STAFFING NORMS FOR THE HEALTH SECTOR OF GHANA: A TECHNICAL REPORT

By

The Technical Working Group

PRESENTATION OUTLINE

- Introduction and rationale
- Methods
  - WISN
  - Statistical analysis
- Results/Staffing Norms
- Limitations/challenges
- Way forward

BACKGROUND AND RATIONALE

- The health sector has over the years been confronted with **inadequate numbers and unbalanced skill mix** partly due to mal-distribution leading to gross understaffing in many facilities and overstaffing in some facilities.

BACKGROUND AND RATIONALE

- MOH attempted to address the issue using the **WHO population staffing** norms and later the **1992 Facility Staffing Norms**
- Implementation challenges and rapidly changing dynamics of the sector has thrown these out of gear

INTRODUCTION CONT'D

- The distribution challenge is largely left unresolved and
- The question of how many health workers are needed to deliver effective and efficient health care across the country also continues to linger
- To address this challenge, the MOH in 2011 made a decision to develop an evidenced-based Staffing Norm using the WHO's Workload Indicator for Staffing Needs (WISN).

Methodology

- Triangulation of methods were used for the exercise
- The exercise was divided into three phases
- Two distinct tools were used for data analysis

ie WSN and inferential statistics (mainly t-tests and ANOVA)

Phase1: WISN Pilot in 18 Gov't + 1 CHAG facilities (2011; 2013)

Dev't of Activity Standards (June – August, 2013)

Phase 2: Validation of Activity Standards in 173 CHAG facilities (August, 2013)

Scale-up in 23 Gov't facilities (Oct., 2013 – Jan., 2014)

Phase 3: Staffing Norms Dev't

*Sorting of Facilities' WISN results

* Facility Categorization

*Statistical Tests for Staffing Norms Determination

(February – May, 2014)

APPLICATION OF THE WORKLOAD INDICATORS OF STAFFING NEEDS (WISN)

Determining Staffing Requirements of Individual Health Facilities

WHAT IS WISN?

Human resource planning tool to:

- Determine how many health workers of a particular type are required to cope with actual workload in a given facility
- Calculate workload and time required to accomplish tasks of individual staff categories
- Assesses the workload pressure of the health workers in the facility

