

Health Workforce Projections: Tools for health workforce strategic plan development

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Why HRH is important?

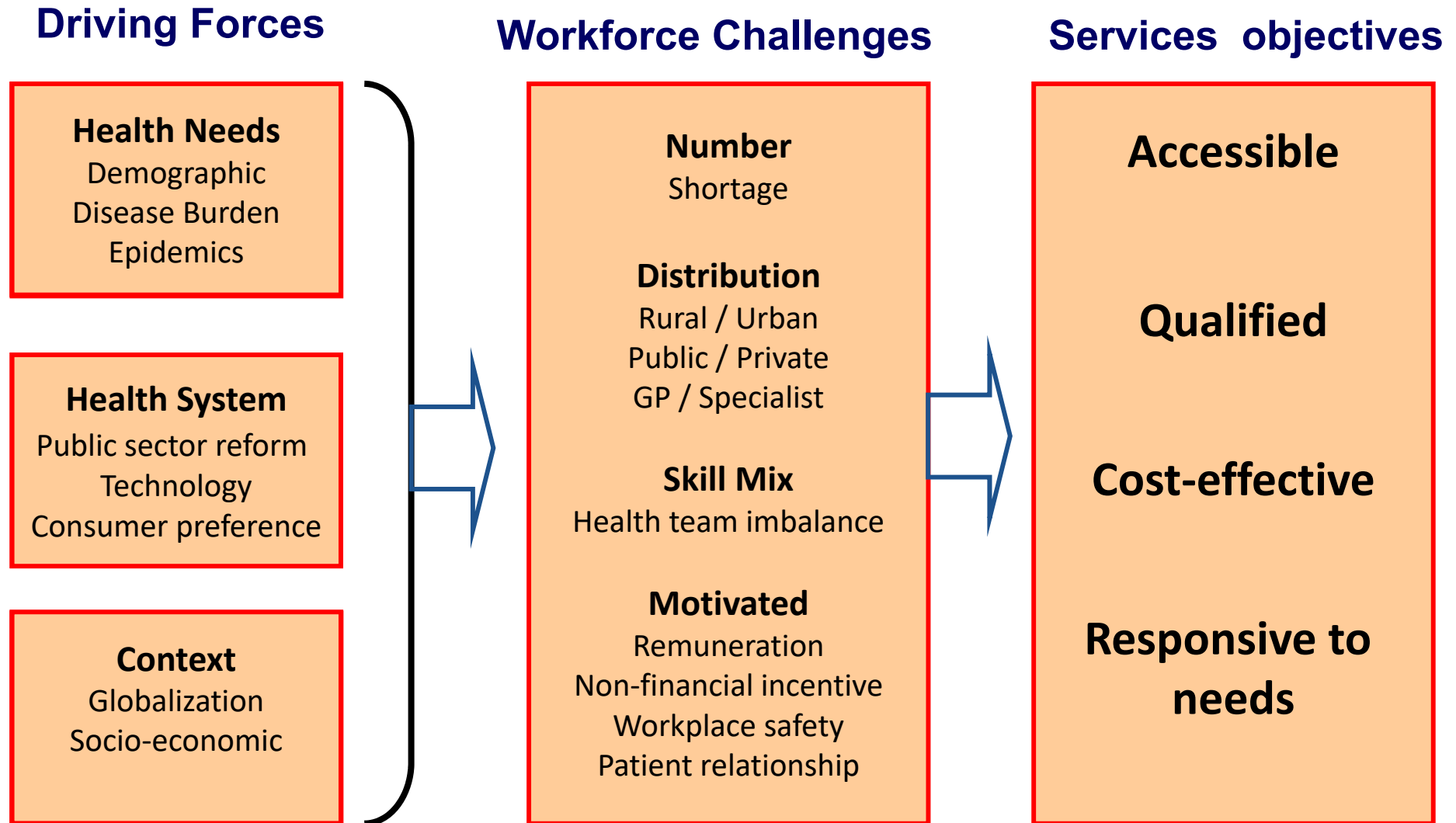
Human Resources for Health (HRH), Health Workforce

- skilled personal delivery
- “HRH ” use other resources
- “HRH ” critical factor for the health system
- “HRH ” consume 60 – 80 % of the operational Budget

Presentation Topics

- Relationship of HRH and health service system
- Principle of HRH Projection
 - Information for HRH projection
 - Population ratio
 - Health Needs
 - Health Demand
 - Service Target
- HRH projection and HRH Planning

1. Relationship of HRH and health service system



Dynamic of Health Needs

1. Demographical transition

- Increase of elderly, decrease of children
- Thailand: from 10.9 % in 2005 and to 15% in 2015 and to 23% in 2025

2. Disease burden

- Communicable diseases (CD)
- Increase of chronic: DM, HT, Heart disease

3. Epidemiological transition

- Emergence of new diseases: AVIAN Flu, SARS, H1N1, Zika
- Accident, Emergency & Disaster

Dynamic of Health system

1. Health Care Reform

- UHC implementation have changed service delivery system/ financial system/ HRH
- In Thailand: service utilization increased after UHC

2. Public sector reform

- Public sector reform– reduce government staff
- Decentralization to local authorities

3. Technology changes

- Improve communication channel
- Require appropriate skill- skill substitutions

4. Consumer expectation

- high expectation for quality of care

Other Contexts

1. Globalization

- International trade: increase foreign patients to use services in Thailand, increase 13.04 – 15.87% annually
- Asian Community, **FTA**– Free flow of HRH and patients among countries
- Medical Hub Policy

