



Assessment of Capability and Readiness of Philippine Hospitals to Provide High Quality Health Care

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Outline

- ✓ Introduction
- ✓ Objectives
- ✓ Methods
- ✓ Key Results
- ✓ Conclusions and recommendations
- ✓ Key findings of the relevant study: *“An Assessment of the Quality of Inpatient Meals and Nutrition and Dietetics Processes in Select Public Hospitals in the Philippines”*

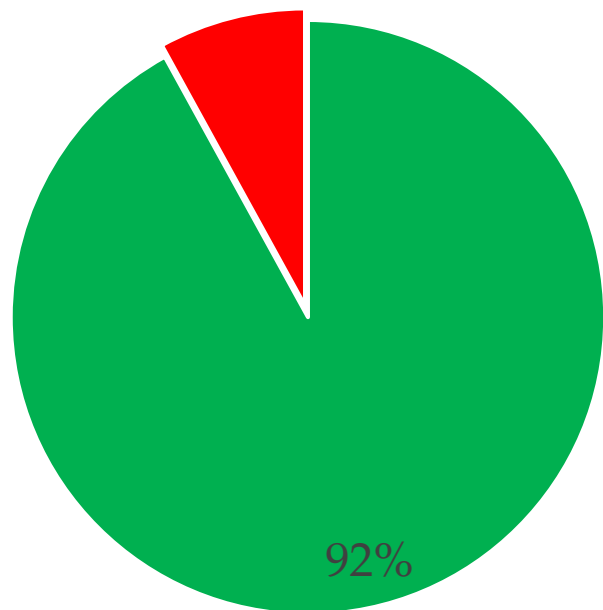
What is quality?



- Ability of health services provided to populations **improve and achieve desired health outcomes**
- Health outcomes will not improve if:
 - *Care is Ineffective* - without clinical quality, evidence-based intervention, or alignment with standards
 - *Patients do not utilize care* that they *perceive* care to be of poor quality

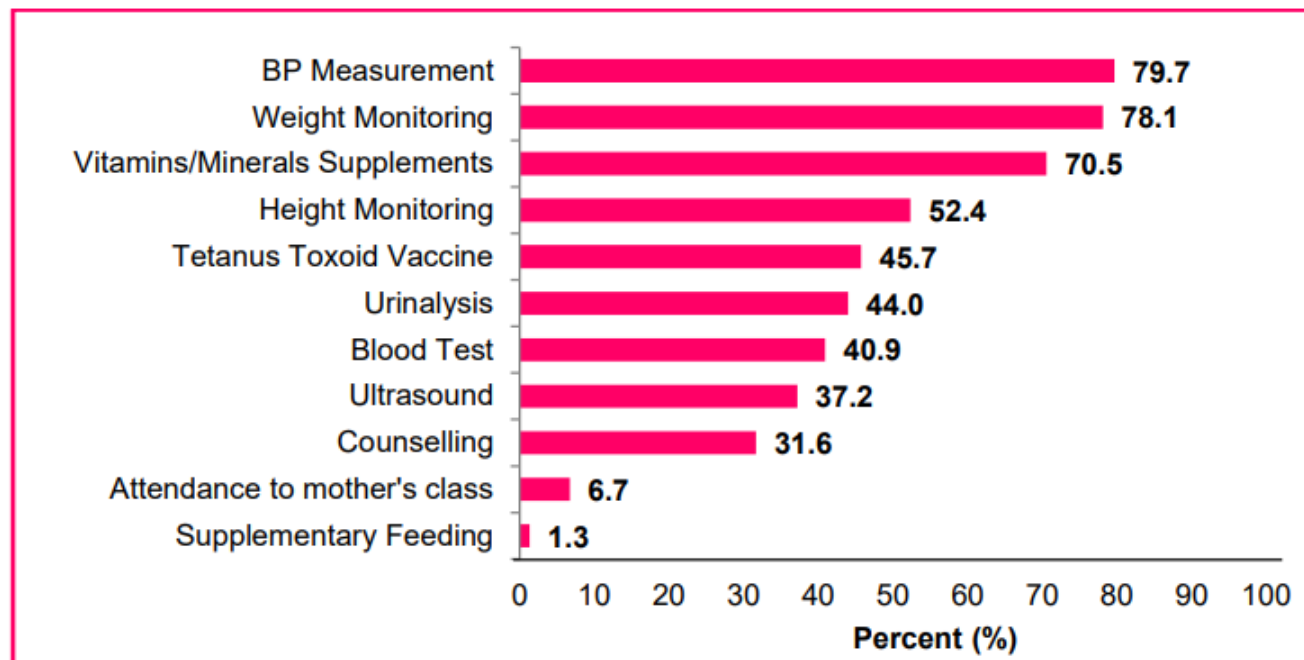
Quantity vs. Quality: Almost all health system performance indicators are about access

Prenatal check-up



- at least 4 prenatal visits
- less than 4 visits

But, what services are they receiving?



The modest improvement in health outcomes could be attributed to poor quality of care?

QUANTITY vs. QUALITY: Majority of interventions/programs focused on **health system inputs, coverage and access** to care



Health Facilities and Enhancement Program. Building more health facilities to improve access to essential healthcare services.



Human Resources for Health Deployment Program. Augmentation of the shortage of health workforce in far-flung areas/LGUs in need.













Expansion of PhilHealth Benefit Packages. Improve provide health care coverage and financial protection to Filipinos

Why focus on quality?

- Income growth
- UHC Act
- Compliance and value-based financing
 - Financing levers; less regulatory

Example Countries: USA CMS - Hospital Value-based Purchasing

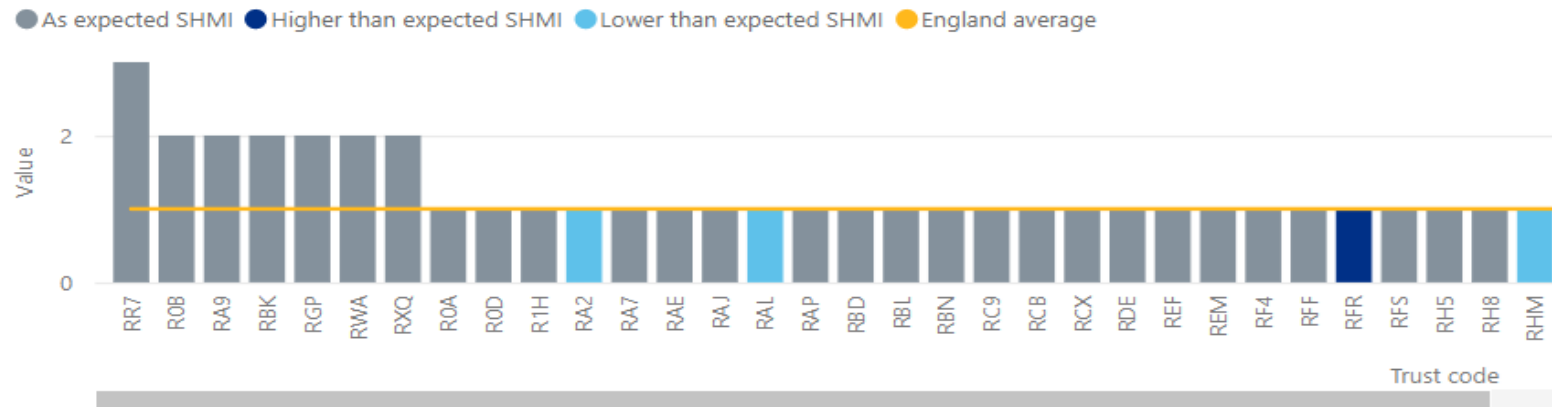
	Compliance-Based Payments	Penalty-Based Reductions			Incentive-Based Payments
WHAT	 Inpatient Quality Reporting	 Hospital-Acquired Conditions (HACs)	 Readmissions	 Value-Based Purchasing (VBP)	
HOW	 Hospitals that submit data are eligible for Medicare's annual payment update (APU).	 Lowest quartile of hospitals who fail to avoid preventable conditions (e.g., infections) receive a penalty.	 Hospitals with excess readmissions are penalized.	 Low-performing hospitals subject to reductions.	 High-performing hospitals eligible to earn money.
FINANCIAL IMPACT	 1/4 of APU increase reduction	1% reduction	Up to 3% reduction	Up to 2% reduction	Earn up to 2+%

Example Countries:

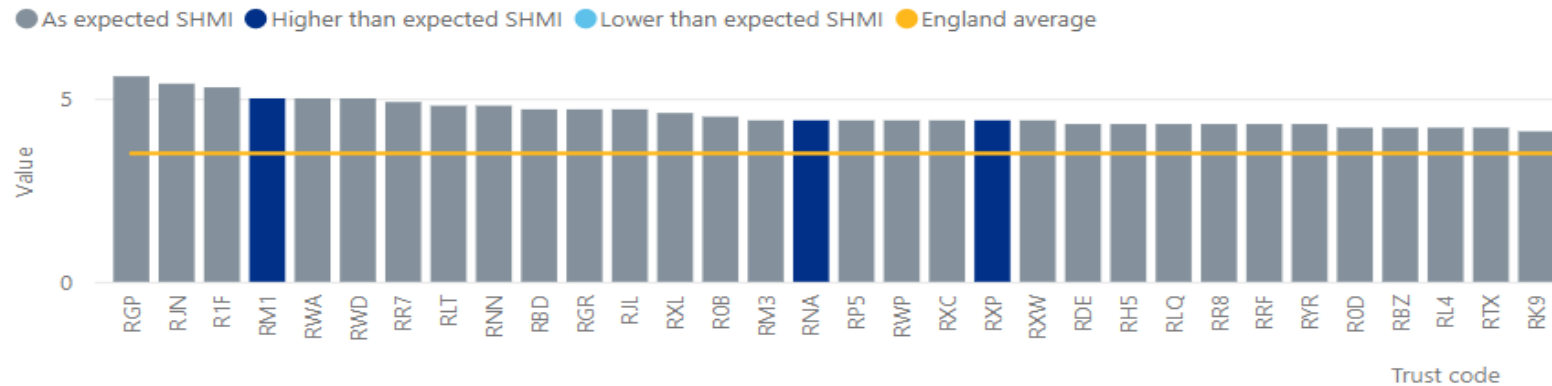
UK-NHS: Hospital-level Mortality

- **Time:** Dec 2019 - Nov 2020
- **NHS Hospitals:** 124
- **Discharges:** ~7.9million
- **Deaths after 30 days:** 256,000
- **Higher than expected number of deaths (9 hospitals) for further investigation on quality of care**