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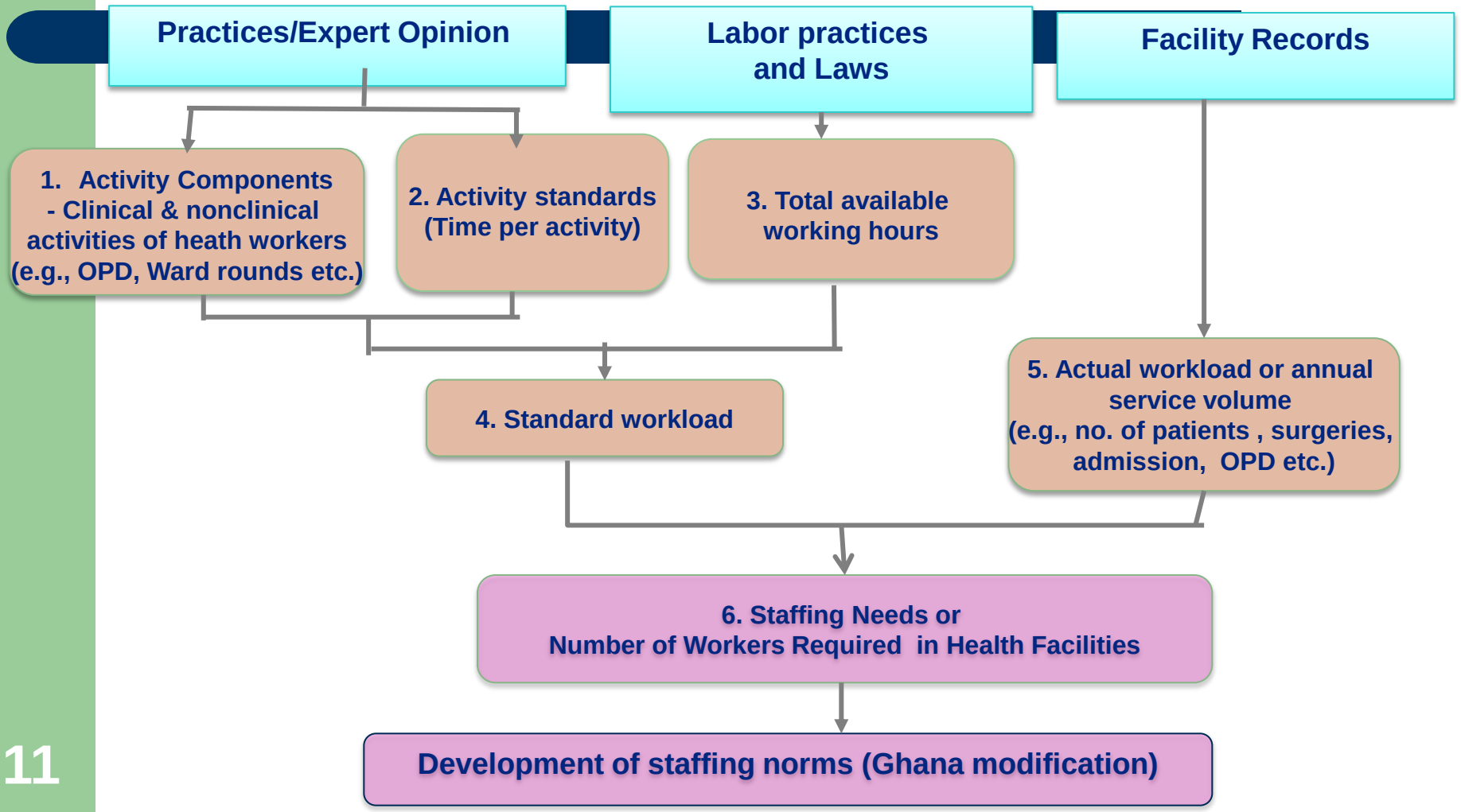
Steps of WISN method

1. Determine priorities for WISN application
2. Estimate Available Working Time
3. Define workload components
4. Set Activity Standards
5. Establish Standard Workloads
6. Calculate Allowance Factors
7. Determine WISN-based staff requirements
8. Analyse and interpret results
9. Use and share results

STEPS OF THE WISN METHOD



AVAILABLE WORKING TIME

A health worker's time available in one year to do his or her work, taking into account authorized and unauthorized absences

AWT = (*Annual Working Days - total Number of Non-working Days)x Daily Working Hours*

AVAILABLE WORKING TIME: determining the absences

- **Sick Leave**: Records review and interviews at the pilot stage on the **average** staff spent an average of **5 days** in 2012 as excuse duty due to sickness. This caters for all categories of staff irrespective of whether one person spent more or less.

DETERMINING THE ABSENCES CONT'D

- **Public Holidays**: In 2012, thirteen (13) statutory public holidays were declared by the Government of Ghana.
- **Training days per year**: from the records and interviews,
  - **junior staff averagely benefited from four (4) days of training**
  - **Senior was 5 days of training per year**
- **Managers/Directors were outliers**

DETERMINING THE ABSENCES CONT'D

- **Special No Notice Leave**: Permission to travel for private assignments unrelated to personal ill-health was classified as special No Notice Leave.
- Special No Notice Leave was standardized to be 4 days per staff (Average).
- Maternity leave was also standardized to 3 days per each staff
- Total special no notice leave then came to 7 days per staff
- **Annual Leave:** Existing guidelines were used

FINAL AVAILABLE WORKING TIME

- Staff entitled to **36 days annual leave** – 195 days/year (1, 560 hours/year) or 93, 600 minutes/year
- Staff entitled to **28 days annual leave** – 205 days/year (1, 640 hours/year) or 98, 400 minutes/year

WORKLOAD COMPONENTS AND ACTIVITY STANDARDS

- **Workload component:**
  - These are the tasks (duties) performed by staff on a typical day
- **Activity standard**:
  - Time it takes a trained and well-motivated member of a particular staff category to perform a duty to acceptable professional standards in the circumstances of the country
- These determined in consultation with the professionals (subjective and validated by observations)