2. Macroeconomic policy

- Expand of private hospital:
Thailand, beds increased from 7.4 % in 1973 to 20.2% in 2005

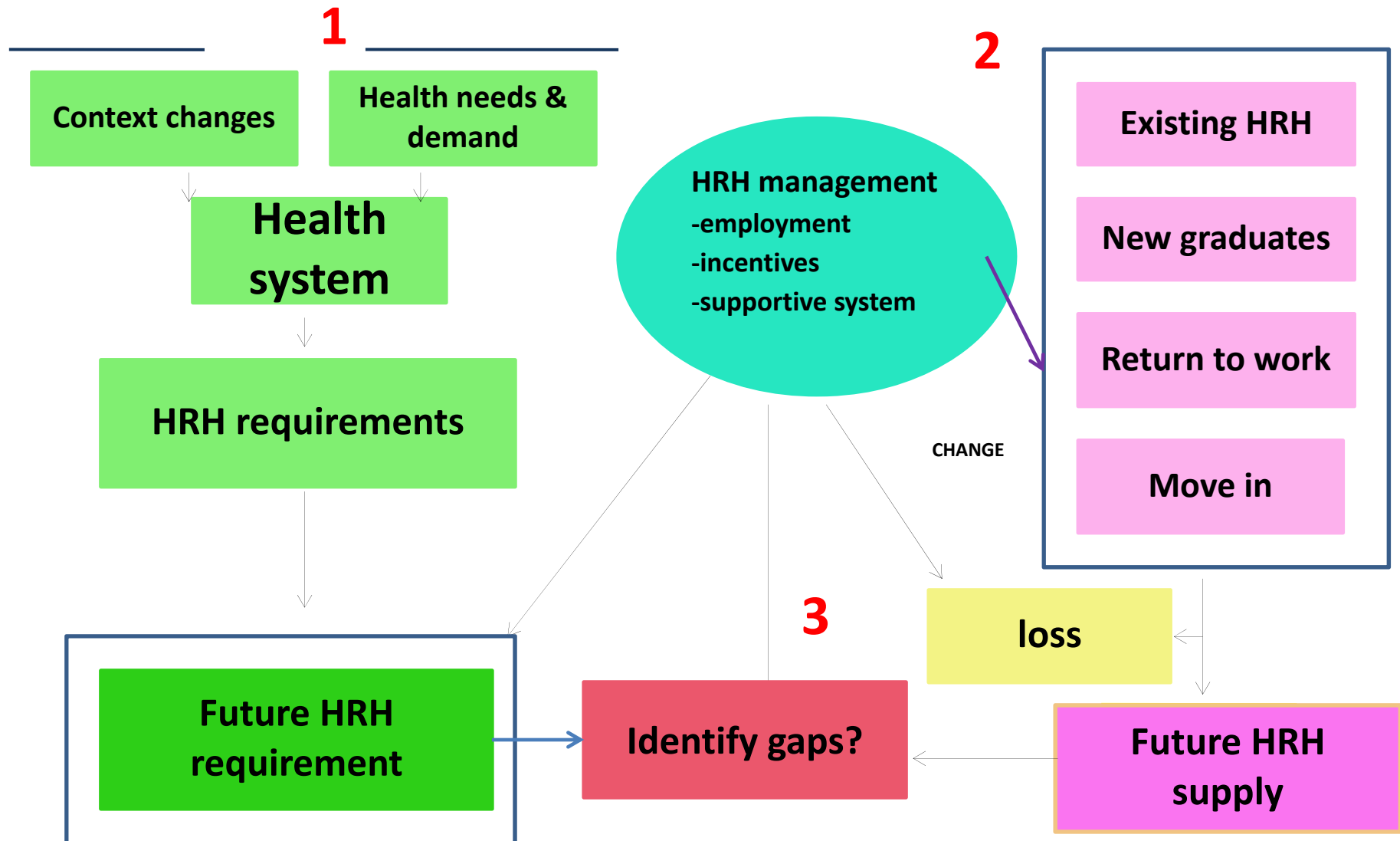
What aspects of HRH should be prepared?

- **Right Number**
 - Adequate type and number of HRH
- **Right Distribution**
 - Equity distribution of HRH in relation to:
 - Rural VS Urban,
 - Level of Care (primary, secondary, tertiary, supra-tertiary),
 - Public VS private
 - Prevention and curative care
- **Right Skill mix**
 - Appropriate skills related to population health needs
 - Health team balance, skill mix
- **Motivated HRH**
 - Retention, motivated to work
 - High productivity

2. HRH Projection

Future HRH requirement

Future HRH supply



Principle of HRP :

- ⌘ Plan (Project) long,
- ⌘ Act short,
- ⌘ Update often

HRH requirement projection methods

- **Population ratio**
 - **Health Needs**
 - **Health Demand**
 - **Service Target**

Information for HRH projection

- Projected Population
- Economic situation and trend
- Epidemiology information
- Service utilization of both public and private sectors

Information for HRH projection

Staff norm

- Standard of working hour in each country, i.e., in Thailand-HRH work 230 days per year, and 6-8 hour per day
- Working hour per year is 1,680 hour

Productivity

- Outputs in relation to inputs, i.e., 360 pairs of shoes produced by 12 workers— the average productivity of each worker is 30
- Physician can provide services at out patient department at about 7-12 minutes/ case

Productivity data sources

- Professional councils/ associations
- Expert Opinion
- Study
- Mix of 3 approaches

