Evaluating and Selecting Health Indicators in PNG: A Theoretical Insight

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Introduction

A healthy and sustainable livelihood is a high priority for many developing countries and governments alike and Papua New Guinea (PNG) is no exception. These are central to policies regarding social, economic, environment, political and governance issues and of this health features prominently as an area of high priority and concern for many governments especially in recent times amidst threats of climate change and more recently COVID-19.

Problem/Challenge

PNG's health status as a developing nation has *not fared well* over the years since 1975. Health indicators regarding the quality of health services and health delivery mechanisms have *deteriorated rapidly* over the years as indicated by various health indicators and furthermore, health systems and functions and service delivery have not operated satisfactorily as expected (NSO, 2018; NDoH, 2010; DNPM, 2018*).*

Research Problem

- Overall decline in GoPNG expenditure on health is well below international averages
- Development Partners expenditure is declining
- Year to year, GoPNG and DP expenditure on expenditure show significant fluctuations (NHP2A 2021-2030: p33-35)

GoPNG Budget:

- 2021-2030 NHP – K 2.8 billion allocated to health – consist of 11.2% of the 2022 national budget, a 39% increase on budgeted expenditure from the previous year – and the highest to date since 1975

Collaborative Research: NRI and UPNG on Health Indicators

Scope

- Examine indicators used in health and related documentations and propose 4 -10 high level indicators of performance
- Articulate input and output activities required to influence these performance indicators which can be measureable at the sub-national levels
- Select health indicators
- List of sources

Purpose

- Improve health indicators and HSD outcomes
- Create more understanding on the relationship between health system, HSD and health outcomes (input, process, outcome, impact indicators)
- HSD that can be evaluated/assessed throughout time to measure selected key health indicators

Aim

- To evaluate and select relevant key health indicators in PNG to improve health service delivery (HSD) in PNG particularly at sub-national levels

Objectives

- To review existing health policies, plans, strategies, related literature and health-related data bases
- To identify existing health indicators at the national and sub-national levels under the systematic guidelines and group them
- To group key health indicators in order of importance and their relevance, importance and impact as perceived by key stakeholders in a workshop
- To select 4-10 key health indicators

Methods for Study

- Desktop Review
- Consultation with stakeholders
- Stakeholders workshop
  - *The Delphi survey* - group facilitation technique
  - *Relevant Consensus Method* - application of relevant consensus method on expert groups on the use of indicators and the producers of these indicators such as NSO, NDOH and other key users.

Limitations

- Due to covid-19 restrictions, we could not arrange for stakeholder interviews/consultations
- As a result, no workshop could be organised
- Difficult with covid-conditions and restrictions heightened around this time
- Adding to this, we could not get copy of the current health policy (2021-2030)
- As a result, the idea of a *theoretical insight emerged* on what we could do with literature review material and information we had already collected at that time

Expected Outcomes

- Develop relevant guidelines developed for selecting key indicators to measure basic health services at the national and sub-national levels to address service delivery in health
- Identify key indicators to address-the KRA in the Health Plan 2021-2030 are simplified for measuring basic health services
- Identify key data sources that can be used to access health information and find effective ways of accessing this information (MEL & NHIS)
- Recommend a regulatory framework for improving the health system and health service delivery in PNG

Background: In General

- Population about 9.2 million by 2030 12 million
- Growth rate about 2.7 % p/y
- Rural dwellers (about 75%)

Some positive results:

- people living longer now (life expectancy)
- children better nourished
- birth rates slightly dropped

Overall, not remarkable but significant improvements have occurred as variations between provinces, district and LLGs and accessibility and communication make analysis and assessment challenging for different reasons

Health Situation in PNG

- Early childhood mortality decreased from 159 per 1000 in 1967 to 49 in 2018 (however of the 313, 000 births in 2020 over 15,000 will die before their 5th birthday
- MMR has declined from 133 in 2006 to 171 per 100, 000 in 2016-2018 (however still means that everyday one woman in PNG dies from birth complications)
- Non-communicable diseases (NCD) – account for most deaths
- Infectious disease remain major cause of death (21.3%)with increased malaria, especially to children under 5 years(8.8%)
- HIV rates stable (0.83%) however increasing drug resistance at 18.4%
- There are 27,000 new cases of TB each year (with 3.4% of new cases with multiple drug resistance)
- Proportion of deaths from injuries (19.1%) I more than double global estimates (8%)