The Activity Standards

- The Ghana Activity Standards

STANDARD WORKLOAD

- This is the amount of work (within one activity) that one person could do in a year.
- It answers the question, **how many can be done in one year?**
- Mathematically, it is the Available working time divided by the activity standard
- This was also determined together with the workload components and activity standards (see sample below for selected staff in a district hospital)

EXAMPLE OF STANDARD WORKLOAD PER YEAR

- A doctor has 93,600 minutes per year to work but spends 3% on meetings (District hospital)
- Thus actual working time is 90,792 minutes per year
- OPD service time is 10 min/patient
- **Therefore 90,792min÷10min/pt = 9, 079 patients**
- **This means that, the standard OPD workload for a doctor is 9, 079 patients per year.**

Examples of standard workload from the field

STANDARD WORKLOAD FOR A MIDWIFE IN A DISTRICT HOSPITAL

ACTIVITY	SERVICE STANDARD	STANDARD WORKLOAD PER YEAR
ANC - New	25 min/patient	3744
ANC -Old	15 min/patient	6240
Care of newborn	20 min/patient	4680
Preparation for C/S	30 min/patient	3120
Deliveries (1st - 4th stage)	**152 min/patient**	**615.79**
Family planning	60 min/patient	1560
PNC	15 min/patient	6240

*** the list is not exhaustive

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STANDARD WORKLOAD FOR A MEDICAL OFFICER IN A DISTRICT HOSPITAL

Workload Component	Activity standard	Standard workload (AWT/AS)
OPD: History + Examination of Cases (clerking)	10mins/patient	9, 079
Ward Rounds (inpatient per day)	10mins/inpatient /day	9, 079/Average Length of stay
Major Surgery	105mis/case	865
Minor Surgery	45mins/case	2017

NOTE: each of the above represents the no. of cases a doctor at the district can handle if he is performing only that particular activity

***** the list is not exhaustive**

CALCULATING THE REQUIRED STAFF

- For example, if a hospital has a total OPD attendance of 26, 810, we **divide it by 9, 079 (standard workload per year)** to get the number of doctors needed to cope with the OPD.
- This translates to 2.95 (**3 doctors**)

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EXAMPLES OF WISN RESULTS FROM THE FIELD

- Kintampo Municipal Hospital
- Sunyani Regional Hospital
- Ho Municipal Hospital
- Kpetoe Health Centre
- Volta Regional Hospital
- Dawadawa Health Centre

FROM WISN TO STAFFING NORMS: THE GHANA MODEL

Meta-Analysis of Facilities WISN Results

ANALYTICAL PATHWAY

Data sorting

- LIST ALL CADRES AND THEIR REQUIREMENTS BY FACILITY ON PAPER OR EXCEL

Validation

- INTERNAL VALIDITY
- EXTERNAL VALIDITY

Facility categorization

- CATEGORIZATION OF FACILITIES BY WORKLOAD LEVEL

statistical test

- t –test for single population
- Descriptive statistics
- Relativities

DATA SORTING

- The data gathered from various facilities were compiled and arranged in a single document/paper:
- By facility
- And by staff cadre