How to use HRH productivity to convert into HRH requirement

Nursing productivity

- Out patient service for nurse takes 0.25 hr

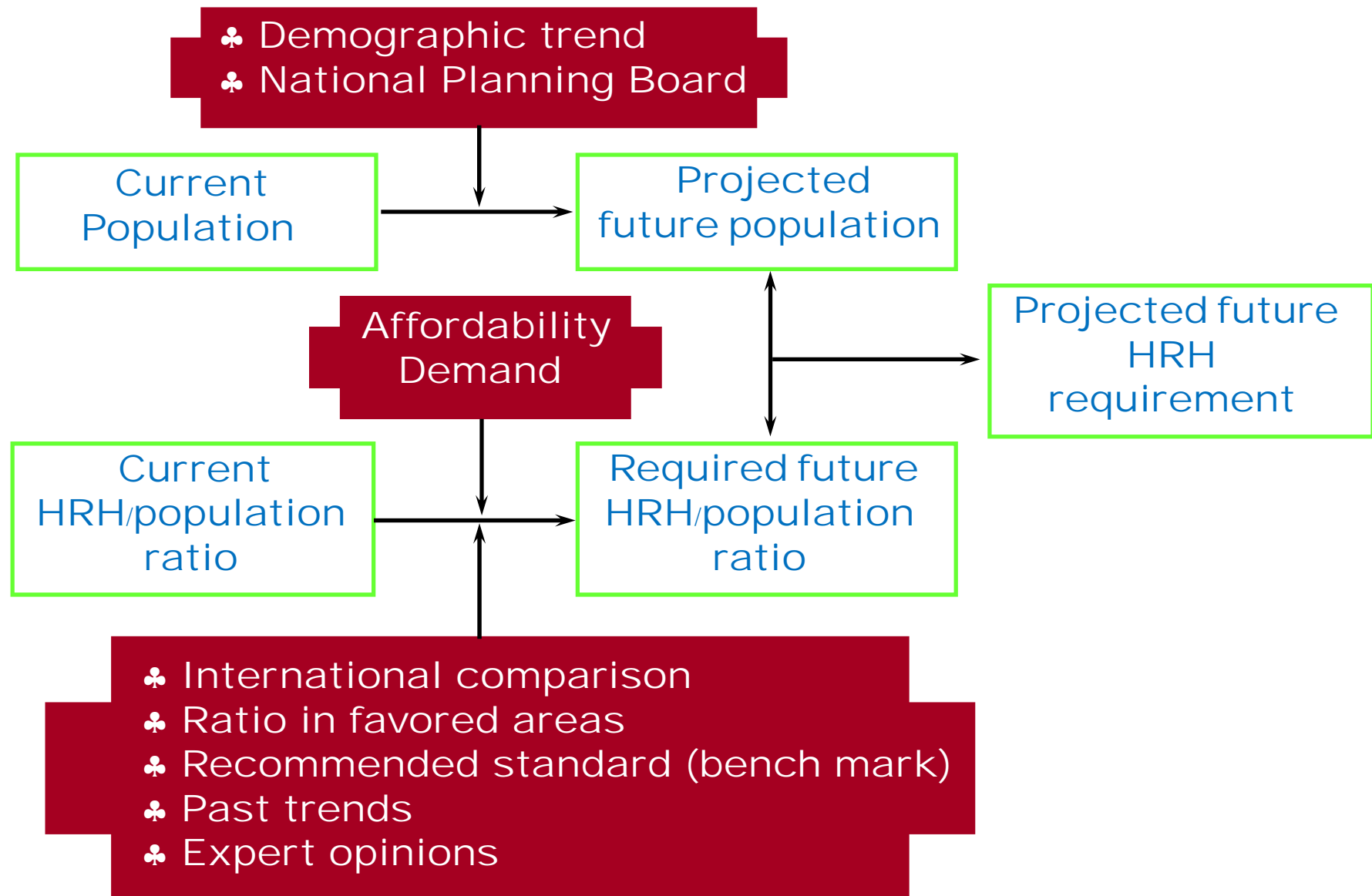
Workload calculation

- Out patient utilization 30,000 visit/ year
- Workload = $30,000 * 0.25 = 7,500$ man hour

Nurse requirement

- Compare workload to staff norm (240 day *7 hr) = 1,680 hour per year
- Nurse requirement for OP services = $7,500/1680 = 4.5$ Full Time Equivalent (FTE)

2.1 Population ratio method.



Population ratio

Project HRH requirement base on proposed thresholds for workforce density, i.e.,

- 1 physician per 10,000 population, 1 nurse per 5,000 population
- District A with 30,000 population, how many physicians and nurses required?
- physician requirement = $30000/10000 = 3$
- Nurse requirement = $30000/5000 = 6$