Crude percentage mortality rate for elective admissions



Crude percentage mortality rate for non-elective admissions



Policies on healthcare quality

- **Governance and regulatory - passive; compliance**
 - Licensing and accreditation for compliance only
 - Not link to incentives (active)
 - Seldom use for internal processes and management decisions
- **Measurements: Structure-based; less interactions, process, and outcome**

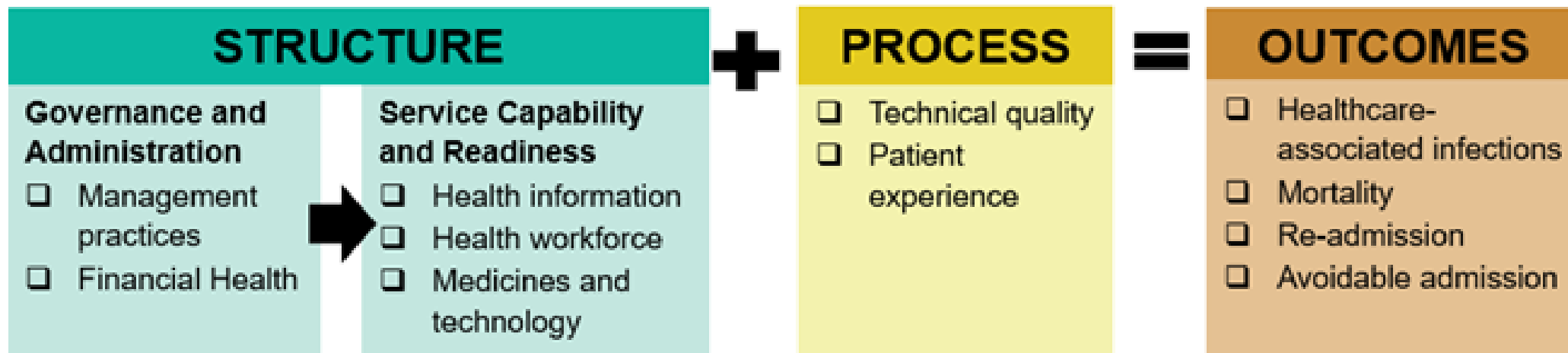
Majority of the hospitals have basic accreditation from PhilHealth (90%); less than 18% were accredited by external evaluation

Variable, n (%)	All Hospitals n=469	National n=49	LGU-owned n=121	Private n=299
International Organization for Standardization (ISO)	75 (18)	42 (95)	11 (10)	22 (8)
Philippine Council on Accreditation of Healthcare Organizations (PCAHO)	19 (5)	3 (7)	5 (5)	11 (4)
Any other international accreditations	20 (5)	7 (16)	2 (2)	11 (4)
PhilHealth Accreditation				
None	3 (1)	1 (2)	0 (0)	2 (1)
Basic	383 (90)	30 (68)	105 (96)	248 (92)
Advanced*	38 (9)	13 (30)	4 (4)	21 (8)

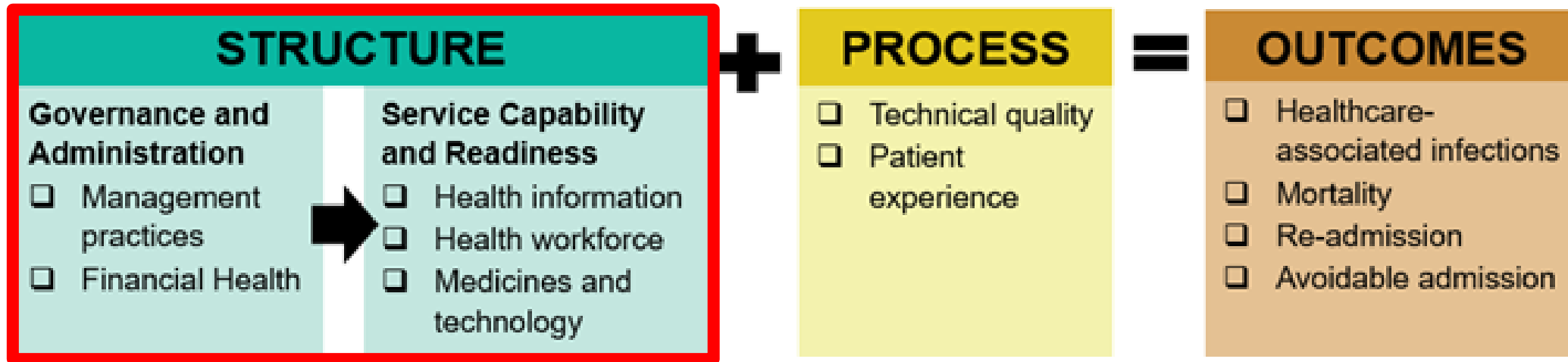
*Involves site visits and passing another set of quality indicators

Components of Quality

- **Structures** - *service readiness or minimum inputs* necessary for a healthcare facility to function
- **Processes** - *content of and manner* the care is delivered and whether it is aligned to technical guidelines or conducive to creating positive patient experiences
- **Outcomes** - patient satisfaction with care and improvements in health



Study Objectives



General Objective: To assess whether hospitals in the Philippines have the necessary structures and inputs that facilitate high quality health care services.

Specifically, this study aims to:

- Describe the management practices of hospitals in the Philippines
- Describe the service capability and readiness of Philippine hospitals to provide general health services in the following domains: health information system (HIS), health workforce, and medicine, equipment, and technology

Methodology

- **Health facility questionnaire rolled out by the DOH with PIDS to licensed hospitals (469 out of 1,300)**
- **The questionnaire asked about:**
 - **Management:** maturity of managerial practices for operations (adapted from the World Management Survey)
 - **Human resources for health:** filled positions, contractual staff, continuous education, turnover
 - **Basic infrastructure:** electricity, water, sanitation, ambulances/emergency vehicles, forms of communication
 - **Technology and Medicines:** functional equipment, laboratory, 16 essential medicines
 - **Health information systems:** use of electronic medical records, internet
 - **Health outcomes:** presence of quality assurance activities, monitoring of specific quality indicators (e.g., surgery-related mortality, preventable admissions, readmission)

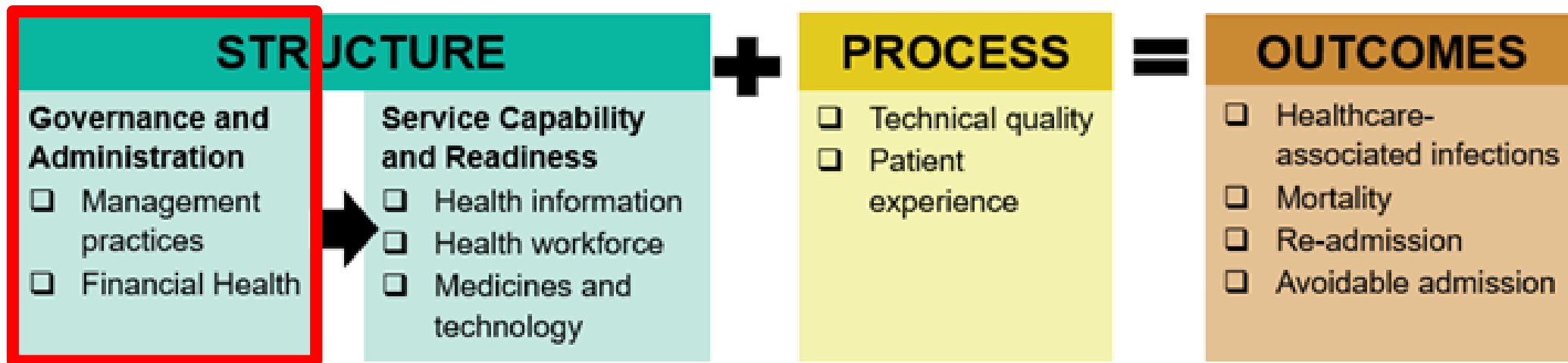
Variable, n (%)	All Hospitals n=469	National n=49	LGU-owned n=121	Private n=299
Bed capacity, median IQR)	55 (30-100)	300 (150-460)	50 (25-75)	60 (30-100)
Ownership				
Public (National)	49 (10)			
Public (LGU-owned)	121 (26)			
Private	299 (64)			
Functional Capacity, n (%)				
Level 1	261 (56)	13 (27)	110 (91)	138 (46)
Level 2	147 (31)	6 (12)	8 (7)	133 (44)
Level 3	61 (13)	30 (61)	3 (2)	28 (9)
Location, n (%)				
National Capital Region	38 (8)	11 (22)	3 (2)	24 (8)
Luzon	261 (56)	18 (37)	69 (57)	174 (58)
Visayas	73 (16)	10 (20)	24 (20)	39 (13)
Mindanao	97 (21)	10 (20)	25 (21)	62 (21)

Includes one (1) infirmary and one (1) custodial psychiatric care facility.

