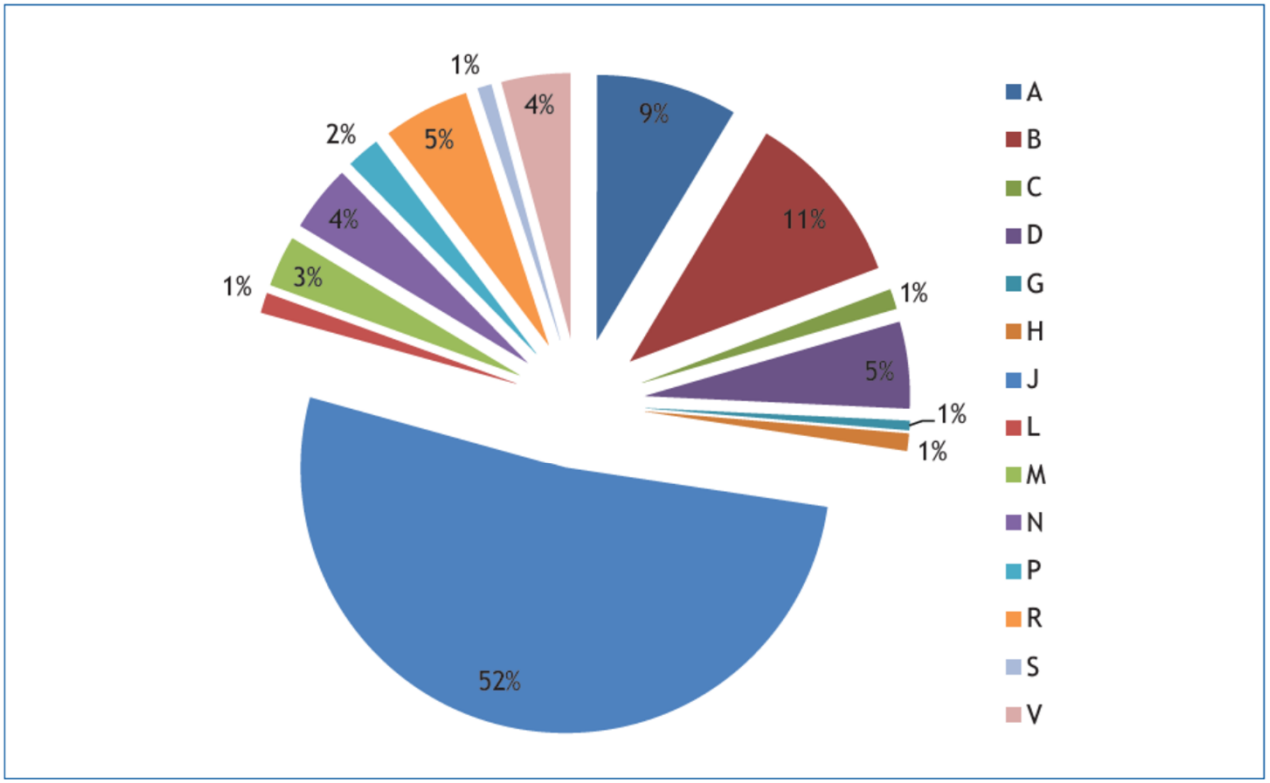


Figure 6: Distribution of drugs by therapeutic group: by value of spending, 2012–2013

A: alimentary tract and metabolism; B: blood and blood-forming organs; C: cardiovascular system; D: dermatologicals; G: genitourinary system and sex hormones; H: systemic hormonal preparations (excluding sex hormones) and insulins; J: anti-infectives for systemic use; L: antineoplastic and immunomodulating agents; M: musculoskeletal system; N: nervous system; P: antiparasitic products, insecticides and repellents; R: respiratory system; S: sensory organs; V: various

Reference: Selvaraj, S., et al (2014). Universal access to medicines: evidence from Rajasthan, India. WHO South-East Asia journal of public health, 3(3-4), 289-299.)

How is efficiency measured?

❖ Ratio-based efficiency indicators

- These metrics are constructed by dividing the amount of health inputs used by the amount of health output produced.

- The construction of ratio-based efficiency measures involves three steps:

1. Define the unit of analysis.
2. Identify the health outputs produced by the unit of analysis.
3. Determine which health inputs are associated with the relevant health outputs.

How is efficiency measured?

1. Define the unit of analysis.

- Are you interested in evaluating the efficiency of a health system in a geographical region (e.g., country or state) or of specific healthcare providers (e.g., physicians, hospitals, nursing homes)?

- The level at which reforms are being planned is often the natural choice.