Population ratio

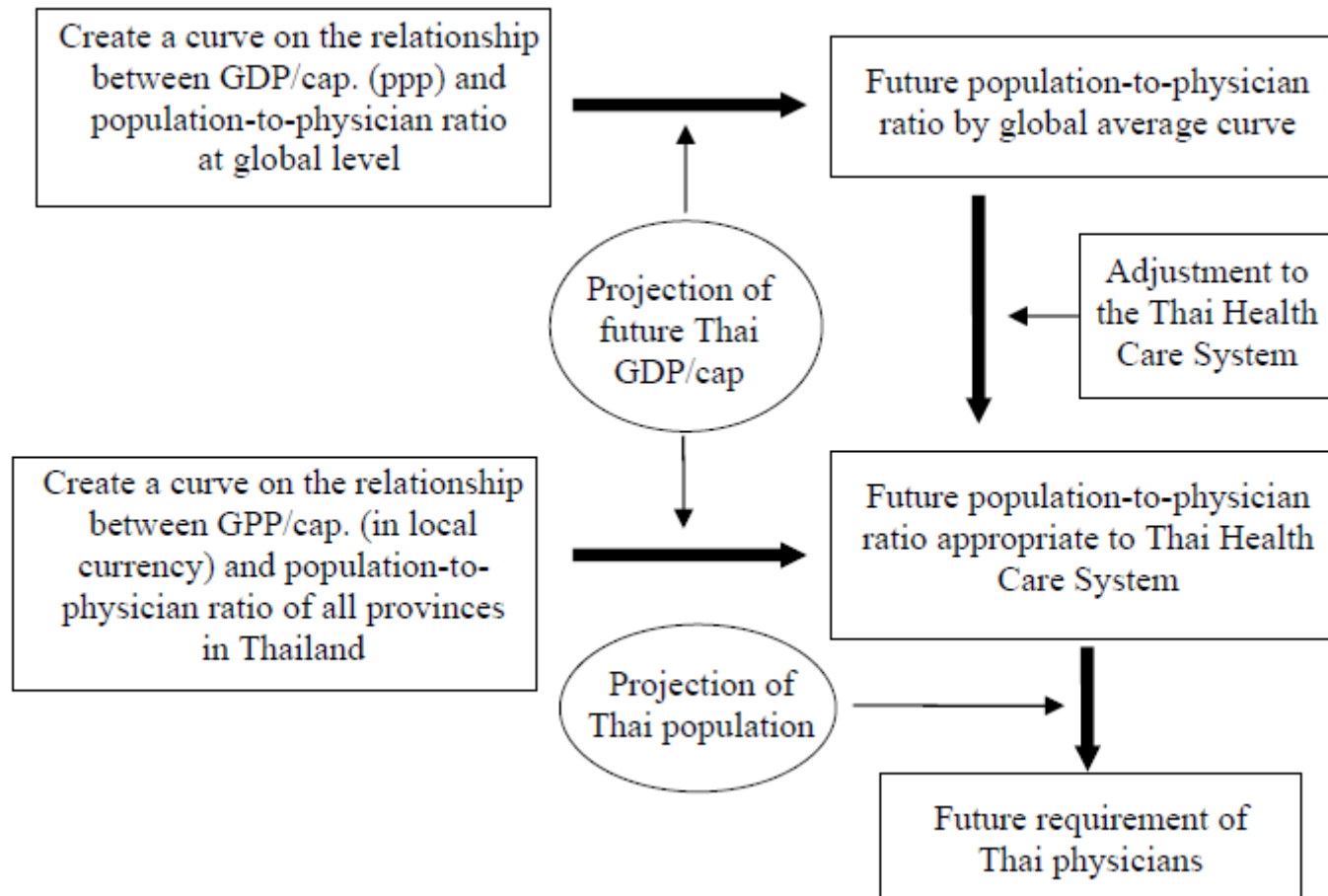
- **Strengths**

- For stable health system and all people access to care
- Simple and require less data – population growth and standard population ratio

- **Weakness**

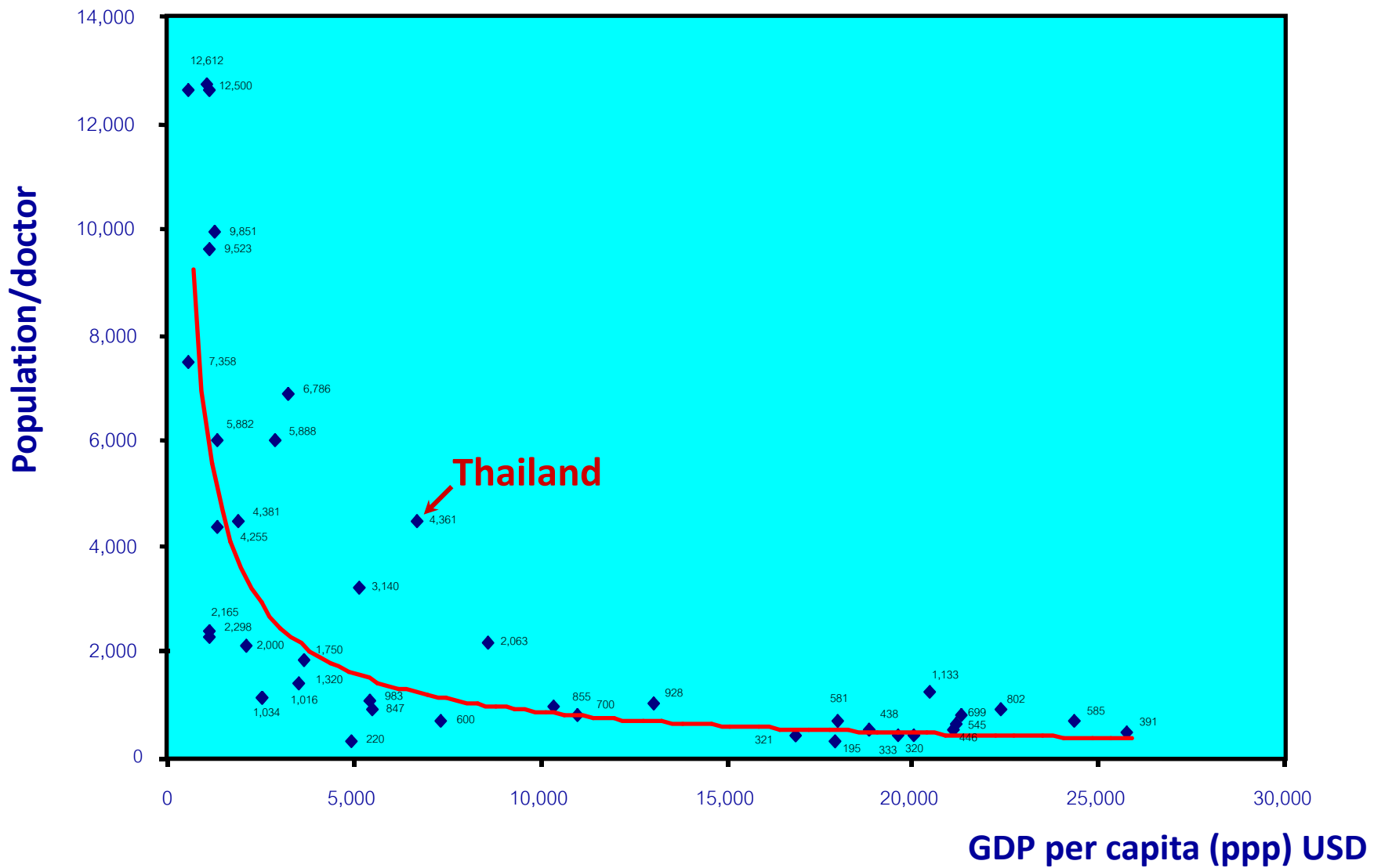
- Individual cadre projection, lack of teamwork or skill mix projection
- Does not address other key factors
- Limitations to solve distribution problems
- Homogeneity of HRH productivity and population health needs