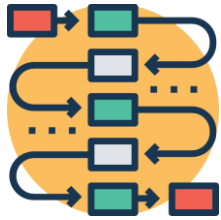
Sample is mostly:

- Small (median: 55, IQR: 30-100)
 - Largest are national hospitals (median 300, IQR 150-460)
- Private hospitals (64%)
- Level 1 hospitals (56%)
- From areas outside of NCR (Luzon)

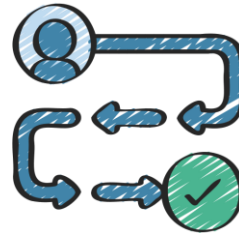
**36% of the targeted census*



Quality of management and administration



Patient flow



Clinical pathways
and protocols



Monitoring of performance
management



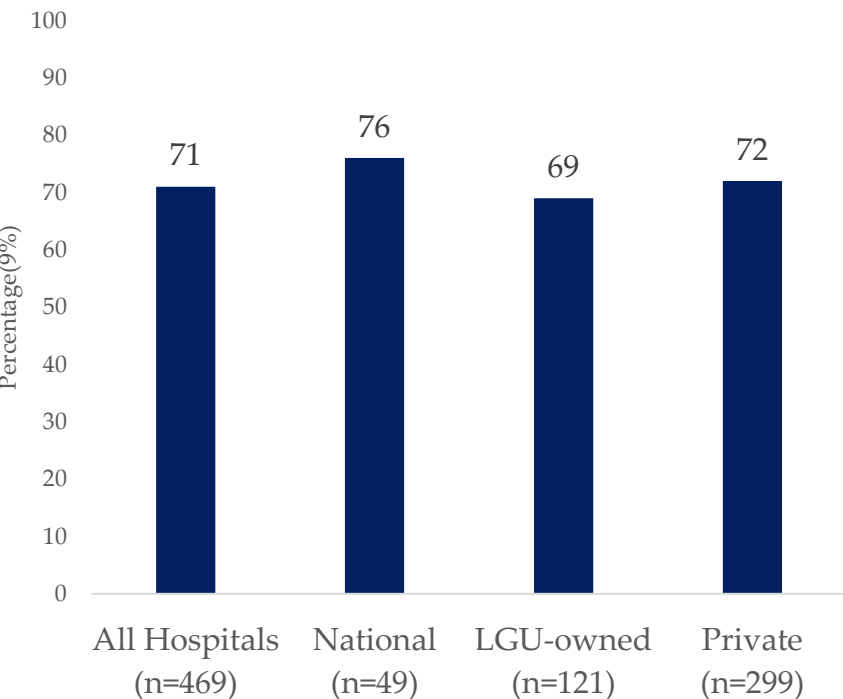
Target management



Talent management

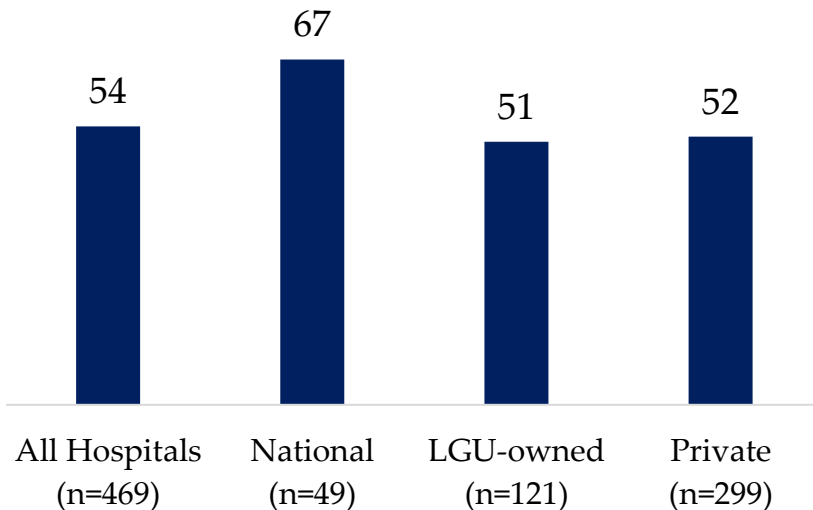
Challenges in standardization of care evident regardless of ownership – public or private

Percentage of hospitals with optimized and efficient hospital flow



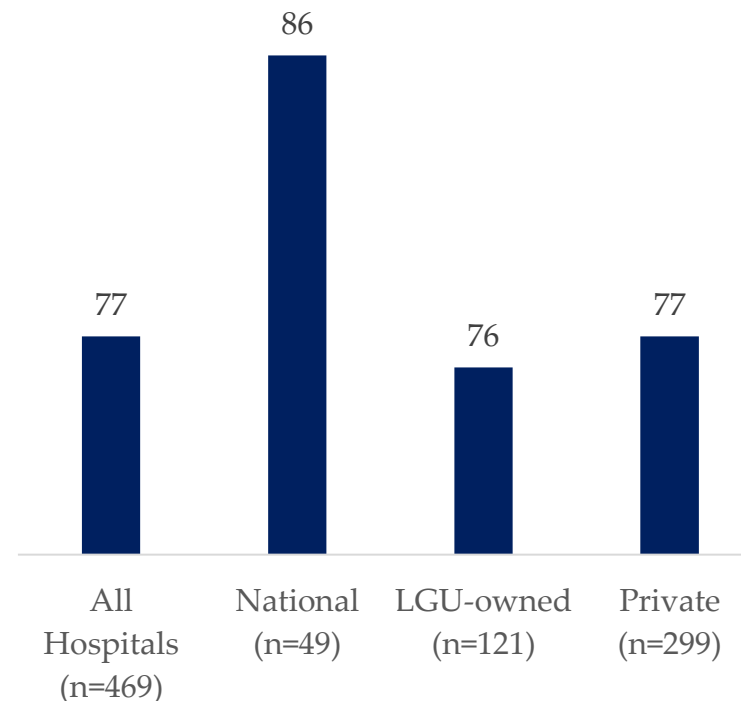
Patient flow

Percentage of hospitals that formally review and revise often or continuously patient flow



Patient pathways

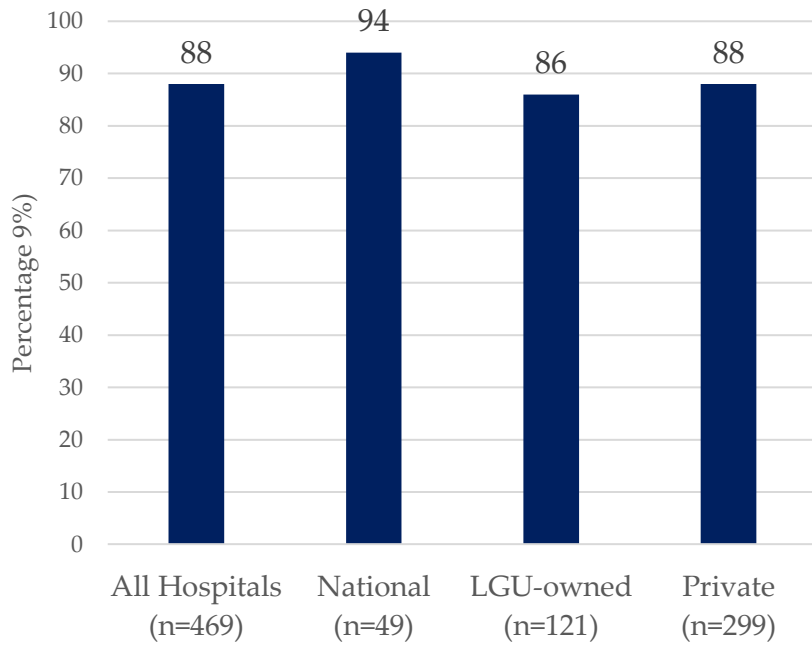
All major processes are standardized based on clinical evidence



Standardized protocols

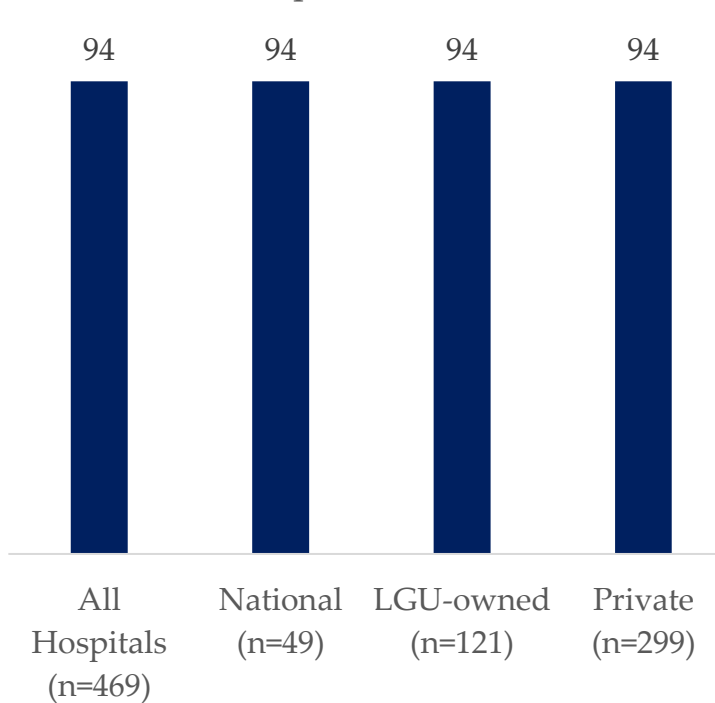
Challenges in performance management, specifically measuring and monitoring performance (both clinical and non-clinical)