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- EXAMPLE: COMMUNITY HEALTH CENTER (CHC)

How is efficiency measured?

2. Identify the health outputs produced by the unit of analysis

- Efficiency indicators are typically based on health services.
- These can range from the delivery of single services (e.g., inpatient procedures, outpatient/physician visits) to the provision of a group or bundle of services (e.g., hospital stay/discharges, episodes of care).
- Note that health services can vary widely depending on the types of treatments offered to patients.

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- EXAMPLE: OUTPATIENT VISITS AT THE CHC

How is efficiency measured?

3. Determine which health inputs are associated with the relevant health outputs.

- Health inputs can be measured as counts of physical units or as costs of purchasing the inputs.

- It is important to use measures of health inputs that are defined at the same point in time or over the same duration of time as the health output measure.

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- EXAMPLE: PROVIDER/LABOR

How is efficiency measured?

❖ Ratio-based efficiency indicators

- These metrics are constructed by dividing the amount of health inputs used by the amount of health output produced.

EXAMPLE:

POLL: Is there inefficiency in the use of inpatients beds in Odisha?

- In our survey of healthcare facilities in Odisha (2019), we found that the average **bed occupancy rate** in healthcare facilities with inpatient beds was **64 percent**.
- Bed occupancy rate is a measure of utilization of the available bed capacity in the hospital, and it indicates the percentage of beds occupied by patients in a year.
- A higher bed occupancy rate implies the efficient use of resources.
- Is there inefficiency in the use of inpatients beds in Odisha?

A. Yes **B. No** **C. Difficult to say**

(Suggested reading: Aloh, H. E., Onwujekwe, O. E., Aloh, O. G., & Nweke, C. J. (2020). Is bed turnover rate a good metric for hospital scale efficiency? A measure of resource utilization rate for hospitals in Southeast Nigeria. Cost Effectiveness and Resource Allocation, 18(1), 1-8.)

How is efficiency analysed?

- Benchmarking

What are some of the commonly used efficiency indicators?

- ADD IN

What are some of the commonly used efficiency indicators?

- ADD IN

Ways to improve technical efficiency

- ADD IN

Ways to improve allocative efficiency

- ADD IN

Breakout group discussion: Diagnosing the reasons for health system inefficiencies

❖ For each case study, identify the following:

- **Is there evidence of inefficiency of a health input? Which input?**
- **Identify at least 1 potential reason for such inefficiency.**
- **Discuss one policy solution that can reduce the inefficiency.**

[For the sake of efficiency, please focus on answering these 3 questions based on the case studies. Please nominate one person from your group to answer the questions when we return.]

(Suggested reading: Yip, W., & Hafez, R. (2015). Reforms for improving the efficiency of health systems: lessons from 10 country cases. Geneva: WHO.)

Groups 1 and 2: Ethiopia

- A large increase in the number of primary health care units in the past decade resulted in a doubling of health posts and five times more health centers in Ethiopia.
- In 2005, there were 0.3 physicians and 2 nurses per 10 000 population, which are among the lowest densities in Africa.
- The distribution of the limited health workforce among and within districts was uneven.
- The workforce was also poorly trained, resulting in gaps in the delivery of essential services in rural areas.
- Only 25% of pregnant women were receiving antenatal care and only 33% of children were fully vaccinated.

Groups 3 and 4: China

- Inappropriate use of drugs and intravenous injections in China has been widely documented.
- Between 23% & 61% of all medical encounters result in injections, which is much higher than the WHO-recommended 13–24%; and nearly 50% of all prescriptions for antibiotics are deemed medically unnecessary, as they are often prescribed for common cold, etc.
- A study in Shandong & Gansu provinces revealed that retail pharmacies stocked less than 20% of products on the 2004 national essential drugs list and hospital pharmacies between 20% & 74%.
- The most frequent reason given by facilities for not purchasing essential medicines was that they were not the preferred treatment choices of providers.

Groups 5 and 6: Uruguay

- Health insurance in Uruguay was fragmented: the public State Health Services Administration provided health services free of charge to predominantly low-income groups, and a collective of health care institutions delivered care to workers in the formal sector through a network of private hospitals and clinics.
- Most insurers in the collective were small and had severe financial difficulties.
- The health system had not responded to the country's changing epidemiological profile. In 2002, chronic diseases accounted for 75% of all lost DALYs, and cardiovascular diseases and tumors accounted for 58% of all deaths, yet few health sector resources were dedicated to primary care, prevention or health promotion.

Summary of this session

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- Diagnosing the causes of inefficiency

THANK YOU

bbose@hsph.harvard.edu

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