UNITED NATIONS UNIVERSITY

International Institute For Global Health (UNU-IIGH)

INA-CBG FOR SUSTAINABLE UNIVERSAL COVERAGE

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Outline

- Introduction
- Challenges in Achieving Universal Coverage
- Major issues in Social Health Insurance
- Why Provider Payment Is Important?
- Casemix: DRGs vs CBGs
- Advantages of using INA-CBGs for PP in Indonesia
- Conclusion

Introduction: Casemix System in Indonesia

- Casemix system is implemented in Indonesia under JAMKESMAS (Social Health Insurance Scheme for the Poor) since 2006
- Used by around 1,350 public and private hospitals
- Coverage around 75 million people
- Since 2010- INA-CBG was implemented to replace INA-DRGs
- Casemix System will be used to cover all other Social Insurance Scheme by 2014 under plan for universal coverage- 240 million people
- National Health Insurance Agency (BPJS) will coordinate all SHI programmes in Indonesia

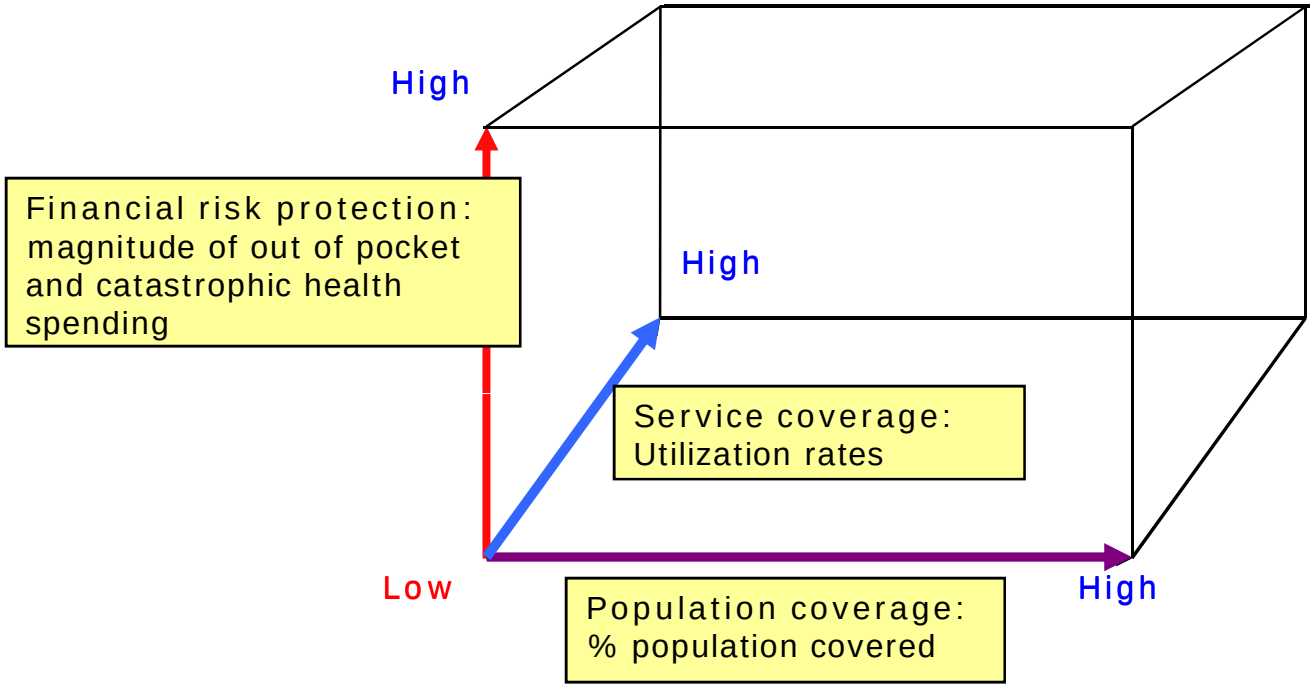
Introduction: Universal Coverage

- Indonesia target to achieve universal coverage by 2014
- BPJS is established to organise health financing system towards universal coverage
- Efficiency in SHI is key issue in achieving and sustaining universal coverage
- Provider payment is important component of social health insurance scheme.

What is Universal Coverage?

- “a situation where the whole population of a country has access to good quality services according to needs and preferences, regardless of income level, social status, or residency”
  - *Anne Mills (2007)*

SCOPE OF UNIVERSAL COVERAGE
Depth, Height and Breadth



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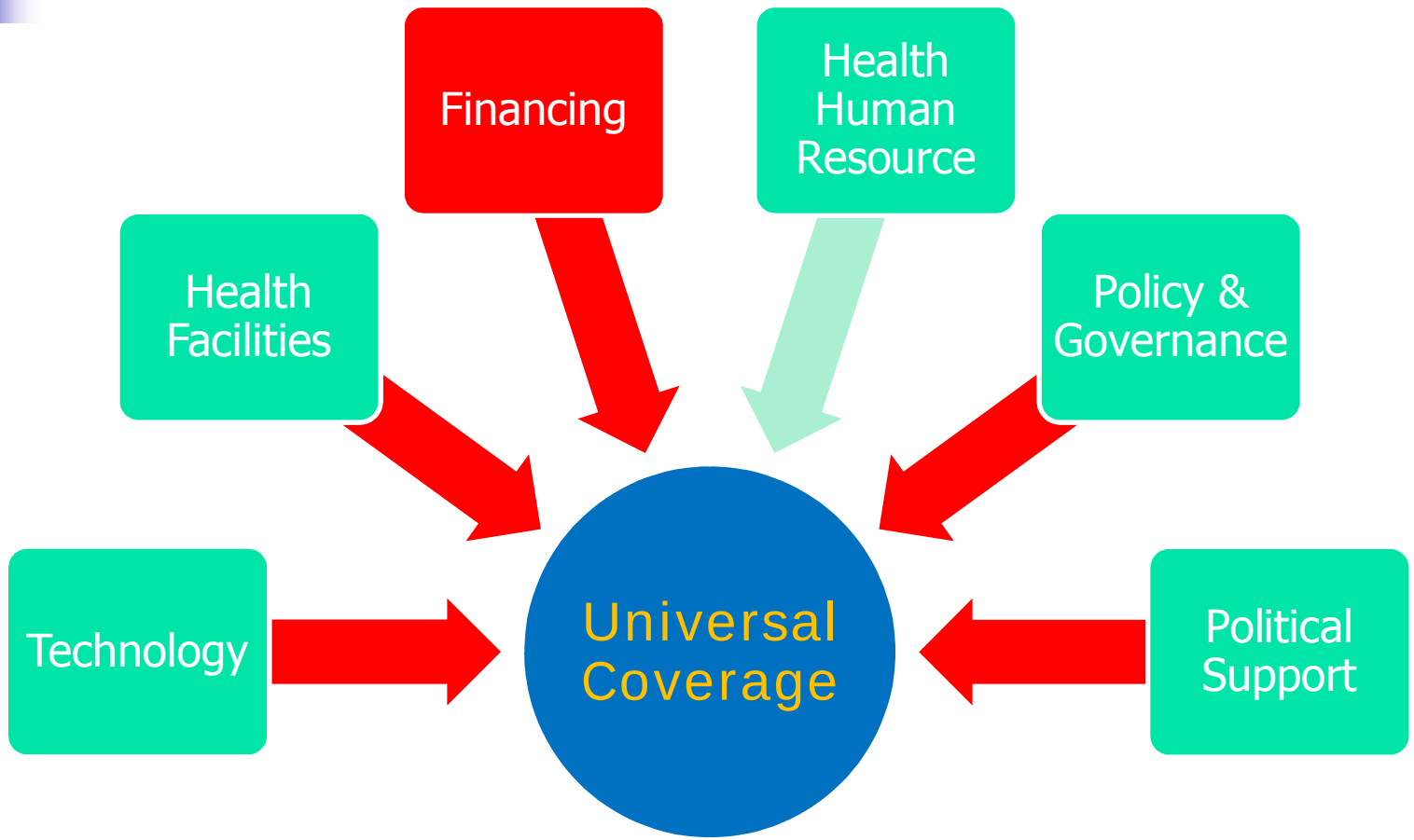
Challenges in Achieving Universal Coverage