Percentage of hospital with continuous management of problems



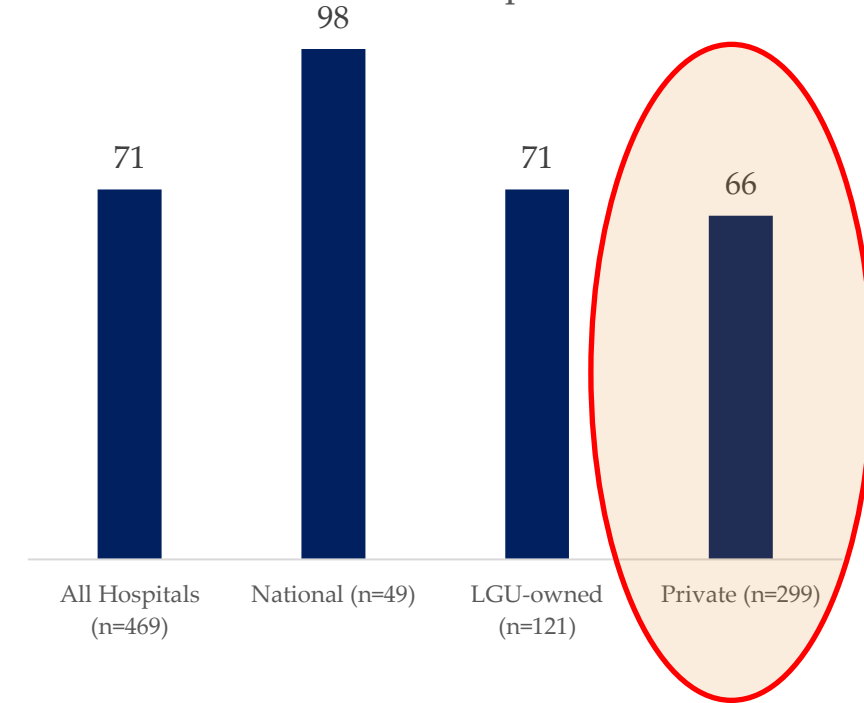
Continuous mgt of problems

Percentage of hospital with consequence management of problems



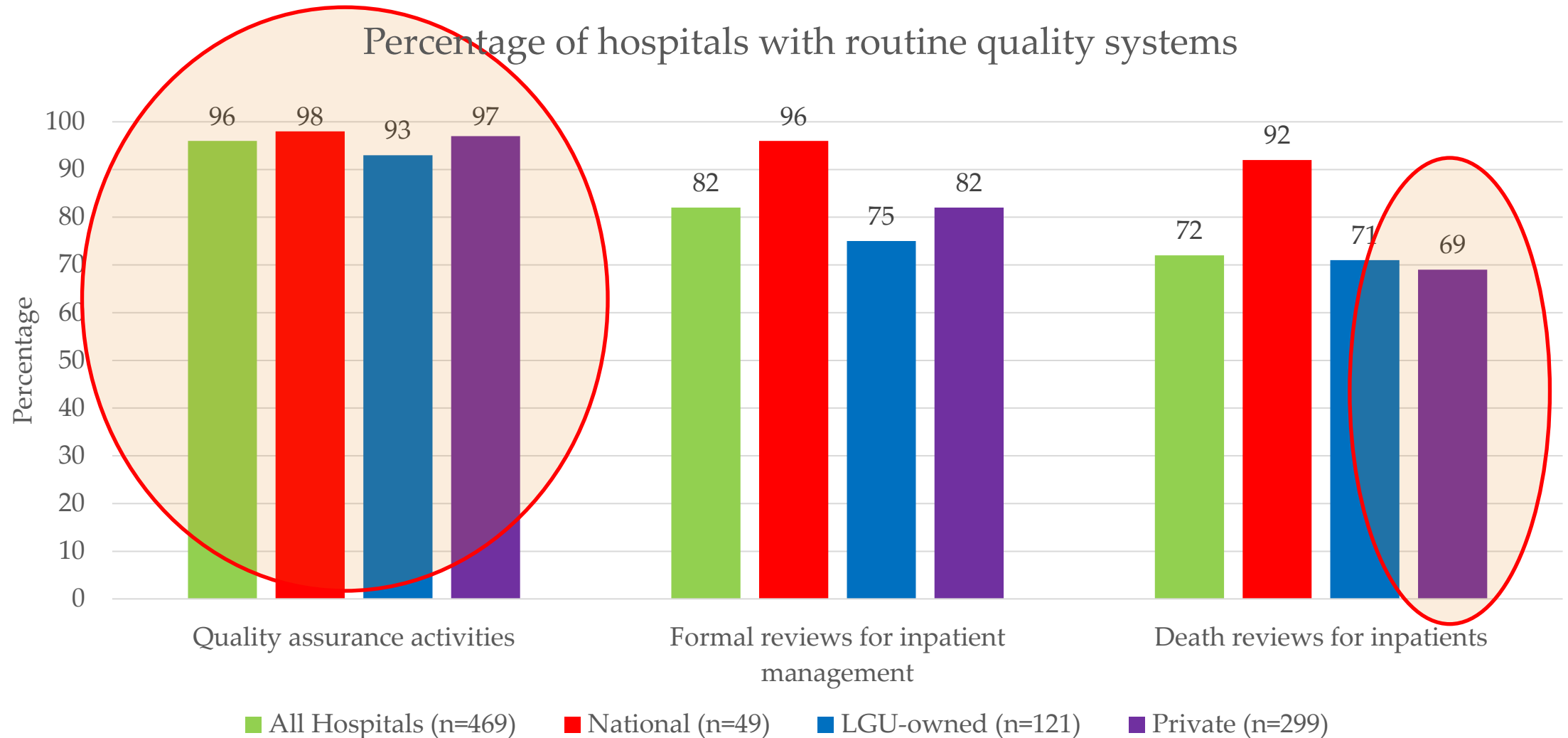
Consequence mgt of problems

Percentage of hospital that use different indicator to measure performance

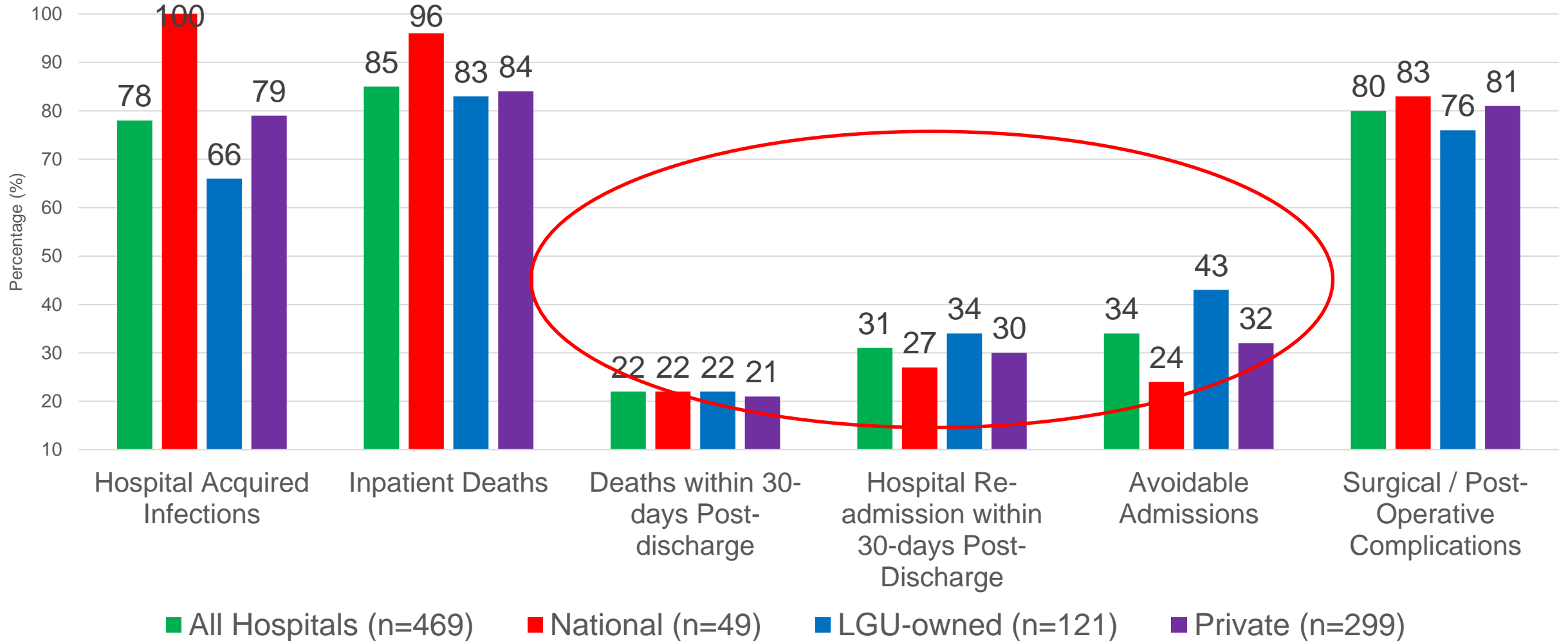


Measurement of hospital Performance

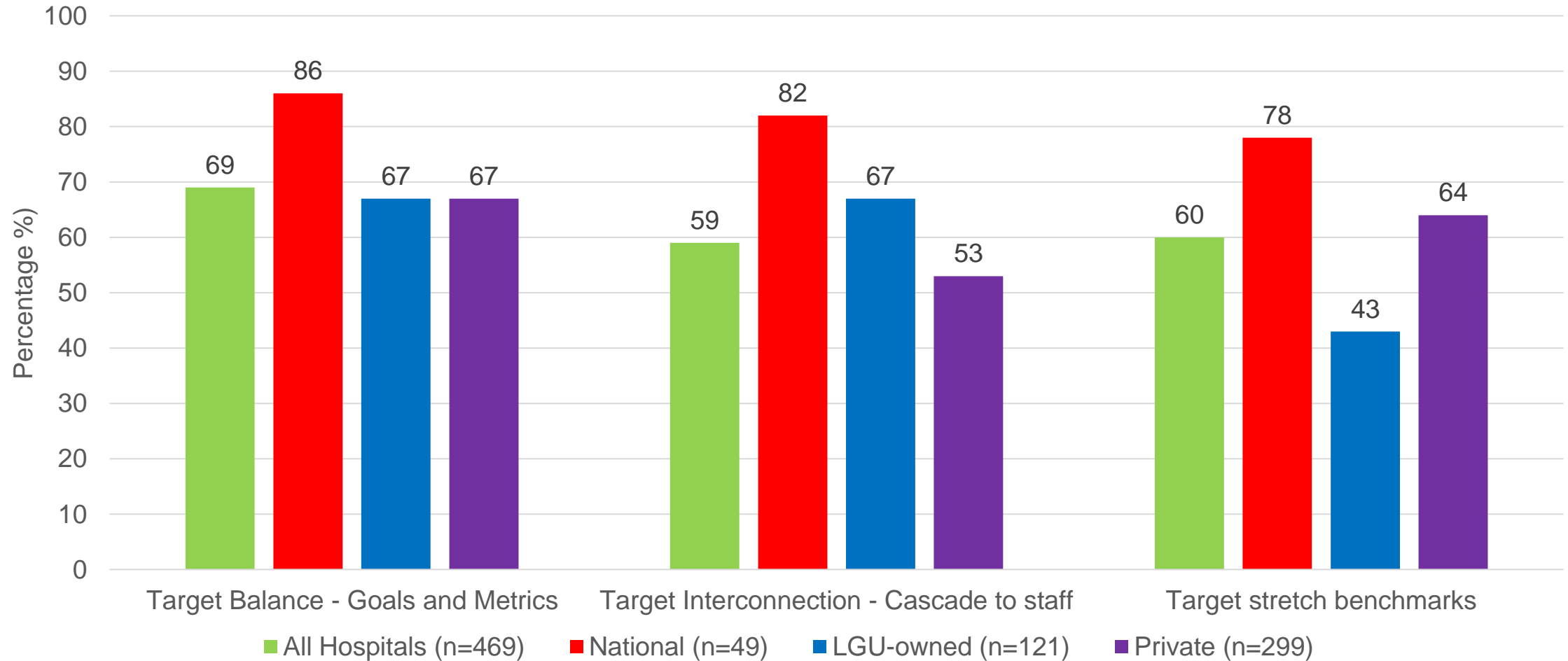
Examples of performance measurements (1)



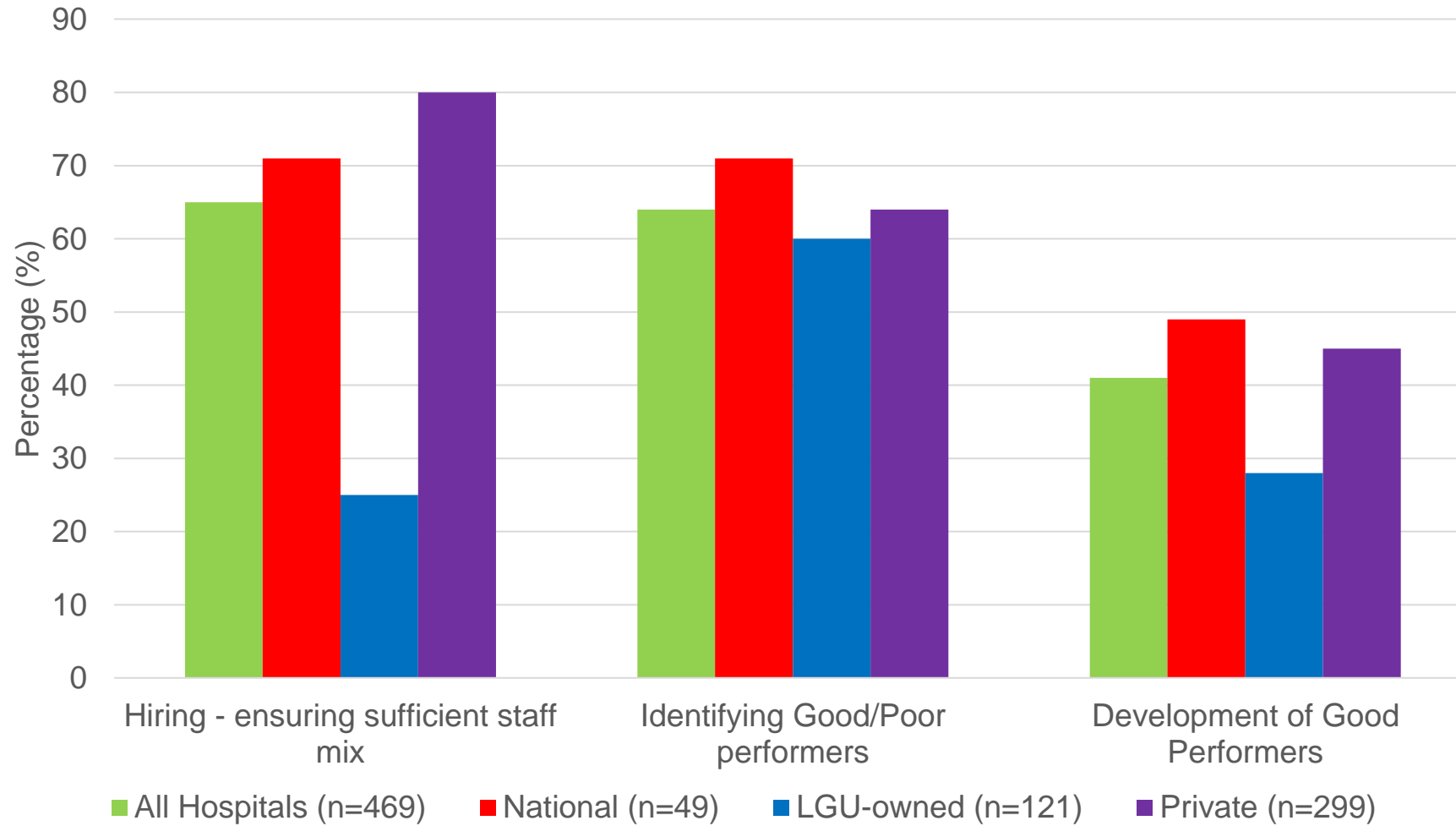
Standard health outcome quality indicators (to measure performance) are seldom measured in hospitals – both public and private

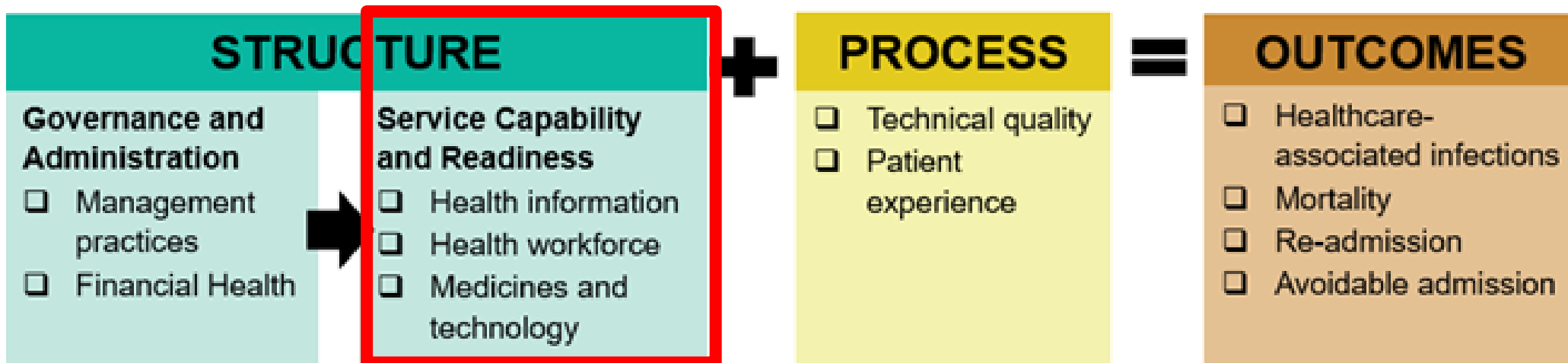


Challenges in setting performance target; benchmarking performance not a norm



Challenges in the attraction, development, and preservation of health workers





Readiness of Infrastructure: basics present in most, but *not in all* facilities

Variable, n (%)	All Hospitals n=469	National n=49	LGU-owned n=121	Private n=299
Communication and Health Information System				
Any form of communication: landline, radio, cellphone	409 (100)	40 (100)	107 (100)	262 (100)
Has dedicated cellphone for referral	387 (95)	33 (85)	100 (93)	254 (97)
Using Electronic Patient Records				
None (paper-based records)	79 (20)	4 (10)	21 (20)	54 (21)
DOH-iHOMIS or any government EMR	94 (23)	22 (55)	65 (61)	7 (3)
Private EMR	189 (47)	11 (28)	10 (9)	168 (65)
Both Government and Private EMR	43 (11)	3 (8)	10 (9)	30 (12)