Modified population to HRH ratio methods



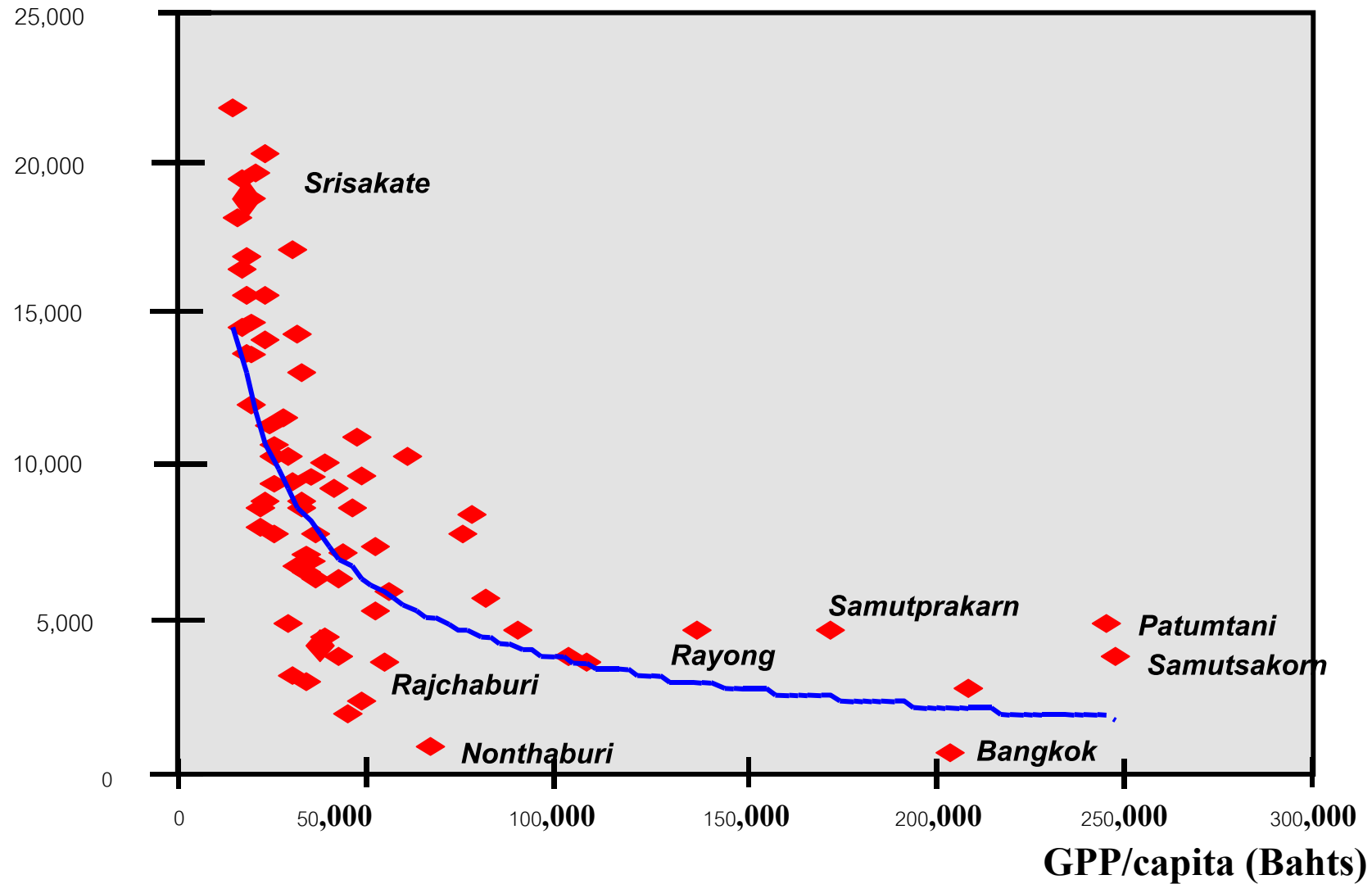
Sirikanokwilai et al

Relationship between population/doctor ratio and GDP per capita (ppp.)