Source: NHP, 2021-2030: 12

Background: NHPs - Focus on NHP 2011-2020 & 2021-2030:

- Since independence in 1975
- The past NHPs from 1977-1996 were based on short and medium term plans (time frame of 3 years or less)
- 2001-2010 NHP first long-term plan (10 year period)
- 2011-2020 NHP – designed to implement govt's priorities and reforms – achieve overall goals of Vision 2050
- Based on a ***'back-to-the-basics'*** approach – focus on PHC and *improved service delivery* for *rural majority* and *urban disadvantaged*
- *2021-2030 NHP – follow on from 2011-2020 NHP based on the philosophy of* ***"leaving no-one behind is everyone's business"***

NHP 2011-2020

- 8 main Key Result Areas (KRAs)
- 34 objectives
- 129 strategies

NHP 2011-2020: KRAs

No.	KRAs	No. of Objectives
1	**Improve Service Delivery**	4
2	**Strengthen Partnership and Coordination with Stakeholders**	4
3	**Strengthen Health Systems and Governance**	6
4	**Improve Child Survival**	4
5	**Improve Maternal Health**	4
6	**Reduce Burden of Communicable Diseases**	4
7	**Promote Healthy Lifestyles**	4
8	**Improve Preparedness for Disease Outbreaks and Emerging Population Health Issues**	4
	Total	**34**

NHP 2011-2030

- Process of developing plan (consultation with stakeholders – situational analysis- identify (priority areas and challenges)
- Divided into 2 volumes

  1a – outlines policies and key implementation directions

  1b – key program interventions

  2a – outlines key health status and disease burden (based on situational analysis of previous NHP)

  2b – provides profile of health diseases and health status of districts and provinces

  Analysis – identified key drivers for the NHP with the overall goal of *"leaving no-one behind is everyone's business"*

5 KRAs:

No.	KRAs	No. of Objectives	No. of Strategies
1	Healthier communities through Effective Engagement	3	8
2	Working together in Partnership	2	9
3	Increase access to Quality and Affordable Health Services	3	14
4	Address Disease Burdens and Target health Priorities	7	26
5	Strengthen Health Systems	7	36
	Total	**22**	**93**

Focus

- *Theoretical* insight
- *Health Service Delivery* (HSD) to make changes to the overall Health System
- Last NHP 20211-2020 HSD – was *KRA 1*
- Now – it does not appear as a KRA
- Use this as an *implementation tool* but also use it a *process indicator* to measure the links of *Input* to Output – so that we can be able to measure as well as understand what the loopholes /constraints are in the overall health system
- Then changes can be made in the planning, evaluation and monitoring processes to improve or identify change

Theoretical Insight: HSD Agenda

- HSD – is a *process* mechanism that connects *input*–to-*output*-stage and identifies the *impact* indicators at each stage of a system(health system)- *implementation process*
- *Implementation* is key to turning polices or plans into reality
- In order to effectively coordinate HSD
- Must understand *theoretical* basis of people's behaviour and action and choice before effective measures are taken to reach desired outcome of a policy/plan

Literature: Global

Studies on HSD complex and different (1980s-2000s)

Developing countries – multisectoral/intersectoral linkages or approaches

- State was the main provider for health services (good governance issues – budget, management etc)
- State, other agencies & donors
- Basic health facilities in rural hospitals and daily practices – cultural impediments Community-based approach and traditional medicine

(Ejumundo, 2013) (Mookelsane & Phirinyane, 2015)

(Streefland, 2008)