□□□Obstacles to Universal Coverage

- Raised in health care cost
- Emerging and re-emerging diseases
- Increasing prevalence of chronic diseases
- Poor distribution of Health Human Resource
- Lack of sustainable health financing system

Why Health Financing is Important?

- Provide coverage from catastrophic expenditure
- Increase flow of resources in health sector
- Reduce Out of Pocket Payment

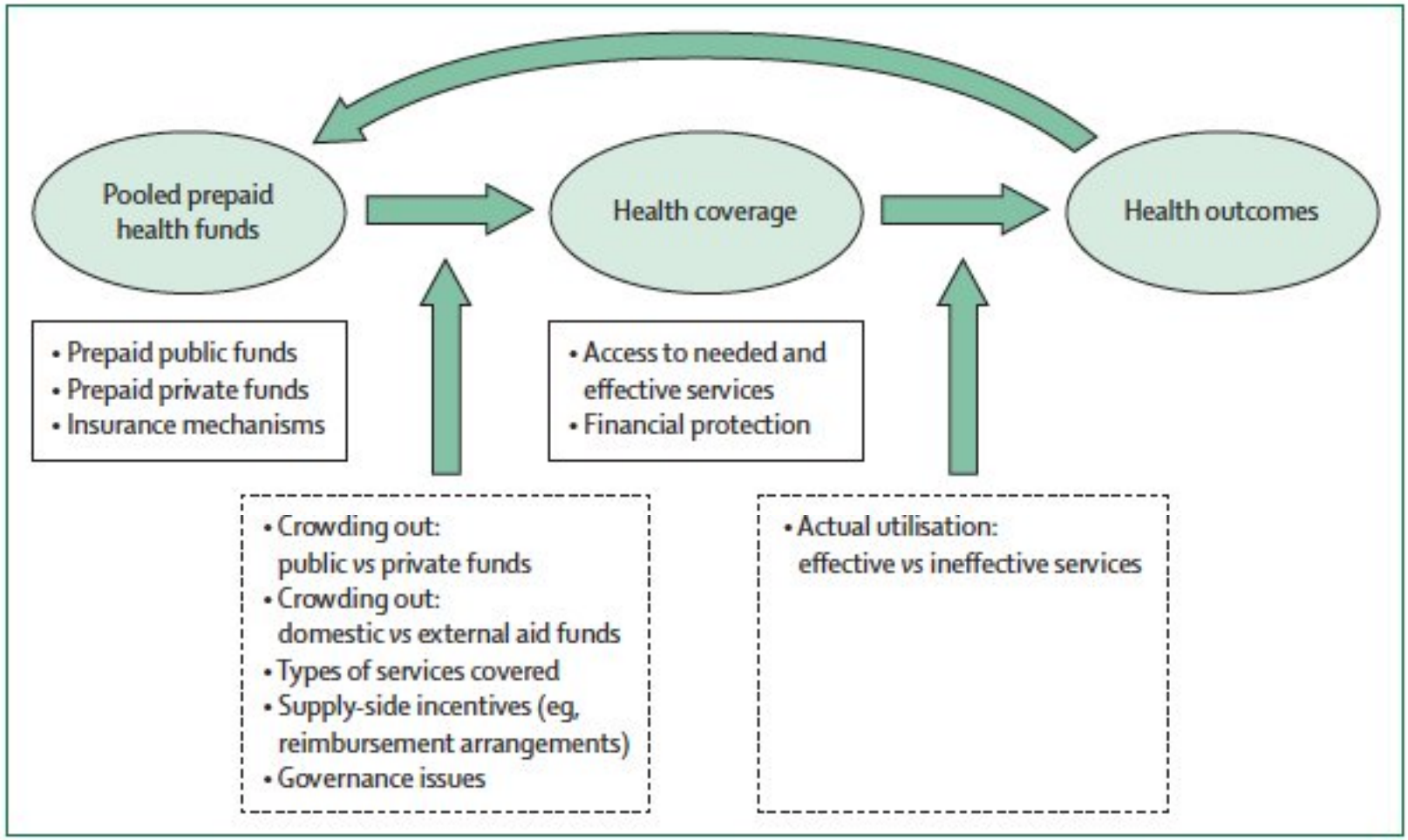


Figure: **Causal pathway between pooled prepaid health financing, health coverage, and outcomes**

	Health spending (% of gross domestic product)	Pooled health spending (% of total health spending)	Tax-based health spending (% of total public spending)	Gross domestic product per person (US$)
High-income countries with universal health coverage				
Germany	11%	89%	52%	40275
UK	9%	90%	100%	35163
Sweden	10%	85%	100%	43472
Middle-income countries with universal health coverage				
Chile	8%	66%	87%	9487
South Korea	7%	65%	56%	17110
Malaysia	5%	60%	99%	8373
Middle-income countries making rapid progress toward universal health coverage				
Brazil	9%	69%	100%	8251
Mexico	7%	52%	65%	7852
Thailand	4%	84%	92%	4608

Calculations made with data from WHO's Global Health Expenditure database.[40]

Table 3: Health financing for selected countries by income and progress toward universal health care, 2009