Functional Equipment, median (IQR)				
Basic				
X-ray	399 (94)	38 (86)	101 (93)	260 (96)
ECG	396 (93)	35 (80)	102 (94)	259 (95)
Ultrasound	364 (86)	39 (89)	78 (72)	247 (91)
Laboratory				
Laboratory Present in facility	403 (100)	40 (100)	105 (100)	258 (99)
Laboratory meets standards for facility level	375 (92)	40 (100)	93 (88)	242 (93)
Functional autoclave equipment (laboratory)	334 (83)	35 (88)	80 (76)	219 (85)

- All have **some form of communication**, but some lack dedicated phones for patient referrals
- **20%** of hospitals have no electronic medical records (i.e., paper-based)
 - Largest proportion in national and LGU hospitals (20% and 21%, respectively)
- Few hospitals **do not have x-ray, ECG, and ultrasound equipment present** (6%, 7%, and 14%, respectively).
- While all facilities have **laboratories**, a few (8%) do not meet standards for their facility level or have functional sterilization equipment (18%)

Infrastructure: basics present in most, but *not in all facilities*

- **Power:** while all use electricity and have generators, it is unreliable in 31% of facilities
 - *Reliability is a WHO measure of facility resilience
- **Water:** functioning toilets, but lack of clean drinking water
 - 30% have no access to clean drinking water; highest proportion with access: Private (81%); Lowest: LGU hospitals (50%)
- **Waste disposal**
 - **Primary: Septic (39%) and landfill (24%)**
- **Ambulances**
 - **>86%** have at least 1 emergency vehicle and meet DOH standards