Literature: PNG

- Campo-Outcalt (1989) - economic productivity – health outcome reflection of economic devt rather than on other means
- Lieberman & Haywood (1995) - admin and quality of services lacking and ageing workforce (Connell, 1997)
- Connell (1997) - argued that budget concentrated to urban areas
- McKay and Lepani (2010) – inclusion of cultural factors in health system affect health outcomes
- McNee (2012) - Top-down planning and partnership
- Asante & Hall (2013) - State neglected health investment incentives and provided inadequate funding
- Howes (2014) weakness in management and us of funds, health financing and lack of accountability
- Kulumba (2019) – user-side of health system – women usage

Common Trend

- *Selective* dependent (on budget) to *comprehensive* –multisectoral/intersectoral
- *Economic-centred* to *more holistic* (other influences affecting health outcome and HSD)
- Operate on several *dichotomies*
  - Policies and practices (disease-focussed & treatment)
  - Health Care services are selective rather an comprehensive

HSD Dichotomies and Global Influence

- Preventive Care Vs Health Care
- Biomedical Vs Social Science
- Formal Biomedical Vs Informal Traditional Medicine
- Economic-based Ideologies Vs Community or Cultural-based Ideologies
- In developing countries – curative & preventive with selective and comprehensive models are applicable initiated and governments, private sector and donors(mostly macroeconomic approach funding and global priorities and policies or industrialised countries)
- Budget matters – here
- Which approach suitable for PNG? Achieved through suitable reforms, policies, etc - at which level applicable etc?

Strategies & Legislations

Level	Strategies	Purpose
National	World Bank 1980s National Health Administrative Act – 1997 National Planning Act – 2016 Public Finance Management Act - 1995	Stagnation in economic growth – needed reform – HSD to reach rural people Deliver and coordinate health services as required by legislation (NDoH) - NHPs Guidance for all sectors to align to Vision 2050, MTDP, PNGDSP, SDGs Proper and effective planning and budgeting – budgeting
Provincial	Provincial Health Authority Act – 2007 (OLPLLG)	PHA to liaise with NDoH and others for effective health service delivery – PHB administrative power (reforms, planning, implementation, coordination) of health services
District	District Development Authority – 2007 (OLPLLG	DDA to work with PHA to deliver health services – work with PHA /coordination
LLG	LLG – 2007 (OLPLLG) Source: NHP 2021-2030	LLG office to work with DDA and PHA to deliver health services - work with DDA/coordination

Alignment Inter-Sectoral Policies and NHP 2030

No.	National Policy	NHO KRAs
1	National Population Policy 2015-2024	KRAs: 1.2, 3.4
2	National Nutrition Policy 2016-2026	KRAs: 1.2, 3.4
3	Water, Sanitation and Hygiene Policy 2015-2030	KRAs: 1.2, 3.4
4	Gender Equity and Social Inclusion Policy	KRAs: 1.2, 3.4, 5

Source: NHP 2021-2030: 9

Constraints and Challenges

- Weak management and leadership at provincial and district levels (Asnate and Hall, 2011)
- Many provinces and districts lack the necessary capacity and resources for their health plans. Thomas and Kase (2009)
- Inadequate numbers of health personnel in rural areas
- Management disconnections between NDoH and the Provincial and District Health Administrations
- NDOH has little control over planning, budgetary and staffing decisions that affect the implementation of national health policies in the provinces and they come under the functions of the Provincial and District Administration
- Lack of supportive supervision of the Health Program Managers in the Districts
- Improve implementation of the current NHP 2021-2030 so that positive impacts can be made toward achieving Health Vision 2050

Implementation

- Literature shows that the implementation policies and plans depend on the success factors or enablers for successful planning and implementation

(Burke, Morris and McGarrigle, 2012: Ambang, 2015: 113)

Success Factors: Enablers (Ambang, 2015: 113)

- Implementation plan at organizational level
- Risk assessment
- Alignment of organizational goal with development priorities
- Political leadership and commitment
- Communication
- External stakeholder and partnerships
- Developing staff capacity – training and ongoing coaching
- Provision of resources
- Supportive organizational structures and management systems
- Planning and implementation coordination committee
- Supportive organizational culture
- Effective and efficient monitoring and evaluation process

Effective Service Monitoring System

Monitoring , Evaluation & Learning Framework (MEL)