Evidence on Role of Health Financing

- Data from more than 120 countries
  - 10% increase in government health spending per head will reduce
    - 7.9 per 1,000 death of children below 5 years
    - 4-5% of maternal mortality
    - 1.3 per 1,000 adult deaths
  - 10% increase in OOP payment cause increase in 11.6 per 1,000 female deaths

Moreno-Serra and Smith P (2012) Lancet, 380:917-23

Challenges in health financing schemes in developing countries

- Low coverage
  - Inadequate resources especially for social insurance
  - High Premium especially for private insurance
- High level of inefficiency
  - High administrative cost
  - Moral Hazards of Consumers
  - Moral Hazards of Providers
- Poor Provider Payment Mechanisms
  - Use of retrospective payment methods
    - Fee for service
    - Itemised billings

Ensuring Sustainability of Social Health Insurance

- Administrative Cost
  - Low administative cost
    - Should not be more than 10% of operating cost
- Control of moral hazards
  - Effective and efficient ways of controlling moral hazards
    - Consumers: Co-payment
    - Providers: Utilisation Review, Medical Audit
- Efficient provider payment mechanism
- Regular Review the Benefit Package
    - Include new services
    - Exclude non-essential services
- Accepted by Stakeholders

Importance of Provider Payment Mechanism

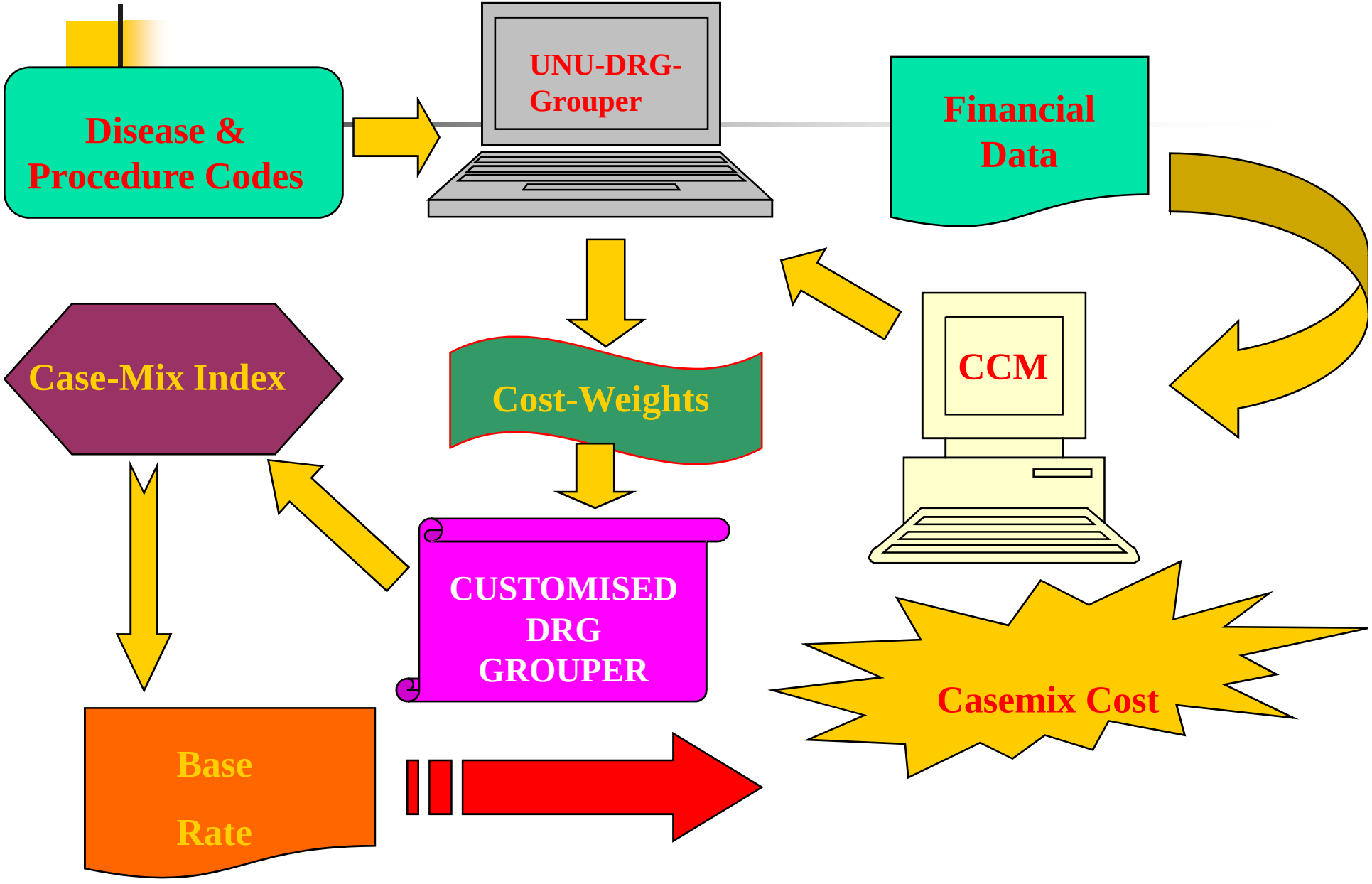
- Cost Containment Measures
  - Enhance Efficiency
- Influence Provision of Services
  - Incentives or disincentives
    - Preventive vs Curative Services
    - Basic Health Services
- Influence Quality of Care
  - Technical Quality
  - Client Satisfaction
- Viability of Health Financing Scheme
  - Disbursement of funds

Payment Methods: Retrospective vs Prospective

- **Retrospective**
  - Fee-for-service
  - Payment per itemised bill
  - Payment per diem
- Strengths
  - Favoured by providers
- Weaknesses
  - Prone to supplier induced demand
  - High Administrative cost

- **Prospective**
  - Capitation payment
  - Global budget
  - Case-mix payment
- Strengths
  - Good cost containment
  - Low admin cost
- Weaknesses
  - Need high technical capacity to develop
  - Reduce Providers clinical freedom (need to legislate)