Variable, n (%)	All Hospitals n=469	National n=49	LGU-owned n=121	Private n=299
<i>Utilities: Electricity, Water, and Sanitation</i>				
Power				
Main source is Electricity	407 (100)	40 (100)	107 (100)	260 (99)
Reliability of Power - no interruptions at all	284 (69)	17 (43)	66 (62)	201 (77)
Functional Generator Available	408 (100)	40 (100)	107 (100)	261 (100)
Water				
Running water in ALL toilets	406 (99)	41 (100)	105 (98)	260 (99)
Clean drinking water for patients (piped filtered water, bottled)	286 (70)	22 (55)	53 (50)	211 (81)
Gaps in Waste Disposal				
Sanitary Landfill	96 (24)	10 (26)	20 (19)	66 (25)
Septic/concrete Vault	158 (39)	14 (36)	60 (56)	84 (32)
Burial Pit	7 (2)	1 (3)	1 (1)	5 (2)
<i>Ambulances and Vehicles</i>				
At least 1 emergency vehicle (ambulance or not)	405 (86)	41 (84)	103 (85)	261 (87)
Met DOH standards for required ambulance	381 (81)	37 (76)	101 (83)	243 (81)

Health Human Resources: Many hospitals are not meeting the required staffing standards; turnover is high especially for nurses

Variable, median (IQR)	All Hospitals n=469	National n=49	LGU-owned n=121	Private n=299
General Physicians				
Staff to bed ratio	0.1 (0.1-0.2)	0.2 (0.1-0.4)	0.1 (0.1-0.2)	0.1 (0.0-0.2)
% Staff contractual	2.4 (0-50)	0 (0-13.6)	36.4 (10-55.6)	0 (0-50)
% Filled positions**				
Permanent	100 (77.8-100)	75 (57.2-95.2)	100 (75-100)	100 (93.8-100)
Contractual	100 (80-100)	100 (83.3-100)	100 (100-100)	100 (66.7-100)
% Turnover				
Permanent	0 (0-8.3)	4.9 (0-12.1)	0 (0-7.4)	0 (0-0)
Contractual	0 (0-27.9)	12.5 (0-50.3)	0 (0-30.8)	0 (0-13.3)
Registered Nurses				
Met the staffing standards*, n (%)	199 (42)	27 (55)	73 (60)	
Staff to bed ratio	0.8 (0.5-1.1)	0.9 (0.7-1.2)	0.6 (0.4-0.8)	0.8 (0.6-1.1)
% Staff contractual	0 (0-33.3)	9.7 (0-27.2)	61.1 (31.6-74.3)	0 (0-0)
% Filled positions**				
Permanent	89.2 (66.7-100)	92.7 (84.1-96.9)	91.5 (80-100)	85.6 (62.1-100)
Contractual	100 (93.3-100)	100 (100-100)	100 (94.8-100)	100 (50-100)
% Turnover				
Permanent	10.8 (1-31.8)	2.6 (1.4-4.7)	0 (0-3.2)	21.2 (10.4-37.6)
Contractual	7.7 (0-28.7)	8.4 (0-17.8)	5.3 (0-13)	22.5 (0-82.9)

General Physicians

- **Lowest % filled** positions is with National Hospitals (median: 75%)
- **Highest turnover** is for **contractual MDs** in National hospitals (12.5%)

Nurses

- **Less than half (42%)** meet the staffing pattern standard for Nurses
- **Lowest % filled** in private facilities for permanent slots (85.6%)
- **High turnover** for all facility types for **contractual nurses**, highest in private (22.5%)

*Staffing standards according to DOH-DBM Joint Circular 2013-01. This does not apply in private hospitals.
 **Contract of services/job-order positions were not captured in this assessment.

Essential medicines: incomplete availability in LGU-hospitals, but ubiquity of stockouts in both public and private hospitals

All 16 essential drugs available (2 out of 10)

- 3% in LGU hospitals
- 55% in Public national hospitals
- 20% in Private facilities
- * Majority (~80%) have 11-15 of the essential drugs

Stockout - % with any stockout (All: 41%)

- 48% Private
- 29% in LGU hospitals
- 29% in Public national hospitals

WHO List of Essential Medicines

16 drugs that all hospitals should ideally carry

A. Infectious Diseases

1. Amoxicillin capsule
2. Amoxicillin suspension
3. Cefuroxime
4. Ampicillin-Sulbactam
5. Ceftriaxone

B. Noncommunicable Diseases

1. Salbutamol
2. Metformin
3. Aspirin
4. ACE Inhibitors / ARBs
5. Simvastatin

C. Other Diseases

11. Selective Serotonin Reuptake Inhibitors
12. Diazepam
13. Paracetamol capsule
14. Paracetamol Suspension
15. Mefenamic acid
16. Omeprazole

Conclusions and Recommendations

❖ ***Governance and administration:***

- Standardization of care not a common practice in LGU and private hospitals
- Both public and private hospitals do not use relevant quality and efficiency indicators in measuring their performance
- Significant number of hospitals do not practice systematic target management

❖ ***Service capability and readiness:***

- Equipment: Few hospitals lack basic diagnostic equipment
- HR: Less than half of the hospitals met the staffing pattern. High turn-over rates in private sector.
- Drugs: Essential drugs not available in some LGU and private hospitals

❖ ***Healthcare quality not usually considered in monitoring health system performance***

Conclusions and Recommendations

- ❑ ***Systematically collect and measure a wide-range of quality healthcare indicators***

DOH should lead the development of comprehensive HIS framework standards—capturing comprehensive elements of healthcare quality (capture structure, interactions/process, and outcomes)

- ❑ ***Hinge quality of healthcare to financing***

Leverage PhilHealth and its ability to provide grants for them submit healthcare quality data;

Design provider payments to leverage quality (incentives and disincentives)



PHOTO CREDIT: PH CHILDREN'S MEDICAL CENTER
<http://www.pcmc.gov.ph/>

An Assessment of the Quality of Inpatient Meals and Nutrition and Dietetics Processes in Select Public Hospitals in the Philippines

*Lyle Daryll D. Casas, Jhanna Uy, Valerie Gilbert T. Ulep,
Imelda Angeles-Agdeppa, Eva A. Goyena, Josie P. Desnacido, and Maylene P. Cajucom*

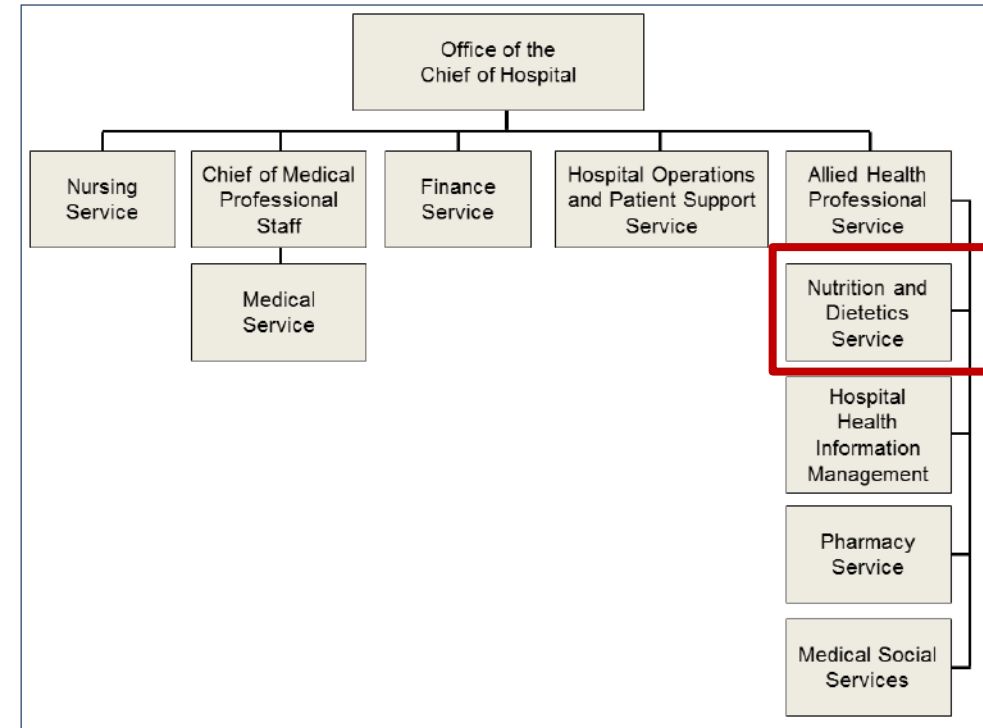
Background and Methods

Inpatient Nutrition Care

- Organized set of **activities** allowing **identification of patient needs** and **provision of care** to meet these needs
 - *Includes nutrition assessment, diagnosis, intervention, and monitoring and evaluation*
- **Goal: To maintain and improve health of the patients** and stakeholders by providing **high quality, safe, and nutritious foods at minimum cost.**
- **Unrecognized and untreated hospital malnutrition:** may lead to poor **patient outcomes, functional decline, lengthened hospital stays, and increased healthcare costs** and risk for **re-admissions**

The Nutrition and Dietetics Service (NDS)