VALIDATION OF WISN RESULTS

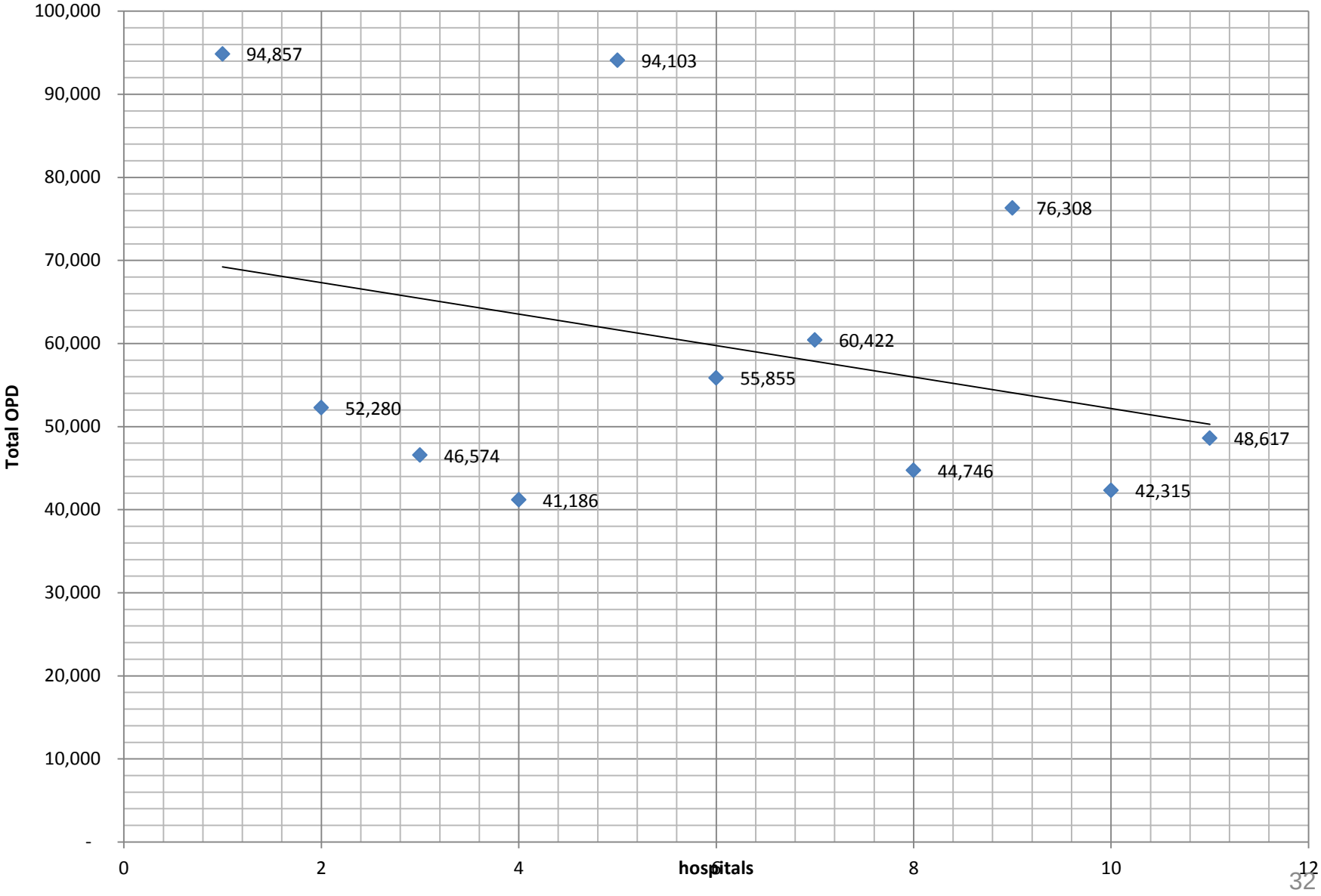
- Assess facility WISN output for internal and external validity
- Internal validity:
  - check to see if the results generally make sense in the light of expert knowledge about the general staffing situation in Ghana.
  - Check the relativities of cadres in the facility
  - **Re-analyse facility data where necessary**

- External validity: is there any significant difference between one facility and other similar facilities?