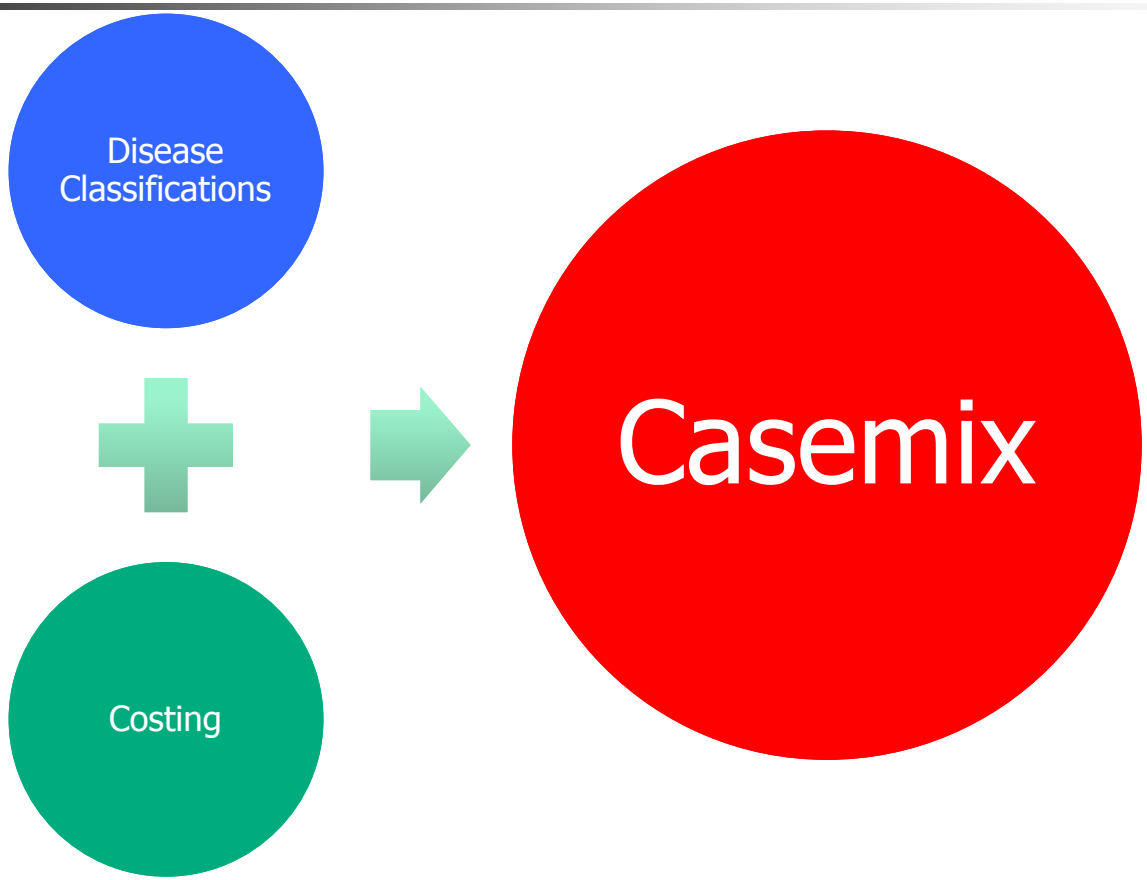
UNU-IIGH CAPACITY BUILDING PROGRAMME ON CASE-MIX



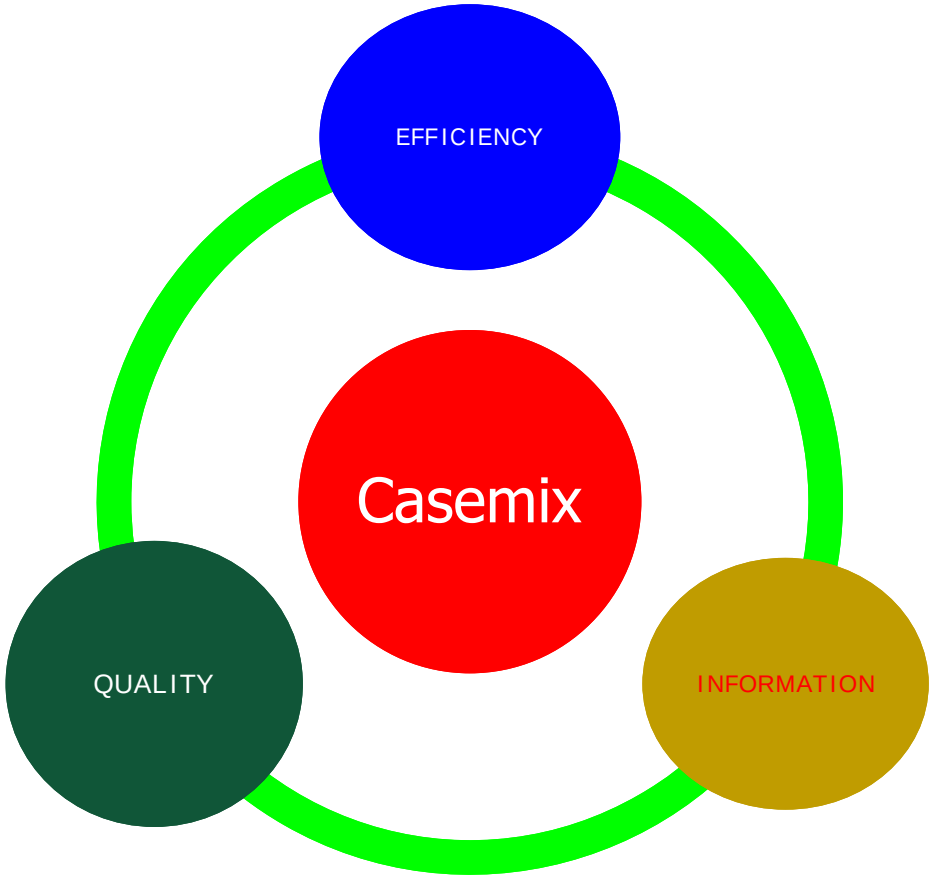
What is Casemix System?

- A tool to classify varieties of patient conditions into groups according to resource consumed as approximated by LOS, episode cost, or cost of daily services
  - more generic term of patient classification system
  - Characteristics: Iso-resource and clinical charactestics
- Use in many forms in around 120 countries worldwide

Components of Casemix System



Benefits of Casemix



Casemix System in Developing Countries: The Obstacles

- Lack of capacity
  - Technical skills on Case-Mix System
- Lack of financial resources
- Limitations in health information system
  - Quality of disease coding
  - Limited availability of costing data
- Lack of political will
  - Policy makers were ill-advised on potential of case-mix system
  - Influence by Clinicians comfortable with Fee-For-Service Payment Methods
- Limited Access to Casemix Tool
  - Casemix Groupers are mainly proprietary owned
  - Difficult to be customised for local need
  - Most casemix system is developed only for Acute diseases

DRGs vs CBGs

- Diagnosis Related Groups
  - Developed based on acute health conditions
  - Uses mainly dignosis and procedures in the classification system
  - Principle of iso-resource based on LOS and Cost.
  - Original version developed by Prof Robert Fetter and Jane Thompson in Yale University
  - First casemix that has been used as payment tool in the US Prospective Payment System (PPS) since 1983

