

**Review and Development of National Curricula for the Diploma of General Nursing and Certificate for Community Health Worker (CHW)**

**Brief 4: NDOH Research Baseline Data Analysis Workshop**

**Introduction**

This brief provides an overview of the baseline analysis workshop undertaken as part of the *Review and Development of National Curricula for the Diploma of General Nursing (DGN) and Certificate for Community Health Workers (CHWs)* program funded by the World Health Organisation (WHO) and the Department of Foreign Affairs and Trading (DFAT) in partnership with Papua New Guinea's National Department of Health (NDoH).

The review and development of the national curricula for nurses and CHWs is underpinned by an analysis of the perspectives of current students, graduates, supervisors, and educators on current curricula content, critical gaps in training, and their own capacities and capabilities. An Impact Assessment Baseline Survey of 8 Provincial Health Authority (PHA) provinces was conducted between October 2021 and February 2022 to gather this valuable data, which would be used in turn to inform program activities, priorities, and directions.

Beginning on the 14<sup>th</sup> of March 2022, a 10-day workshop with the NDoH Research Team and the NDoH IT and Research Departments was conducted, with WHO CC UTS providing refresher training and guidance on recommended processes for data organisation, analysis, and coding to better support the most effective use of the data. In particular, WHO CC UTS provided support on 3 key areas of research analysis:

1. Recognising the type of data collected;
2. Organising the data; and
3. Data immersion and strategies for identifying thematic content.

The objectives for the workshop were:

1. To conduct short trainings on method for analysing quantitative and qualitative data;
2. To input and tally all quantitative raw data on to the excel spread for the 8 Provinces;
3. To analyse the qualitative data; and

4. To obtain results of the analysis and prepare for write up and usage in the DGN & CHW Curricula review.



*The PNG Research Team discussed the particulars of the baseline data generated by the survey*

**Recognising the Data**

The NDoH Research Team and WHO CC UTS commenced the data analysis process by firstly looking at the different forms of data collected during the Baseline Survey. The survey involved a paper-based questionnaire of approximately 25 questions. It was distributed to 4 key groups:

- CHW Graduates;
- CHW Supervisors;
- Nursing Graduates; and
- Nursing Supervisors.

The sample size for the study was initially targeted at 200 subjects, and was to include an even representation of each participant group. However, due to the great enthusiasm of graduates and educators to be participating in the research, the sample size generated by the survey increased to 489 participants.

The nurse and CHW graduates included in the sample were those who had graduated between 2015-2020, and are currently employed within one of the 8 surveyed provinces. The clinical supervisors were the senior nurses or CHWs who supervised, mentored, or coached graduates in their professions.

The survey questions predominantly addressed the perceptions of CHWs and nurses towards the existing curricula, their training experiences within the scope of that curricula, and their understandings of best-practice protocols and procedures. These questions largely adopted a Likert scale format: the intent was to provide a clear, quantifiable, and holistic overview of the opinions of graduates and supervisors towards each topic. In addition, qualitative data was generated through the inclusion of an open-ended question at the end of each response asking participants to briefly explain the reason for their rating. Workshop participants discussed the necessity of identifying and separating the qualitative and quantitative data to guide and expedite the analysis process.

### Organising the Data

Following a discussion of the types of data collected in the survey, the teams discussed how this data had been filed and managed. The data had been organized into two types of files:

- Excel spreadsheets containing quantitative responses generated according to the Likert Scale);
- Word documents containing qualitative responses to the final two questions. These questions asked survey participants to list 5 skills they had learnt in their workplaces that weren't covered in the curricula, and 5 skills that they would like to see included in the new curricula.

Both the Excel spreadsheets and the Word documents were organized according to province (e.g. New Ireland) and participant type (e.g. CHW graduate). In addition, individual responses were labeled with a provincial/category identifier (e.g. New Ireland CHW graduate response 20: NIGCHW20). To begin, the Excel spreadsheets were cleaned to remove demographic data: this allowed for the integration of participant groups across all

seven provinces (always excluding East New Britain as a pilot). Integrating the Provincial Excel data allowed the team to create 4 graphs to plot, visualize, and analyse the responses of all CHW graduates, CHW supervisors, Nursing graduates, and Nursing supervisors. For additional analytic clarity, the Likert scale was further reduced to 4 types: 'agree' responses were combined with 'strongly agree' responses, and 'disagree' responses were combined with 'strongly disagree' responses. This enabled the teams to easily identify questions eliciting the least positive responses across all provinces.

For the qualitative data collected in the Word documents, the teams aligned the responses from each participant type/province under each question, before integrating the responses from each province together in one document. This allowed the teams to subdivide the responses according to participant type and prepare the data for content analysis.



*NDoH Research Team coordinated with WHO CC UTS to conduct the data analysis workshop*

### Data Immersion and Content Analysis

Following the organisation of the data, the teams engaged in data immersion and a content analysis of the qualitative responses. After reading all responses to a single question together, the teams analysed the data for any repetition of words, for any synonyms or synecdoches in the listed responses, and for emergent patterns across the data set. Repetitions were identified using word frequency searches in NVivo. This process allowed the teams to quickly identify recurrent themes and concerns highlighted



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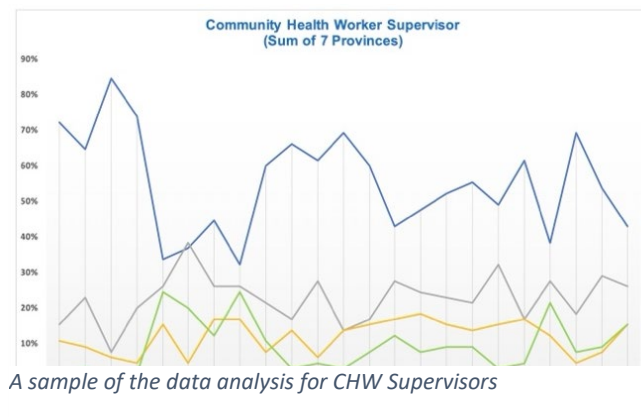
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in the data, and to organize the most pertinent content into specific subcategories, such as:

- Referral and reporting skills
- Suturing techniques & procedures
- Delivery and maternity care skills (breech, vacuum)
- Health education and promotion

Data immersion and content analysis enabled the teams to pose particular questions of the data. Relevant questions for each survey were agreed upon by workshop participants after brainstorming and discussing recurrent patterns in theme and content. Moreover, the formation of these questions was informed by reading the concerns highlighted in the survey responses against those highlighted in the Gap Analysis. This corroboration is discussed in more detail in the 'analysis' section below.



In light of these considerations, some of the questions posed by the researchers included:

- Did the supervisors and graduates hold the same or different views on the skills that must be taught in the CHW program?
- Were there any recurrent discussions about the duration of the program, or about specific and general skills to be covered in the curricula?

### Data Analysis

Following the identification, organization, and coding of the data, the teams commenced their analysis and began drafting up their initial results.

Combining the data generated within each province, the teams created graphs to visualize and compare the responses of CHW and Nursing graduates and supervisors. At first glance, the graphs appeared to

demonstrate favorable responses to most of the questions posed in the survey. However, a closer inspection revealed key differences and points of variation in the responses. Question 19 in the CHW Supervisor survey, for example, which was concerned with the ability of CHWs to effectively manage and control the spread of preventable infections, generated less positive responses amongst survey participants than other questions.



*NDoH Researchers participating in the data analysis workshop*

Questions that registered less positive responses were reviewed against the results of the Gap Analysis. This process allowed the teams to validate the content of the Gap Analysis and corroborate their findings: less positive responses towards the infection control skills, for example, aligned with a concern highlighted in the Gap Analysis about infection prevention the management of communicable diseases more broadly. In addition, reading the Gap Analysis against the survey indicated additional areas that might need to be prioritised for curricula redevelopment and review, such as an increased focus on referral pathways. Throughout this process, the teams considered the relative weight to be assigned to the different issues by considering the frequency with which specific content was highlighted by survey participants.

### Discussion and Next Steps

In closing, the teams reflected on the successes of the workshop. They met their key objectives: brief training on methods for analyzing quantitative and qualitative data was conducted; all quantitative raw data for the 8 Provinces was tabulated, organised, and analysed; qualitative survey responses were successfully parsed for thematic content; and the results of the data analysis were obtained, compared



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against the key concerns highlighted in the Gap Analysis, and prepared for usage in the DGN & CHW Curricula review.

In addition, the team discussed the possibility of the survey, its methodology, and its findings being documented in an academic journal article – this process would provide the teams with valuable space to expand on their analysis and critically reflect on the particulars of the survey exercise, including reliability and limitations. Finally, the teams reflected on the fact that the survey forms just one valuable component of the wider project of supporting the effective review and redevelopment of the curricula. The survey, together with the Gap Analysis, the Faculty Development and Educators Needs Assessment Survey, and additional program deliverables forms a key piece of the complex task of reviewing the current curricula and ensuring that the redeveloped curricula is fit-for-purpose. A draft 'puzzle' image was developed by the WHO CC UTS to illustrate this point: it allows one to consider the role of the survey in the wider context of curricula development and the foundational principles which underpin this process.



Draft 'puzzle' of curricula redevelopment, created by workshop participants

The analysis of the baseline data is allowing researchers to assess the effectiveness in the existing curricula, and to highlight gaps in skills and knowledge for current students, graduates, supervisors, and educators in the CHW and Nursing programs. To better support the most effective usage of the data, WHO CC UTS staff continue to support the NDOH researchers using online tools like Survey Monkey to support data visualization and analysis.

This will inform the curriculum design through evidence-based learning.

The results of the baseline data analysis will likewise feed into a revised Faculty Development and Educators Needs Assessment Survey to be conducted by the WHO CC UTS and PNG research teams in 2022. This survey will be conducted in collaboration with all nursing and CHW institutes involved in the *Program to Strengthen Health Workforce Education* in PNG. Together with the baseline analysis, it will provide foundational evidence and knowledge to build capacity programs for educators and faculty that are fit for purpose, co-designed, and appropriate to the collectivist cultural context in the Pacific, with the ultimate aim of improving the quality of graduates and PNG health outcomes.

#### Key Outputs:

- Brief training on methods for analyzing quantitative and qualitative data was conducted.
- All quantitative raw data for the 8 Provinces was tabulated, organised, and analysed.
- Qualitative survey responses were successfully parsed for thematic content
- The results of the data analysis were obtained, compared against the key concerns highlighted in the Gap Analysis, and prepared for usage in the DGN & CHW Curricula review.

#### Attendance:

1. Mary Kililo- NDOH
2. Julie Dopsie – NDOH
3. Julie Kep – NDOH
4. Nina Joseph – Nursing Council
5. Russell Kitau – Medical Board
6. Sulpain Passingan
7. Peter Apau - HR Training
8. Catherine Welen - HR Training
9. Debbie Kasi - Statistician PMRB, NDOH
10. David Rupenti- IT NDOH
11. Mary Roroi NDOH WHO CC UTS
12. Shirlyn Belden NDOH WHO CC UTS
13. Kylie McKenna WHO CC UTS
14. Michele Rumsey WHO CC UTS