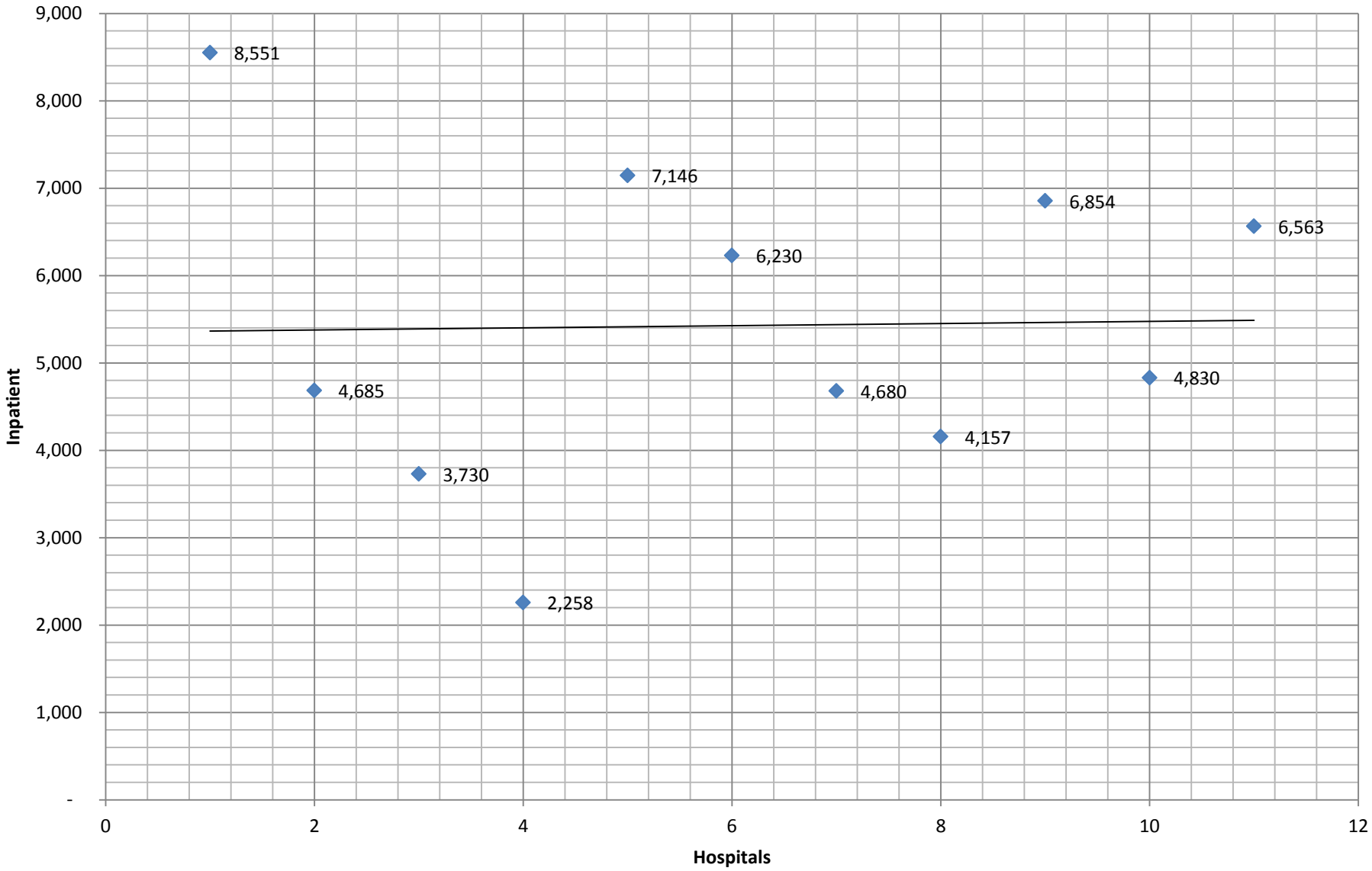
CATEGORIZATION

- Using cluster diagrams based on OPD and total inpatients district hospitals were categorized into four groups.
- Health centres were categorized based on only OPD.
- Regional hospitals and Specialized hospitals (psychiatric hospitals) were not categorized

OPD CLUSTERS



INPATIENT CLUSTERS



CATEGORIZATION OF DISTRICT HOSPITALS BY WORKLOAD LEVEL

Total Annual OPD	Total Annual Admissions			
	≤4157	4685 – 6563	6834 – 9000	≥ 9450
≤46574	A			
48903 – 76308		B		
80123 – 100000			C	
105000 +				D

HEALTH CENTRE CATEGORIZATION

OPD Attendance	Category	Facility
≤ 12,655	A	Health Centre
13,678 - 28,119	B	Health Centre
≥ 29,525	Polyclinic	Polyclinic

REMARKS ON CLASSIFICATION OF DH/HC/PC

- For a facility to move from one category to the next one with higher staffing requirement, it must exceed the upper limit of the current category by at least 5%.
- This upholds stringent 95% confidence level or 5% margin of error.
- To also guard against ‘minimal change effect’

Categorisation of Teaching Hospitals

- The Teaching Hospitals (TH) were nominally categorised into two; Thus, Established (EsTH) and Emerging Teaching Hospitals (EmTH).