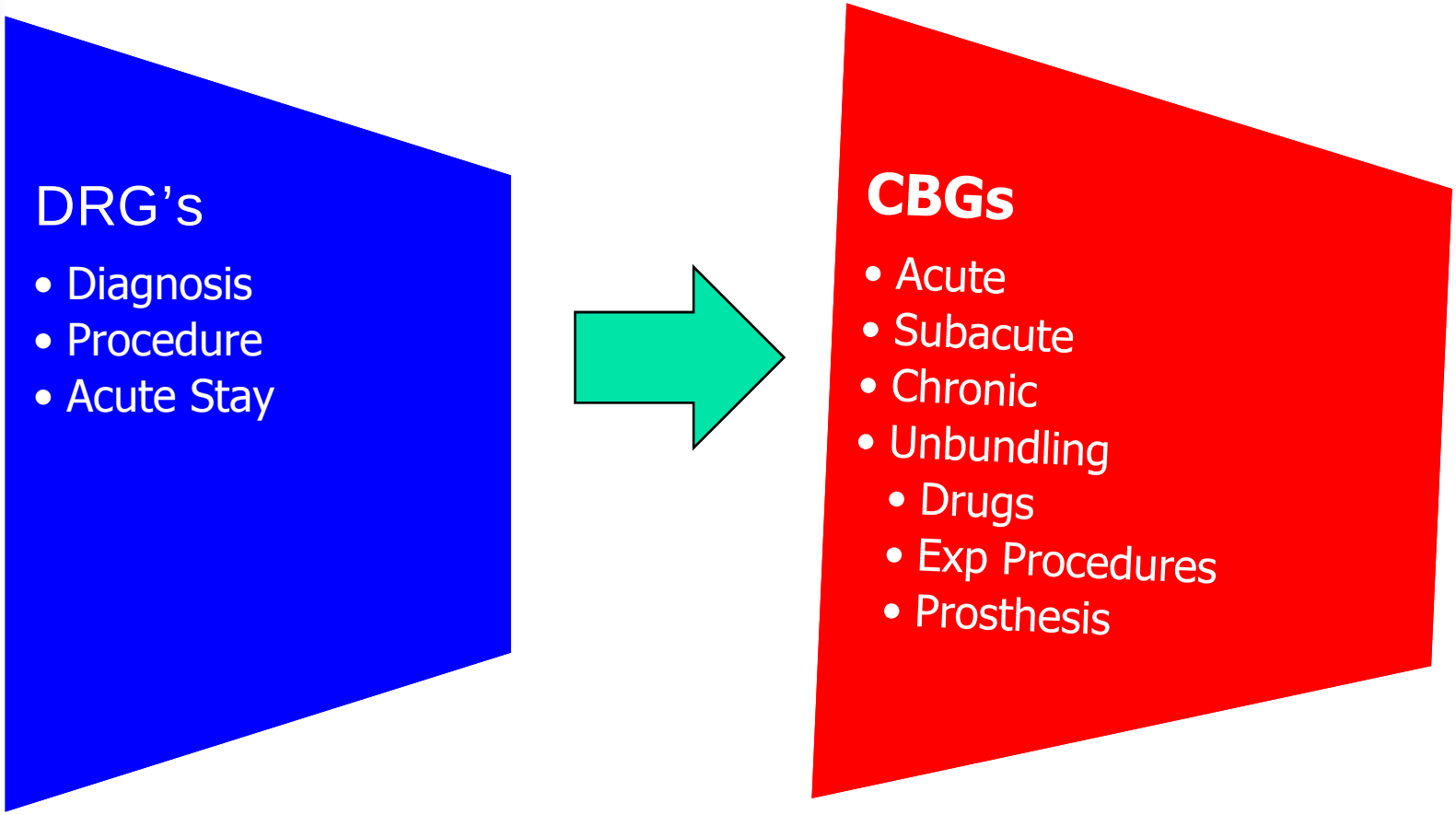
DRGs vs CBGs

- Case-Based Groups
  - Modified form of DRGs
  - Covering both acute and chronic conditions
  - Goes beyond Diagnosis and Procedures as cost drivers
  - Consists groups based on drugs, investigations, procedures

Why we need CBGs and Not DRGs?

- Package under DGRs is mainly based on diagnosis and procedure
- Diagnosis and procedures are not the only cost drivers.
- Drugs, Ix and Prosthesis are important cost drivers
- Top-up Payment is not allowed in DRGs causing financial risk to providers

From DRGs to CBGs



UNU Casemix Grouper

- An international grouper
- Priority to developing countries
- Packaged with capacity building programme
- Comes with accessory software
- Based on Open Source Concept
- Provided at low cost or free to poor countries