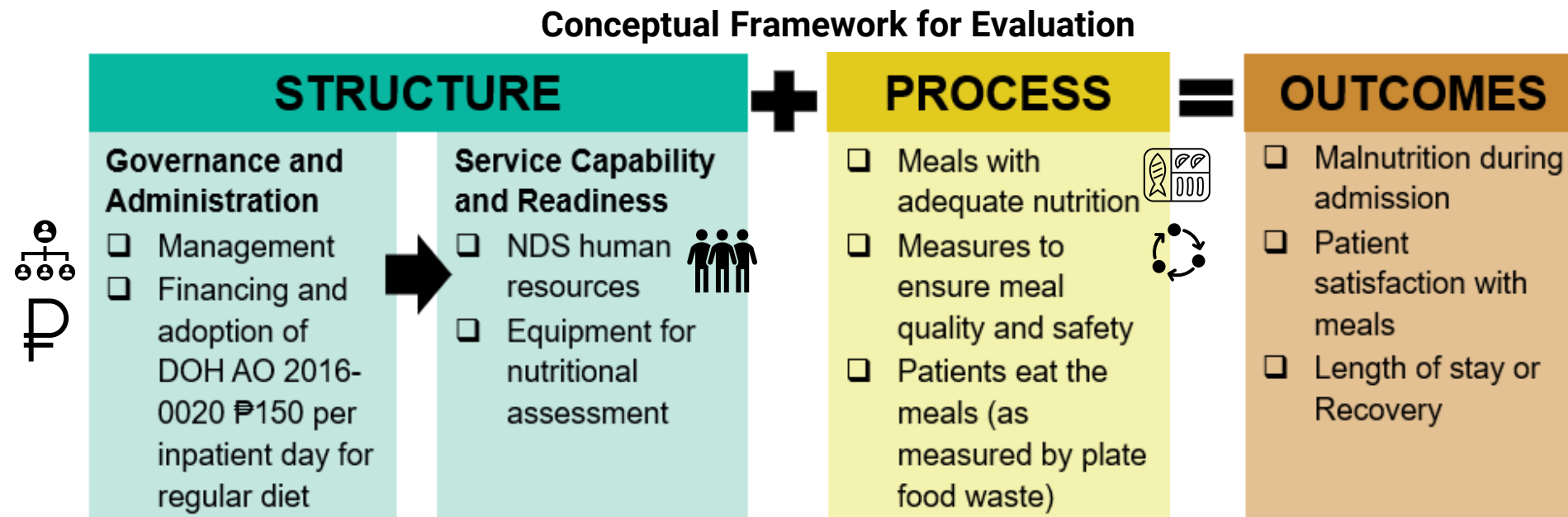
- In Philippine public hospitals: nutrition care is provided through the hospital's Nutrition and Dietetics Service
 - *Composed of Registered Nutritionist-Dietitians, Cooks, and Food Service Workers*
- **Goal:** Provide **patient-centered** and **high-quality nutritional care** and **inpatient meals of adequate QUALITY and QUANTITY**
 - The **DOH AO 2016-0020** and **NDS Management Manual**, was instituted to standardize:
 - At least ₱150 minimum meal allowance per patient per day with at least 1,800 calories
 - Staffing pattern, food service processes, and outcomes monitoring



Source: *Hospital NDS Management Manual, 3rd edition*

Study Objectives

- We examined whether Philippine public hospitals:
 - Complied to the minimum meal allowance mandated by the DOH-AO 2016-0020
 - Provided inpatient meals with adequate nutritional content, and
 - Followed the minimum NDS structure and process standards stipulated in the DOH-NDS Management Manual.



Based on the DOH AO 2016-0020 adapted to wider Donabedian Framework of Quality

Methods

Data Collection and Analysis

- **Online facility survey** (self-administered, in protected MS Excel format) rolled out by the DOH to all **428 DOH and LGU-owned public hospitals**.
- **Areas:** NDS structure, human resources (staffing and training), the status and challenges in the implementation of AO 2016-0020, food service system processes, and hospital cycle menus.
- **Descriptive analyses** generated using *Stata MP 17.0* by **PIDS**; Nutrient adequacy analyses of hospital cycle menus generated using *individual dietary evaluation system (IDES)* by **FNRI**.

Key Results



Sample Characteristics

Table 1. Distribution and response rate of DOH- and LGU-owned public hospitals

Hospital Type	Sampling Frame	Responded	Response Rate
DOH-retained	70	65	93%
LGU-owned level 2 and 3	49	19	39%
LGU-owned level 1	309	109	
Total	428	193	

Table 2. Sample characteristics of government hospitals who participated in the NDS survey

Variable	All Hospitals n=193	DOH n=65	LGU Level 2-3 n=19	LGU Level 1 n=109
Age in years, median (range)	49 (2-120)	78 (9-120)	52 (13-98)	43 (2-116)
Bed capacity, median (range)	50 (10-4,200)	250 (10-4,200)	150 (100-408)	29 (10-173)
Ownership, n (%)				
DOH-retained	65 (33)	-	-	-
LGU	128 (66)	-	-	-
Functional Capacity, n (%)				
Level 1	129 (67) *	20 (30)	-	109 (100)
Level 2	17 (9)	5 (8)	12 (63)	-
Level 3	47 (24)	40 (62)	7 (37)	-
Island Group, n (%)				
NCR + Luzon	132 (68)	38 (58)	10 (53)	84 (77)
Visayas	27 (14)	11 (17)	1 (5)	15 (14)
Mindanao	34 (18)	16 (25)	8 (42)	10 (9)
NDS Food Service Type, n (%)				
In-house	179 (94)	63 (98)	17 (94)	99 (92)
Outsourced	11 (6)	1 (2)	1 (6)	9 (8)

* Includes two (2) infirmaries and one (1) custodial psychiatric care facility.

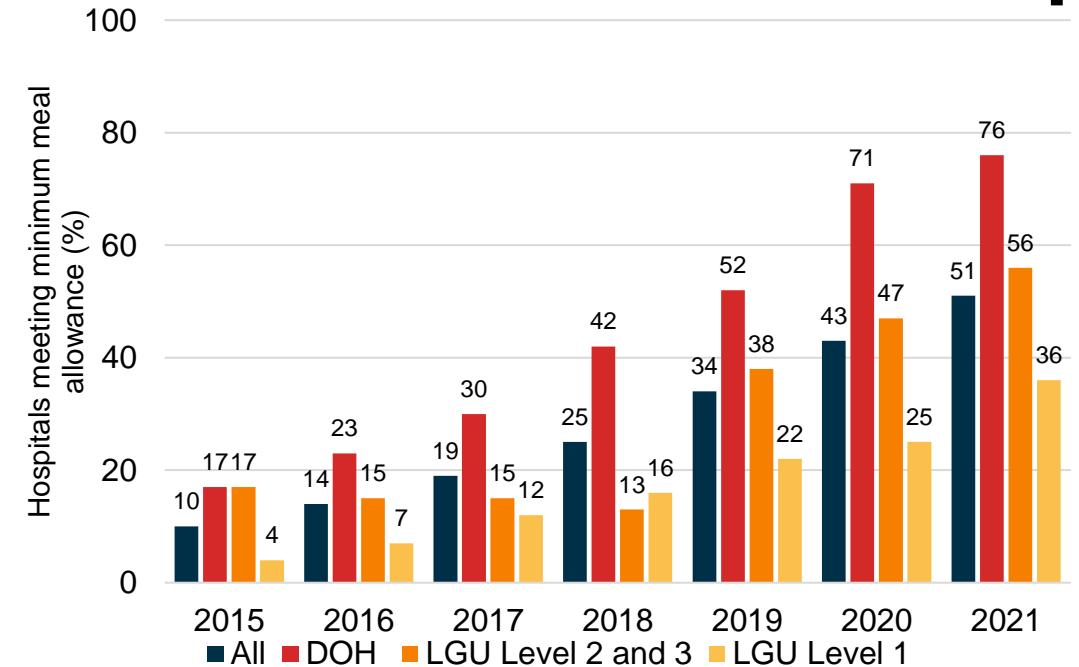
Source: Authors' analysis based on 2021 Online Facility Survey for NDS

- Final sample included **193 hospitals***. Of 193 hospitals, **33% are DOH-owned, 10% are LGU-owned Level 2 and 3, and 67% are LGU-owned Level 1 hospitals.**
- **DOH hospitals are older** (median: 78 years), **have higher bed capacities** (median: 250 beds) compared to LGU level 2 and 3 hospitals (52 years, 150 beds) and LGU level 1 hospitals (43 years, 29 beds).
- **More than half (68%)** of the included hospitals are **located** in the **National Capital Region and Luzon.**

**Caveat: Results for the DOH-retained hospitals are representative while those for the LGU-owned hospitals are not. However, we believe the results are already revealing about what could be the state of other hospitals.*

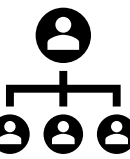
Public hospitals have difficulty meeting the minimum meal allowance of ₱150

- Only **51%** of the hospitals met the minimum meal allowance in 2021 (policy in effect for five [5] years)
- Slow improvement over the years, **mostly coming from DOH hospitals**
 - Large gap with DOH and LGU hospitals: 76% of DOH hospitals were able to meet the minimum budget while only 56% in LGU Level 2 and 3 hospitals and 36% in LGU Level 1 hospitals have met it in 2021
- Top reasons: **limited budget** and **high costs in the area** and 80% of hospitals perceive ₱150 as insufficient



Variable	n	All Hospitals n=193	DOH n=65	LGU Level 2-3 n=19	LGU Level 1 n=109
Challenges in complying with the Minimum Meal Allowance per DOH AO, n (%) *					
Limited Budget	193	85 (44)	14 (22)	10 (53)	61 (56)
Higher costs in area		77 (40)	17 (26)	6 (32)	54 (50)
Nutritional requirements can be met at <P150		20 (11)	5 (8)	1 (5)	14 (13)
Perceived Insufficiency of P150 (USD 3) minimum meal allowance, n (%)	193	155 (80)	61 (94)	14 (74)	80 (73)

Source: Authors' analysis based on the 2021 Online Facility Survey for NDS



Meal allowance largely influenced by hospital administration; and mode of procurement may affect compliance to prescribed minimum meal allowance