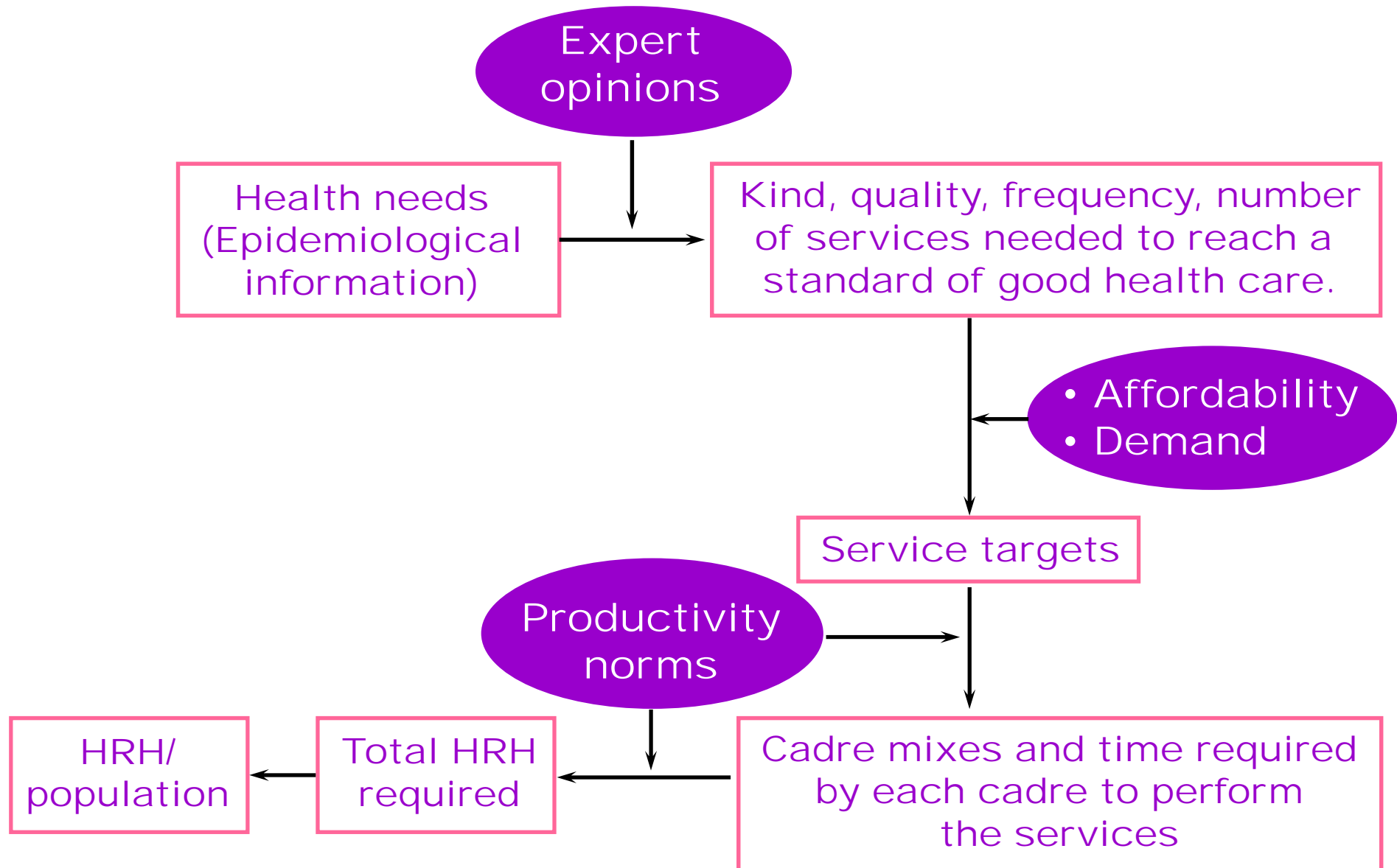


Relation between GPP/capita and population/doctor ratio 1995

Population/doctor



2.2 Health needs methods



Health Need Method

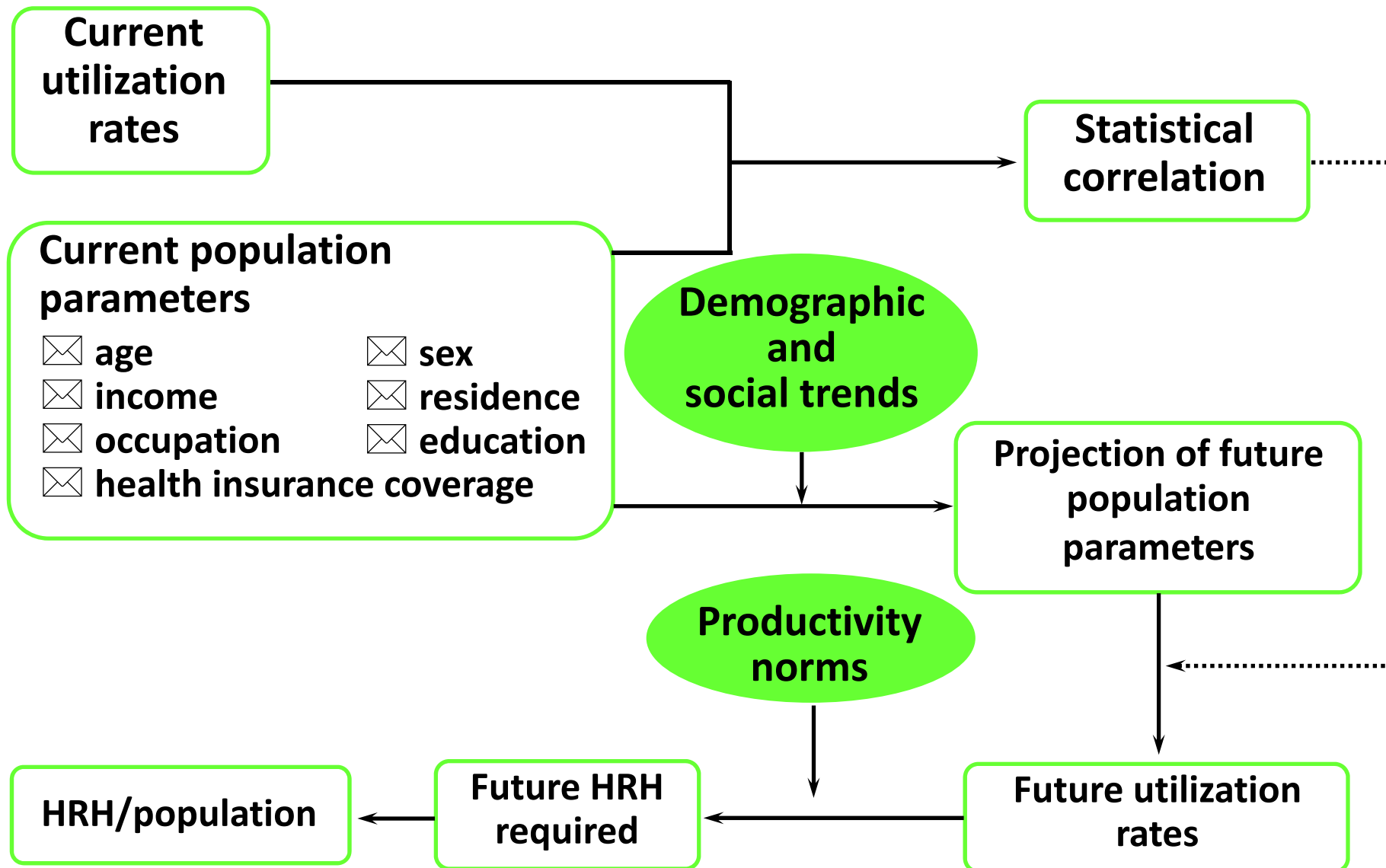
- Use epidemiological data, health problem and professional judgment to design service provision
- Use “staff norm and productivity” convert into HRH requirement, for example dental health services

Health problem	services	Target	HRH
Adult 50%	-out patients -prevention service	30%	Dentist Dental nurse
Children 80%	-out patients -prevention service	50%	Dentist Dental nurse