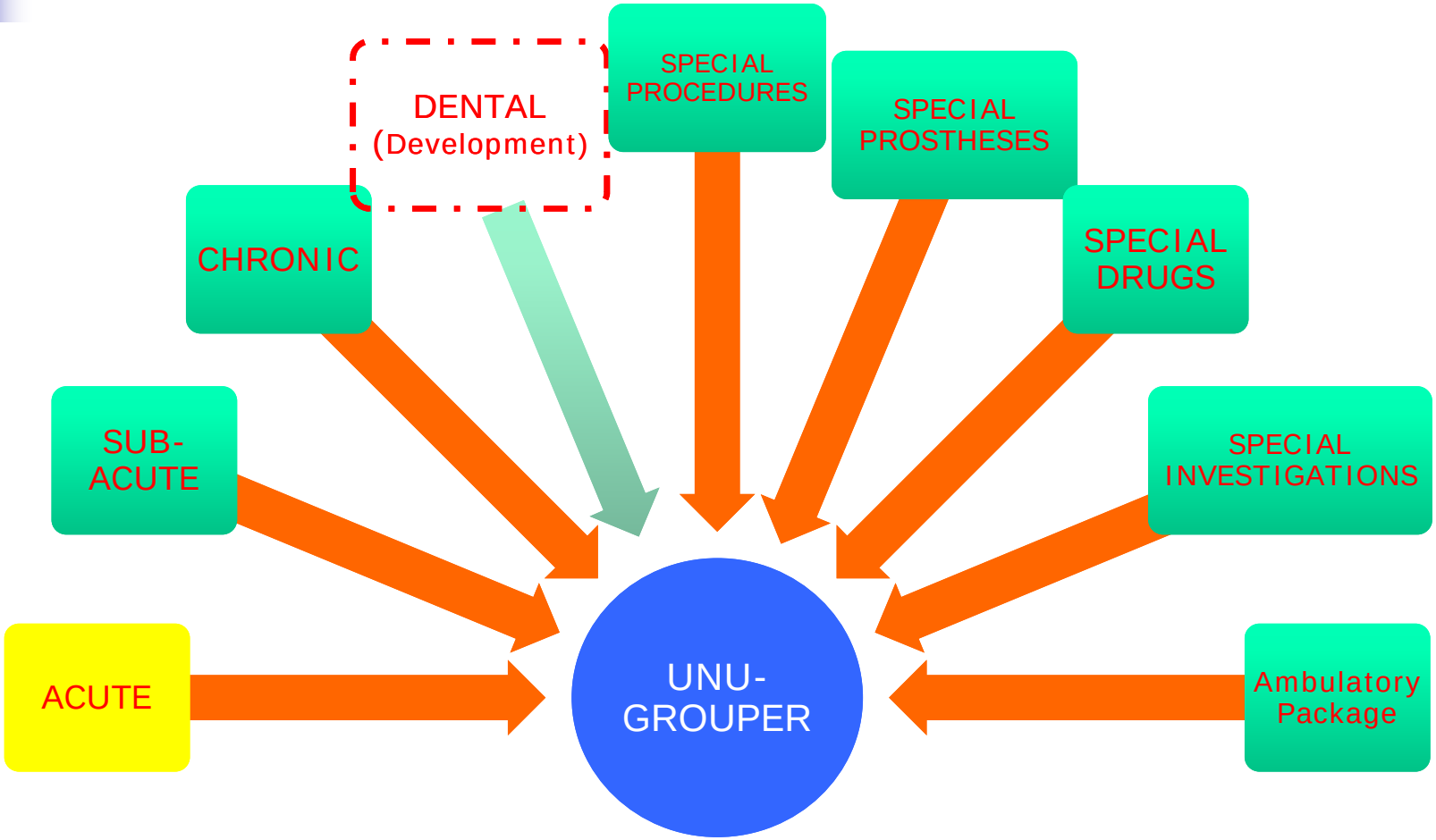
UNU-CBG: The New Casemix Grouper

- Grouper developed by researchers from United Nations University
  - UNU-International Institute For Global Health (Kuala Lumpur)
  - UNU-International Institute For Software Technology (Macau)
- Research and Collaboration
  - ITCC- International Training Centre on Case-Mix and Clinical Coding
  - MOH of Developing Countries
  - Asia Pacific Network of FIC
  - WHO-FIC (ICD-10 and Procedure Classifications)
- Owned and Maintained by United Nations University
- United Nations University
  - United Nations Agency
  - Non-for Profit and No Commercial Interest
  - Priority to support developing countries to achieve MDGs

What is UNU-CBG Grouper?

- Universal Grouper
  - Cover all types of patients care
    - Acute (In-patient/Outpatient)
    - Sub-Acute (Moderately complex cases)
    - Chronic Case (Long Stay Cases)
- Dynamic Grouper
  - Total number of CBGs can be set-according to need of the country
  - Severity level is not static
  - Depending on types of patient care
    - I to III
    - I to IV
    - I to IX
    - I to X
  - Very refined classifications
- Advance Grouper
  - Can be used with future changes in diagnosis and procedure classifications (ICD-11 and ICHI classifications

EIGHT COMPONENTS OF UNU-CASEMIX GROUPER (Plus Dental)



CASE-MIX MAIN GROUPS (CMGs)

- CMGs are the first level of classifications
- Labels in Alphabet (A to Z)
- Mostly equivalent to Chapters in ICD-10
- Correspond to Body Systems and Payment Package
- 32 CMGs in UNU Grouper
  - 22 Acute Care CMGs
  - 2 Ambulatory CMGs
  - 2 Subacute and Chronic CMGs
  - 5 Special CMGs
  - 1 Error CMGs
- Total CBGs/DRGs= 1,220 (Range: 314-1,350)

Case-Based Groups (CBGs)

- Second level of classification
- Organised in 5 alpha-numeric code
  - One letter and 4 numbers
- First Digit refers to CMG (Casemix Main Groups)
- Second Digit refer to Case-Type
- Third and Fourth Digit refer to specific DRG called CBG
- Fifth Digit refer to severity level and resource intensity level for specific package
- Consists of Medical/Surgical/Package Groups

UNU-IIGH Case-Mix Grouper 2.0: Classification System

- Most DRG system use only diagnosis & Procedures in the classifications
- UNU-IIGH CMG give wider options to use Diagnosis, Procedures, Drugs, Investigations and Prosthesis in the Classification

Advantage of Extending Classification beyond Dx and PX….

- Dx and Px are not the only cost drivers
  - Drugs, Ix and Prosthesis are important components determine cost
- Able to include series of ambulatory packages
- Cost weights will be more refined
- Move away of using very limited package determine only by severity level
  - Resource intensity is taken into consideration
- Tariff will reflect the actual resource use
- Tariff more likely to be accepted by providers

Conventional Casemix System

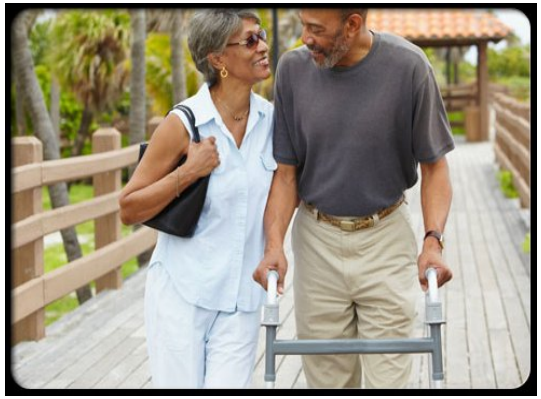
- Focus mainly on acute care
- Priority on inpatient care
- Episodes requiring extended hospital stays adequately cover
- Cost of sub-acute and chronic care not adequately covered
- Cost of expensive procedures, investigations, drugs, prostheses and ambulatory care package not adequately represented

The New Casemix System: UNU-CBG

- Sub-acute and chronic care are well defined
- Includes special groups such as:
  - Special Drugs
  - Special Investigation
  - Special Prosthesis
  - Special Procedures
  - Ambulatory Care Package
- With flexible levels of severity