- A 36% difference existed between the OPD attendance of EmTH & EsTH (*p=0.01);* inpatient difference was 54% (*P=0.02*) - paired t-test.

THs Intra-Category differences

- Among EmTHs, 71% OPD and 43% admissions difference exist between the EmTHs being established and those established within the last ten (10) years.
- Differences in service utilisation outputs among the EsTHs was about 12%.

CHOICE OF STATISTICAL TEST FOR DETERMINING THE NORMS

Given that:

- The WISN results (our samples) were independently drawn from their respective population
- Population mean was not known
- WISN measurement is at least on the interval scale
- We further assumed that, the distribution of facilities and cadre were normal in form

STATISTICAL TEST

- The appropriate statistical test was therefore the **t-test for single population**
- The data was coded and entered into SPSS and analyzed using the t-test at a 0.05 criterion/significance level or 95% confidence level
- However, there were some data challenges in a few cases where other inferential methods were used to augment.

STATISTICAL TEST CONT'D

- Staff requirement of some of the cadres at the Teaching Hospital was obtained from only one hospital
- As a result, statistical tests were used to compare the regional hospitals with the Teaching Hospitals.
- ANOVA was not useful in this comparative analysis because the groups were less than 3.

STATISTICAL TEST CONT'D

- A paired t-test showed that the OPD of the Teaching Hospitals and Regional Hospitals was significantly different (P=0.02) but inpatient at regional and teaching hospital was not significantly different (P=0.49)
- Therefore OPD was the reliable determinant to use for relativities
- The THs OPD output was 48% more than those of the Regional Hospitals.
- This difference was applied to set the staffing level of the teaching hospital for some cadres.

Where is the Reviewed Staffing Norm?

The New Staffing Norms

- A Staffing Norm has been developed which covers **about 74% of all the categories of health workers** in Health Centres, District Hospitals, Regional Hospitals and Teaching Hospitals based on workload.
- Workload components (tasks performed by staff) and their service standards (time spent in performing the tasks) have also been developed for the 74% of staff categories covered

THE NEW STAFFING NORMS

- Stakeholders input has been sought and incorporated in the new Staffing Norms

The New Staffing Norms – pdf / word

PROJECTIONS?

- **A test run indicates that**
  - ✓ 15% increase in workload leads to 23. 5% increase in Staffing requirement
  - ✓ 10% increase in workload leads to 14. 3% increase in staffing requirement
  - ✓ 5% increase in workload leads to 6.3% increase in staffing requirement
- Beyond 15% workload increase, we recommend full WISN analysis in that facility

LIMITATIONS

- Regional and district Health directorates & Training institutions, have not been covered
- No data collected from Private and Quasi Gov't hospitals
- Few administrative staff have not been covered because activity standards could not be developed for the at the time.

CHALLENGES

- Funding
- Time constraints
- Data quality (over aggregation, nominal roll issues, support staff data)

THE GOOD NEWS

- Ghana is the first country to use the WISN process to develop staffing norms (other countries e.g. Namibia & Kenya used it for staffing distribution)
- Norms completed and awaiting stakeholder engagement
- Report is being finalized (99% completed)

WAY FORWARD

- There is the need for a possible mop-up to include institution/staff that were not included.
- Training of HR managers/Officers in using the WISN to determine their staffing requirement to justify local distribution or new recruitment
- Trend analysis and long term projections
- Customization of WISN and integration into DHIMS

and finally,

Thanks for your attention

Questions & Contributions

Please, send further suggestions to

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Last Technical Meeting