- Routine facility reporting heath system – *monitoring* –HMIS
- Health facility reporting system – *reporting* – facility census or survey

- Main methods of Collecting Data on Service Delivery
  - Health facility assessments
  - Facility census
    - Facility surveys

Indicator List of Sector Performance Assessment: 31 Sector Indicators

- 6 *input* indicators
- 6 *process* indicators
- 19 *outcome* indicators
- Used by provinces to measure and monitor progress of health outcome
- Rank provinces for heath status and quality

Source: NDoH, 2020, SPAR: 1

Selected Key Health Indicators

- 11 selected indictors – Comprehensive approach – of the 11 indicators 4 are *input* indicators, 4 are *process* indicators, 3 *output* indicators
- (was to be presented at consultation workshop – for discussion – did not eventuate)

Selection of Indicators: 10 sector indicators

Indicator	2010	2015	2016	2017	2018	2019
22. Aid posts open (%)	70				58	49
20. Visit from at least one supervisory staff from district or provincial management staff (%)	56	48	56	52	53	62
26. Equipped with functioning radio & telephone (%)	84		51	35	42	44
25. Have running water in delivery room (%)	41				48	49
27. Period in year without a stock-out of selected essential medical supplies* (%)	46	55	52	44	51	53
10. Births attended by skilled personnel at health facilities (%)	43	38	36	34	32	36
11. Pregnant women who attended at least one antenatal visit (%)	62	54	51	49	47	51
8. Average number of rural outreach program per 1 000 children under 5 years in all provinces	25	34	28	28	31	31
21. Average number of outpatients visits to health centres and hospitals per person per year	1.59	1.20	1.24	1.12	1.17	1.14
29. Number of health workers per 10, 000 population (stratified by cadre)						
	2010	2011	2012	2013	2014	2015
19. Provincial health expenditure as a proportion to the estimated minimum health expenditure required (%)	80.5		64	68.6	77	81
• Minimum cost of rural service delivery			111.2	132.3	143.4	123.0
• Expenditure as a % of min cost for rural health			58	52	54	66

SDI Initiative

- The SDI initiative is an African-wide program that collects facility-based data from schools and health facilities. The perspective has adopted is that of citizens accessing a service
- The SDI adopted in redesigning a service delivery model is one based on the African model with modifications made to suit the PNG conditions.
- The overall objective of the SDI is to gauge the quality of service delivery in basic health services in the country mainly at the provincial and district levels.
- (was to be presented at workshop –discuss- did not eventuate)