Sub-acute & Non-Acute Care

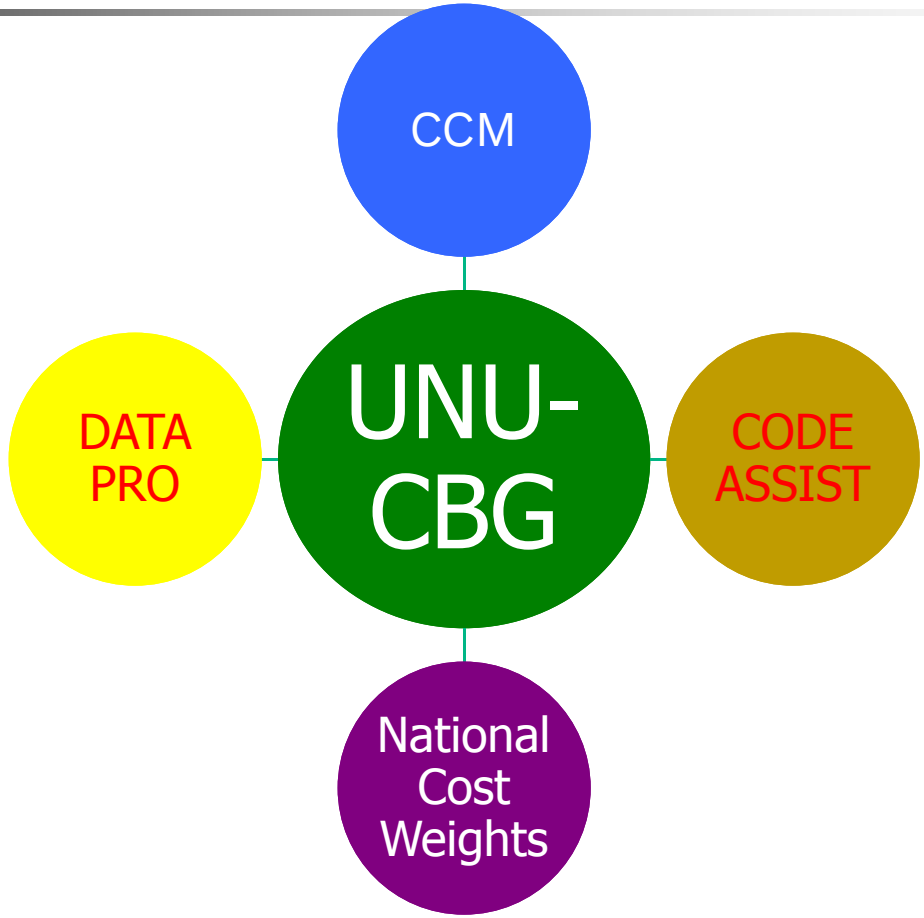
- Care provided after acute illness
  - Principal medical diagnosis (modified for factors such as age and procedures) is not adequate in explaining the need for, or the cost of, the services
- Predominant goal
  - Enhancement of a patient's quality of life
  - Improvement in his or her functional status.
- Examples of Services:
  - Rehabilitation (Physical & Mental)
  - palliative care
  - psychogeriatric care



UNU-IIGH Casemix System: SERVICES COVERED

- Hospital In-patient
- Day Care Surgery
- Specialist Clinic
- Emergency Room
- General Out-patient
- Rehabilitation
- Chemotheraphy and Radiotherapy
- Mental Health Services and Procedures
- Chronic cases
- Long Staying patients
- Specific Package Groups
  - Package Out Patient
  - Prostheses
  - Drugs
  - Procedures
  - Investigations

Components of UNU Casemix System

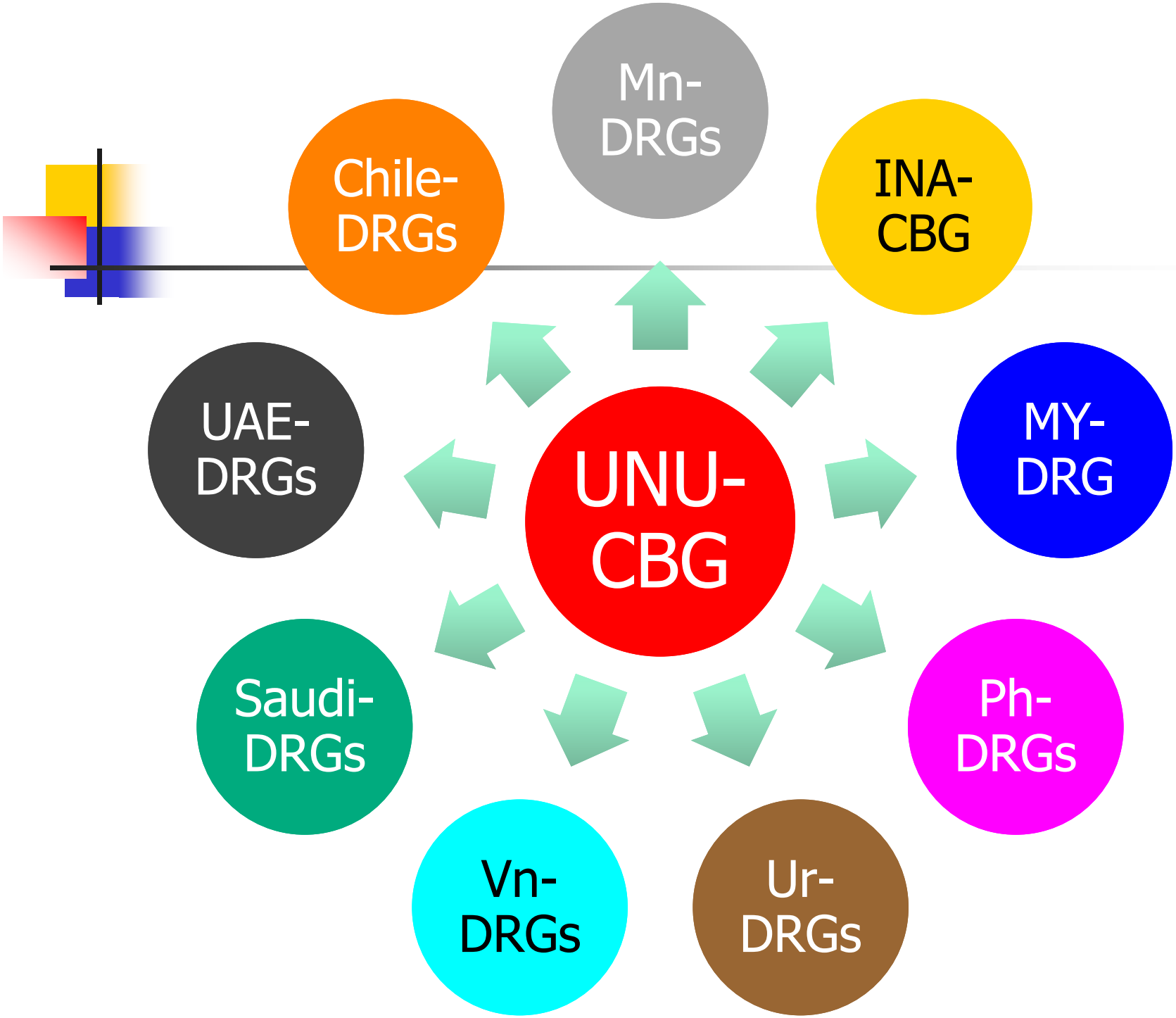


Softwares in Case-Mix System

- Digital Coding Tool
  - DataTool Pro- Assist to enhance productivity of Coders
  - UNU-Code Assist- Assist in Verifications of Casemix coding and grouping
- Case-Mix Grouper
  - UNU-CBG Grouper
- Costing Tool
  - CCM Version 2.0-UKM/UNU
  - Costing Template for Hospital Base-Rates
  - Costing Template for National Tariff