Table 8. Management Functions of the NDS

Variable, n (%)	n	All Hospitals n=193	DOH n=65	LGU Level 2-3 n=19	LGU Level 1 n=109
Decision-maker on NDS Budget					
Hospital administration	187	109 (58)	45 (70)	10 (53)	54 (52)
Chief Nutritionist-Dietitian		78 (42)	19 (30)	9 (47)	50 (48)
Person Responsible for Procurement					
Hospital administration	191	19 (10)	9 (14)	5 (26)	5 (5)
Chief Nutritionist-Dietitian		164 (86)	54 (83)	13 (68)	97 (91)
Outsourced company		8 (4)	2 (3)	1 (5)	5 (5)
Procurement Modes Used					
Competitive Bidding	193	67 (35)	42 (65)	9 (47)	16 (15)
Repeat Order		40 (21)	15 (23)	4 (21)	21 (19)
Limited Source/Selective Bidding		18 (9)	4 (6)	4 (21)	10 (9)
Direct Contracting/Single Source Procurement		49 (25)	10 (15)	4 (21)	35 (32)
Shopping (retail price)		119 (62)	43 (66)	8 (42)	68 (62)
Negotiated Procurement		43 (22)	23 (35)	2 (11)	18 (17)

- **NDS Budget is decided and influenced by hospital administration: *buy-in is important***
- **Responsibility for procurement decentralized in NDS**
 - Top procurement used: *Shopping* (62%)—this may lead to increased costs of food items for meals

Public hospital NDS needs more human resources and opportunities for training

Structure:
HR



- **Not all the hospitals met the staffing pattern standard** for Nutritionist-Dietitians (59%), Chefs/Cooks (50%), and Food Service Workers (61%) which may reflect insufficient staff and high workload
 - In LGU Level 2 and 3 hospitals, one Nutritionist-Dietitian, and Chef/Cook supervises 210 and 201 (IQR: 137-336) meals in a working day.
- Only NDs usually have opportunities for training due to reported reasons of **lack of budget and schedule conflicts.**

Table 9. NDS Human Resources

Variable	n	All Hospitals n=193	DOH n=65	LGU Level 2-3 n=19	LGU Level 1 n=109
Staffing pattern versus standard by Bed Capacity (DBM-DOH Joint Circular 2013-01), n (%)					
Nutritionist-Dietitians	193	114 (59)	45 (69)	2 (11)	67 (61)
Chefs/Cooks		96 (50)	52 (80)	6 (32)	38 (35)
Food Service		118 (61)	43 (66)	12 (63)	63 (58)
Number of Meals (2020) per Staff Type per Working Day, median (IQR)					
Nutritionist-Dietitians	176	108.4 (53.4-197.7)	159.6 (72.4-219.1)	210.0 (137.6-335.6)	79.8 (44.1-135.3)
Chefs/Cooks	165	84.1 (48.7-138.9)	95.8 (72.5-145.6)	201.2 (137.6-335.6)	73.0 (37.2-116.3)
Food Service	142	60.5 (25.8-97.9)	78.7 (31.6-132.4)	73.0 (33.9-130.2)	44.2 (17.2-78.0)
Trainings, n (%)					
<i>Nutritionist-Dietitians</i>					
No trainings	193	12 (6)	1 (2)	0 (0)	11 (10)
At least every year		119 (62)	49 (75)	6 (32)	64 (59)
Less than annually or no set time		62 (32)	15 (23)	13 (68)	34 (31)
<i>Chefs/Cooks</i>					
No trainings	193	98 (51)	8 (12)	12 (63)	78 (72)
At least every year		50 (26)	30 (46)	2 (11)	18 (17)
Less than annually or no set time		45 (23)	27 (42)	5 (26)	13 (12)
<i>Food Service Workers</i>					
No trainings	193	104 (54)	13 (20)	11 (58)	80 (73)
At least every year		41 (21)	27 (42)	2 (11)	12 (11)
Less than annually or no set time		48 (25)	25 (38)	6 (32)	17 (16)

Most of the hospitals meeting the nutrient content requirement are DOH hospitals

Processes:
Adequate
Meals

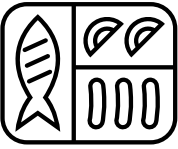


Table 3. Nutritional content of meals in Philippine public hospitals

Variable	All Hospitals		DOH		LGU Level 2 and 3		LGU Level 1	
	Mean	%	Mean	%	Mean	%	Mean	%
Energy (kcal)	1,797	40.2	1,808	44.1	1,566	21.1	1,836	41.7
Macronutrients								
Carbohydrates (g)	240.3	29.3	251.6	35.6	223.1	31.6	236.7	25.0
Protein (g)	82.4	78.2	81.7	79.7	69.9	73.7	85.3	78.1
Fat (g)	56.5	51.7	52.9	47.5	44.1	57.9	61.2	53.1
Micronutrients¹								
Calcium ³	425.4	4.6	489.4	6.8	299.3	–	411.0	4.2
Phosphorus (mg)	1,065.3	85.6	1,095.8	94.9	934.6	68.4	1,072.5	83.3
Iron (mg)	11.8	12.6	13.1	16.9	10.5	10.5	11.4	10.4
Vitamin A (mcg RE)	901.6	50.6	807.6	47.5	754.4	42.1	988.5	54.2
Thiamin (mg)	1.2	41.4	1.2	40.7	1.1	31.6	1.2	43.8
Riboflavin (mg)	1.2	33.9	1.2	32.2	1.0	26.3	1.2	36.5
Niacin (mg)	26.2	90.2	25.1	94.9	23.1	78.9	27.5	89.6
Vitamin C (mg)	68.4	39.1	78.8	47.5	54.7	31.6	64.7	35.4

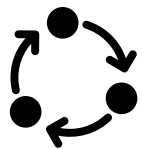
Note: Computation of micronutrient adequacy is based on RENI 2002¹

Source: Authors' (FNRI) analysis of submitted hospital cycle menus for the 2021 Online Facility Survey for NDS

- **Only 40.2%** of the hospitals met the **energy (calories) requirement**—DOH had the highest compliance (44.1%) and LGU L2 and L3 had the lowest (21.1%).
- **None of the hospitals** met the overall macronutrient distribution standard of 60% carbohydrates, 15% protein, and 25% fat.
 - Highest compliance: Protein (78.2%)
 - Lowest compliance: Carbohydrates (29.3%)
- The **lowest average micronutrient** (vitamins and minerals in foods) content was **generally observed among the LGU Level 2 & 3**, while **DOH hospitals had the highest proportion** meeting all the micronutrient recommendations
 - Least met micronutrients: Calcium (4.5%), Iron (12.6%), Riboflavin (33.9%), and Vitamin C (39.1%).

Not all the hospitals can meet equipment and food service process standards

Processes:
FS Process
Standards



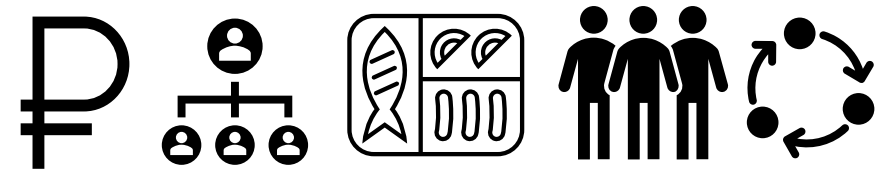
- Some hospitals **does not have the basic equipment for nutritional assessment**. Only **64 (33%)** of the hospitals have both **weighing scale and stadiometer (for height)**.
- There are **hospitals without standardized recipe (37%)**. Highest proportion lacking standardized recipe is coming from the **LGU L1 hospitals (47%)**.
- Only 27 hospitals (14%) does all three given standards to ensure quality
 - Usually, what most hospitals skip is the food weighing of cooked meals
- Almost all does the basic practices for food, except having color coded utensils
- All of these may be **rooted to the limited resources available for the NDS**

Table 10. NDS Equipment and Process Standards

Variable, n (%)	All Hospitals n=193	DOH n=65	LGU Level 2-3 n=19	LGU Level 1 n=109
Equipment for Nutrition Assessments				
Weighting scale +	64 (33)	23 (35)	6 (32)	35 (32)
Stadiometer (height)				
Tape measure (i.e., MUAC tape)	107 (55)	46 (71)	11 (58)	50 (46)
Salter scale	18 (9)	4 (6)	1 (5)	13 (12)
Body fat analyzer	7 (4)	3 (5)	1 (5)	3 (3)
Standardized Recipe				
None	71 (37)	15 (24)	5 (26)	51 (47)
Present, but not always followed	50 (26)	20 (32)	5 (26)	25 (23)
Present AND always followed by cooks	69 (36)	28 (44)	9 (47)	32 (30)

Conclusions and Recommendations

- We found that the Philippine public hospitals needs more resources for better structure and inputs to **conduct the processes to achieving its objective of providing quality care.**
 - **Unable to meet the minimum meal allowance per capita and the required nutritional content of planned meals;**
 - **Need more human resources and LDI opportunities;**
 - **Need to lobby to hospital administration for resources;**
 - **Have procurement mode choice that may have opted higher food item prices;**
 - **Unable to meet some FS process standards;**
 - **Had M&E initiatives still in its infancy**
- The most unequipped hospitals were LGU-owned hospitals, specifically LGU Level 1 hospitals which may reflect socioeconomic inequity in the provision of quality nutrition care



Conclusions and Recommendations

- ✓ **Review the policy** on standardized meal allowance (adjustment of the budget)
 - The policy should consider the **reasons why some hospitals** were not able to meet it - because just increasing it plainly would not guarantee others meeting it (i.e., budget constraints)
 - The policy should also **advocate to hospital administration the importance of allocating resources** to nutrition care
 - The policy should strictly enforce **compliance to updated nutritional requirements and food service processes** (e.g., standardized recipes)
- ✓ **Capacitate the RNDs** on better and **more efficient meal planning and procurement practices**
- ✓ Provide **learning and development interventions to other NDS staff** (not just the Nutritionist-Dietitians).
- ✓ Updating of the **new staffing pattern** should also be advocated to provide more *plantilla* positions for NDS.
- ✓ Consider **revision of the current monitoring tools for the NDS vis-à-vis the standards set**