HSD Monitroing System for PNG

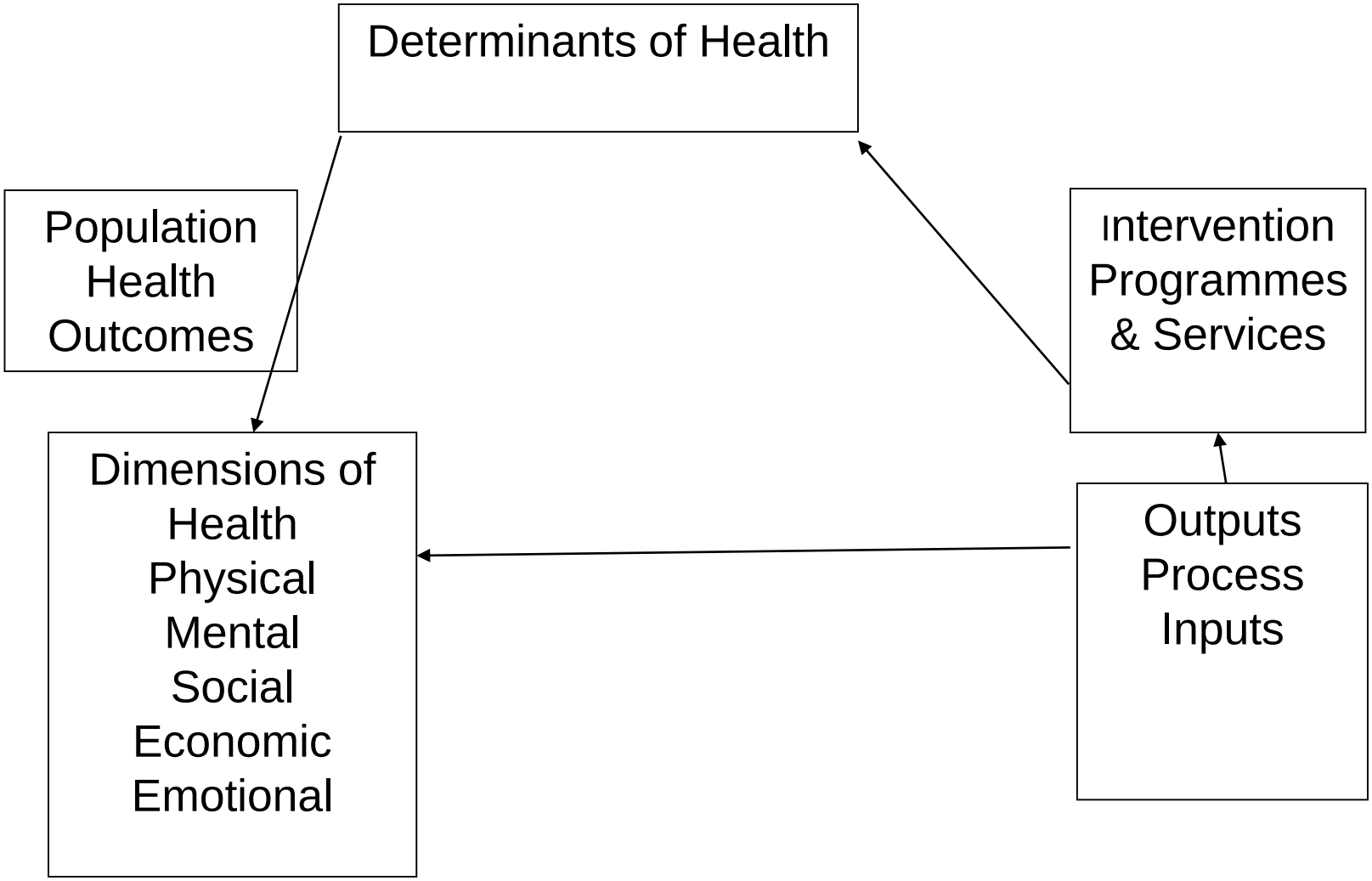
Indicators	Provincial	District	LLG	Community
What providers know? (ability)				
1. Diagnostic Accuracy				
2. Adherence to clinical guidelines				
3. Management of maternal/neonatal complications				
What providers do? (effort)				
4. Caseload				
5. Absence from facility				
What providers have to work with? (availability of inputs)				
6. Drug availability				
7. Equipment availability				
8. Infrastructure availability				

Source: World Bank, 2013: 4

Re-designing a HSD Model for PNG: An Integrated Approach

- Based on 6 principles - *safe, effective, timely patient–centred, efficient and equitable* (World Bank, 2013: 4)
- Multi-sectoral & intersectoral
- Curative & preventive
- Selective & comprehensive
- (was to be presented at workshop –discuss - did not eventuate)

(Source: Adapted from Sansoni, 2016)


Determinants of Health
Population Health Outcomes
Intervention Programmes & Services
Dimensions of Health
Physical
Mental
Social
Economic
Emotional
Outputs
Process
Inputs

Conclusion & Recommendations

- 10 health system indicators + 8 HSD indicators = Health Outcome
- HSD – can be used as an *implementation tool* and *HSD indicator* together with the *10 Key sectoral indicators* to influence health outcomes in the PNG health system
- May bring changes to the 5 KRAs – and
- Add to the few positive changes in the health and development status of the country as we move towards 2050 (and beyond) to become a healthy-wealthy society

Acknowledgements

- Dr Esther Lavu and NRI for allowing us to be part of this research team
- My colleague Mrs Lina Bade

THANK YOU EVERY ONE FOR LISTENING