Health Needs method

- Strength
 - Comprehensive health services and HRH requirement cover curative, promotion, protection and rehabilitation services
 - Facilitate skill mix approach
- Weakness
 - Require accurate health information system
 - Need technical support in HRH projection
 - Trend to rely on professional judgment

2.3 Health or economic demands method



Health Demand method

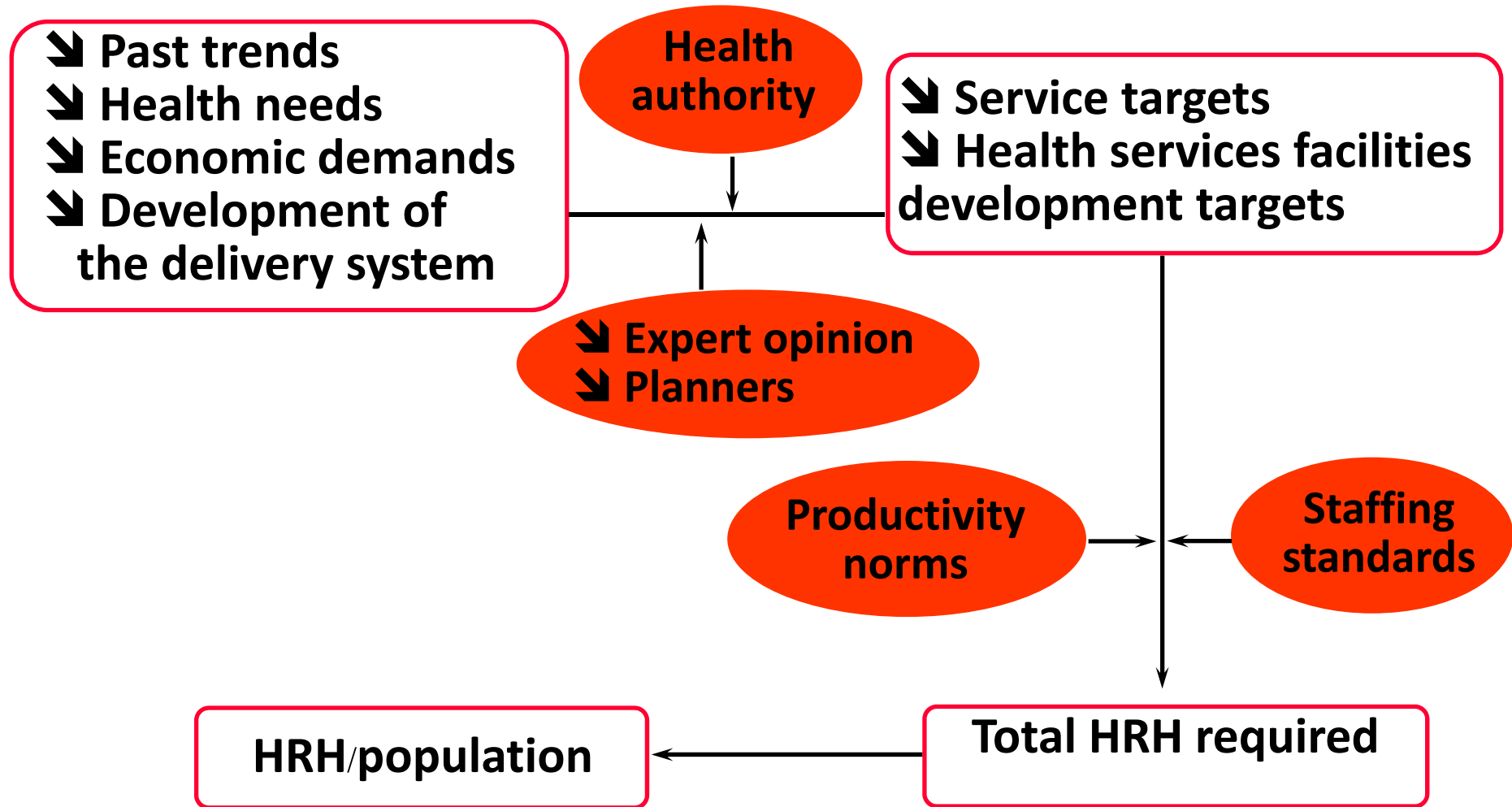
- Use current and trend of service utilization in the future
- Use “staff norm and productivity” convert into HRH requirement, for example drug dispensing services