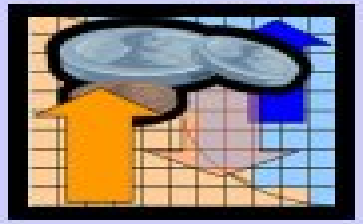
Countries working with UNU-IIGH/ITCC on Casemix

- Asia
  - Indonesia
  - Philippines
  - Mongolia
  - Vietnam
  - Malaysia
- Middle East
  - Yemen
  - United Arab Emirates
  - Saudi Arabia
  - I.R of Iran
- South America
  - Uruguay
  - Chile
- Africa
  - Ghana
  - Sudan
  - Tanzania
- Europe
  - Turkey


Mn-DRGs
Chile-DRGs
INA-CBG
UAE-DRGs
UNU-CBG
MY-DRG
Saudi-DRGs
Ph-DRGs
Vn-DRGs
Ur-DRGs

World Health Organization

HSS/HSF/DP.E.1/2012



DRG-based payment systems in low- and middle-income countries: Implementation experiences and challenges

by

Inke Mathauer and Friedrich Wittenbecher

DISCUSSION PAPER
NUMBER 1 - 2012

Department "Health Systems Financing" (HSF)
Cluster "Health Systems and Services" (HSS)

3.1. Countries with a nationwide established DRG-based payment system

Table 1: Health expenditure indicators for 2010

Countries[a]	*Country income classification as of 2009 (figures in brackets: since then)*	*GDP p.c. in US$ at exchange rate*	*Total expenditure on health (THE) as % of GDP*	*Total expenditure on health / capita in US$ at exchange rate*	*General govt expenditure on health (GGHE) as % of THE*	*GGHE as % of general govt expenditure*	*Social security funds as % of GGHE*	*Out of pocket expenditure as % of THE*	*Inpatient care expenditure as % of THE*[b]
AMRO									
Mexico	UM	9,547	6.3	603.7	48.9	12.1	55.4	47.1	n/a
EURO									
Croatia	HI (2008)	13,739	7.8	1,066.7	84.9	17.7	91.0	14.5	34.5
Estonia	HI (2006)	14,146	6.0	853.3	78.7	11.7	91.2	19.6	25.8
Hungary	HI (2007)	12,863	7.3	942.3	69.4	10.3	84.3	24.0	22.1
Kyrgyzstan	LI	865	6.2	53.5	56.2	10.7	67.3	37.8	32.4
Macedonia	UM	4,470	7.1	316.9	63.8	12.9	91.7	35.9	n/a
Poland	HI (2009)	12,292	7.5	917.1	72.6	11.9	83.7	22.1	28.8
Romania	UM	7,673	5.6	427.9	78.1	10.8	80.7	21.5	36
Turkey	UM	10,060	6.7	678.1	75.2	12.8	60.1	16.0	n/a
EMRO									
Tunisia	LM	3,832	6.2	237.8	54.3	10.7	48.4	39.8	n/a
SEARO									
Indonesia	LM	2,946	2.6	76.9	49.1	7.8	13.9	38.3	n/a
Thailand	LM	4,614	3.9	179.1	75.0	12.7	10.1	13.9	31.1
WPRO									
Mongolia	LM	2,207	5.4	120.1	55.1	8.0	41.4	41.4	n/a

Source: WB 2011 and WHO 2012

Matheur and Wittenbecher ; WHO, (2012)

Success Factors in Casemix Payment

- Mandatory applications to widest range of providers
- Purchaser Capacity
- Regulation on Balance Billing
- Involvement of private providers
- Piloting and Incremental Approach
- Expenditure ceilings
- Tools for Providers and Patient Acceptance

Adapted from: Matheur and Wittenbecher (2012)

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Case-Mix Online

Universiti Kebangsaan Malaysia
International CaseMix and Clinical Coding Centre

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Main Menu

Site news

Case-Mix Online is designed specifically to provide initial and preparatory knowledge for development and implementation the Case-Mix system. This Online course is an effort by UNU International Institute of Global Health to support the use of Case-Mix system as a tool to improve efficiency and quality of care. The online component of this training programme will give trainees and participants background information on the Case-Mix system in order to prepare them for more advance Case-Mix training. However, it is designed to provide solid exposure on the Case-Mix

Module 1 Registration

The registration for Module 1: Introduction to Case-Mix for the third batch of students is now opened. This batch is due to begin class by the 6th of September 2010.
Registration Form

About UNU-IIGH

UNU-IIGH is a Research and Training Centre of United Nations University inaugurated by the UN Secretary General in April 2006 as an in-house community of scholars mandated to conduct research on issues that address the challenges of global health which are of concern to the United Nations and its Member States — particularly the developing countries. The institute's UNU-IIGH research and capacity building themes include: accessibility, efficiency and quality of service delivery of health care systems; newly emerging and re-emerging diseases; non-communicable diseases and control policy; information technology in health; climate change and health and impact of globalisation on health.

For Enquiries: Prof Dr Syed Aljunid

Site news

(No news has been posted yet)


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CaseMix ▶ Introduction
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Lesson 1: Case-Mix: An Introduction
Lesson 2: Implementation of Case-Mix in Developing Countries
Lesson 3: Procedure Coding in Case-Mix
Lesson 4: Data Requirements in Case-Mix
Lesson 5: Diagnosis Coding in Case-Mix
Lesson 6: Role Clinical Pathways in Case-Mix
Lesson 7: Clinical Coding in Case-Mix
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Advanced search
Administration
Turn editing on
Settings
Assign roles
Grades

UNU-IIGH Certificate Course in Casemix Management

- Module 1
  - Orientation and Introduction to Case-Mix
- Module 2
  - Coding of diagnosis and procedures
- Module 3
  - Installation and Maintenance of Case-mix Sofware
- Module 4
  - Case-Mix Costing
- Module 5
  - Development of Clinical Pathways
- Module 6
  - Coded Data Analysis
- Module 7
  - Costing Data Analysis
- Module 8
  - Analysis of Clinical Pathway data
- Module 9
  - Development of Case-Mix Index and Cost-Weights
- Module 10
  - Preparation for National Roll-out

Conclusion

- Universal coverage is the ultimate goal of health system in most countries now including Indonesia
- Achievement and sustainability of UC depends on resilient, robust and efficient health financing system
- Casemix system can help countries to achieve UC thorugh enhancement in efficiency and quality of care
- Moving away from conventional DRG to CBG is the way forward to reduce financial risk of hospitals and providers to achieve UC
- UNU-CBG/INA-CBG is a special casemix system developed by taking into account the healthcare system of developing countries

Thank You

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