A National Paediatric Quality Improvement program

Since 2009 we have accurately monitored the admissions, deaths and case fatality rates for children in many provincial hospitals, through the Paediatric Hospital Reporting (PHR) program. From the PHR we know the case fatality rates for pneumonia, diarrhoea, malaria, severe malnutrition, neonatal conditions; in total 25 paediatric and newborn conditions. 18 hospitals have contributed data to the PHR from 2009-2018.

Until last year the overall case fatality rate for provincial hospitals remained static at 7.1-8.1% of all admitted children. In 2018 when we saw the first trend of improvement at 6.7%, a very significant improvement. Before 2018 case fatality rates for common conditions such as pneumonia (5%), severe pneumonia (10-20%) were static. However in 2018 CFR for pneumonia has significantly improved: 3.5%, and 9.6% for severe pneumonia. In 2018 severe malnutrition CFR was 12.3%, down from 18-22% each year in 2010-2015.

Further improvements are possible, and this is demonstrated by some hospitals. No one intervention is going to lower child mortality rates in PNG. Progress will only be made by a combination of health care improvements. Public health gains will come from back to the basics: of education, nutrition, immunization, WASH, and family planning. Curative health care gains require a comprehensive approach to quality improvement and education, not a focus on one disease or one intervention.

What is needed is a National Paediatric Quality Improvement Program. Such programs exist in many countries and drive change in health care.

The components would include strengthening of existing initiatives that are often fragmented or poorly supported into a comprehensive program that includes:

1. A quality improvement team in each provincial hospital
2. Regular mortality and morbidity audits, and training in how to learn lessons from these and implement changes
3. WHO quality standards for the care of children and adolescents in health care facilities
4. Training on holistic care of seriously ill children, through the WHO Hospital Care for Children training
5. Establishment of intensive care areas in the paediatric wards for the care of the sickest children
6. Standardised colour-coded paediatric monitoring and response charts with early warning indicators and escalation processes
7. Infection control and antibiotic stewardship
8. Improved systems for managing children with chronic conditions (neurodevelopmental, epilepsy, chronic cardiac, respiratory, cancer)
9. Improved diagnostics, especially diagnostics to guide antibiotic use
10. Continuing professional development for paediatricians and paediatric nurses

Outcomes

A National Paediatric Quality Improvement Program would have measurable outcomes, based on the data from the PHR. The aims include, in all hospitals and nationally:

- Overall paediatric mortality rate to less than 5%
- Pneumonia case fatality rate to less than 3%
- Severe pneumonia case fatality rate to less than 7%
- Severe malnutrition mortality to less than 10%
- Mortality of very low birthweight babies to less than 25%
- 90% TB treatment completion rate
- Extra-pulmonary TB case fatality rate to less than 10%

- Meningitis / encephalitis case fatality rate to less than 10%
- Systems in place for the care and follow-up of children with chronic illnesses

What is required for a National Paediatric QI program?

A National Paediatric Quality Improvement Secretariat: made up of members of the Paediatric Society and NDoH.

A quality improvement team in each provincial hospital children's ward.

Funding for each participating hospital for QI activities.

A quality improvement team would be established in each hospital, to oversee QI initiatives, including the implementation of Standards, introduction of Paediatric Monitoring and Response charts, coordinate Morbidity and Mortality Review meetings and action results from audit, monitoring of Antibiotic stewardship, and implement QI initiatives according to the local needs and priorities with the aims of achieving the national targets.

Training for nursing and medical staff in quality improvement, including how to conduct and learn lessons from audit, understanding paediatric data and making change.

Assessments and accreditation of hospitals in implementing Standards and a QI approach: this will require a travel budget for visits by senior paediatricians to accredit and support hospitals in these processes.

Budget to support a National Paediatric Quality Improvement Program for 2019-2020

Item	Purpose / details	Cost
A Paediatric Quality Improvement Officer who would liaise with hospitals, support QI, data collection and monitoring	Liaise with hospitals, support Quality Improvement activities, the Paediatric Hospital Reporting program for data collection and monitoring Full-time role	Salary: K50,000 per annum Travel to all provincial hospitals: K30,000 per annum
A meeting on Quality of Paediatric Care at the 2019 Paediatric Medical Symposium	Paediatric Symposium (August 28-30) the week prior to annual Medical Symposium, Port Moresby. One full day on discussing and launching a National Paediatric Quality Improvement program. Presentations of QI research. Another day on medical education, where the incorporation of QI into medical and nursing education will be discussed as part of this.	K100,000 for 2-day meeting, including support for travel, accommodation, venue.
Grants for Paediatric Quality Improvement initiatives, including the roll-out of paediatric monitoring and response charts, Hospital Care for Children training	Grants to be provided for specific QI activities	K200,000 to be allocated by the Paediatric Quality Improvement secretariat and UNICEF, based on certain criteria of participation and reporting
Printing of 2019 and 2020 Child Morbidity and Mortality Reports	Annual report describing the paediatric hospital reporting program data on admissions / deaths and analysis	K50,000 x 2
Mid-year meeting in 2020 to focus on Paediatric Quality Improvement	Meeting of all paediatricians involved in QI in June 2020	K150,000
Total		K630,000