Service utilization	HRH	Productivity (hr)	workload
100,000	Pharmacist	0.08 hr	8,000 hr
	Pharmacy Technician	0.1 hr	10,000 hr

Health Demand

- Strength
 - For stable health system and all people access to care
 - For private-dominated health system
- Weakness
 - Curative-oriented approach
 - requires consideration of multiple variables
 - Require accurate health information system
 - Need technical support in HRH projection
 - Limit to use in country with inequity access to care/
capacity to pay

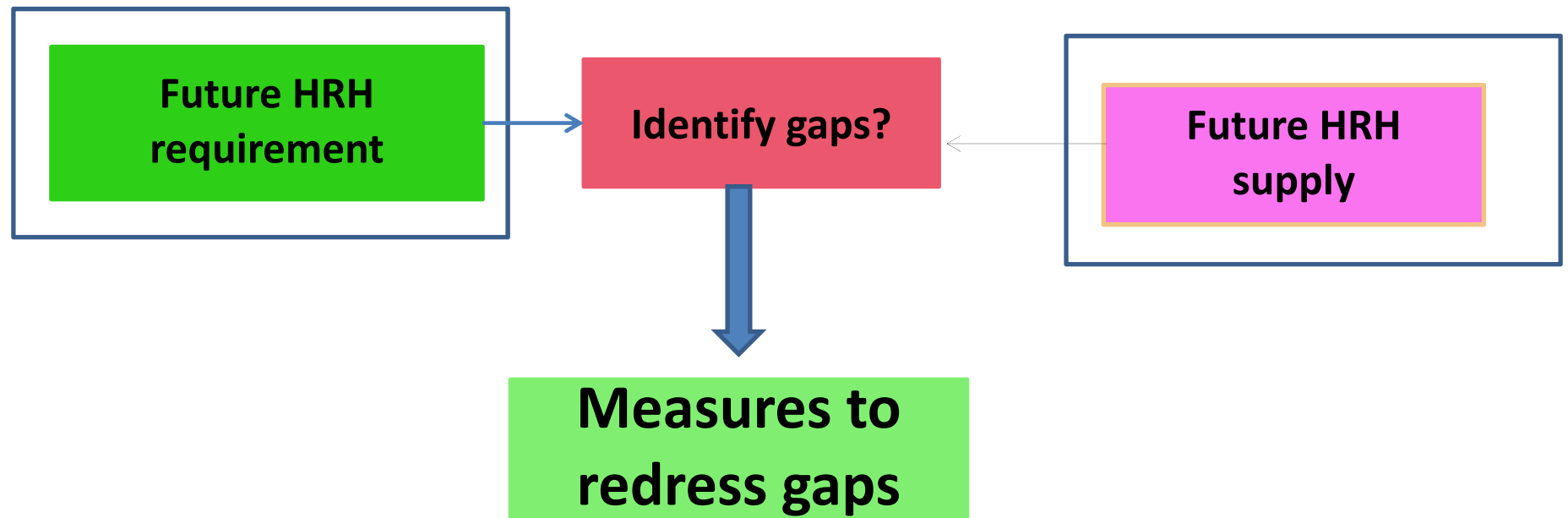
2.4 Service targets method



Comparison of HRH requirement projection methods

Methods	Advantages	Disadvantages	Appropriate condition
Population ratio	Easy	Macro	Limited planning
Health needs	Logical	Very difficult	Strong planning Dominant public High public awa.
Service targets	Not very difficult	Sometimes unrealistic	Dominant public Active government
Economic demand	Logical Economically feasible	Complex Status quo	Dominant private Passive government

3. HRH Projection lead to HRH Planning



Policy Levers to shape HWF labor market

