A descriptive analysis of gaps in nutrition services across multiple countries

This is a summary of the following paper: Ramadan M, Muthee T, Okara L et al. (2023) Existing gaps and missed opportunities in delivering quality nutrition services in primary healthcare: A descriptive analysis of patient experience and provider competence in 11 low-income and middle-income countries. BMJ Open, 13, 2, e064819.
https://pubmed.ncbi.nlm.nih.gov/36854587/

This cross-sectional study analysed standardised, publicly available service provision assessments – comprehensive surveys that collect data from primary healthcare facilities – across 11 countries (Table 1). The secondary data analysis aimed to assess the competence of primary healthcare providers in delivering essential and preventative nutrition services and patients' experiences in receiving the recommended components of care. Patient experience was assessed through self-reported nutrition service awareness, while provider competence was assessed via direct observation during antenatal care and sick child visits.

To perform the analysis, all outcome variables associated with both patient experience and provider competence were coded as either 1 (available) or 0 (not available). These binary variables were then used to generate facility-level averages for analysis. Data were obtained for 18,644 antenatal care and 23,262 sick child visits across 8,458 facilities.

All but one country (Democratic Republic of Congo) reported patient experience scores below 50% and provider competence was below 50% in every country. Patient experiences with child nutrition services were found to be significantly poorer compared to maternal services. Across all countries, less than 42% of clients reported that their child's weight and growth were discussed with them. In 10 of the 11 countries, only 40% of clients received appropriate fluid intake or breastfeeding counselling and less than 40% received solid food counselling during illness. The Democratic Republic of Congo was an exception, as 99% of clients reported being advised on both fluids and solids.

Although the patient experiences were generally poor across the board, most providers (>72%) explained how to take iron and folic acid at an antenatal care visit. Despite this, knowledge exchange regarding iron side effects was poor (<31%) across all countries, highlighting a lack of depth in nutrition consultation. In addition, in all countries with available data, less than 20% of observed providers advised on early breastfeeding practices. A full breakdown of results for separate indicators can be found in the original paper.

> *"There was evidence of a lack of depth in providers' assessment of the nutritional status of expectant mothers and children."*

A limitation of the study is that data were taken from different time points across different countries; therefore, although this provides an overall picture, it is difficult to compare the findings between countries as indicators change over time. Patient experience was also a self-reported measure, which lends itself to reporting bias, although this method has provided a large sample size to draw from, which is a positive.

Another important consideration is that the analysis was only conducted for primary facilities (n=6,248, 76% of the sample). This means that these results are only valid for community-based nutrition services. Most data were collected from rural settings.

Although measuring quality nutrition service data in the primary healthcare system remains challenging, this evidence highlights that services were lacking in the 11 assessed countries. There are significant opportunities for improvement.

Table 1 Service provision assessments included in the cross-sectional study

Country	Year
Afghanistan	2018
Democratic Republic of Congo	2018
Haiti	2017
Kenya	2010
Malawi	2013–2014
Namibia	2009
Nepal	2015
Rwanda	2007
Senegal	2018
Tanzania	2015
Uganda	2007

Ensuring that 'at-risk newborns' receive appropriate yet cost-effective care

This is a summary of the following paper: *Narayanan I, Litch J, Srinivas G et al. (2023) At-risk newborns: Overlooked in expansion from essential newborn care to small and sick newborn care in low- and middle-income countries. Global Health: Science and Practice.*
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9972386/

This position paper highlights the current state of care for newborns in low- and middle-income countries and argues for the introduction of a new category to reduce child mortality. Globally, great progress has been made over the last 20 years in reducing the under five years mortality rate by 58% and neonatal mortality by 51%. Yet both measures are a long way off the 2030 Sustainable Development Goals targets. This highlights a need to improve care for this group.

Identifying 'small and sick newborns' and providing targeted care to this group has proved to be an effective triage system so far. As well as concentrating treatment on the sickest children, this dichotomous model simultaneously allows low-risk children to remain with their mothers to encourage healthy bonding and breastfeeding practices – reducing the burden on healthcare systems that consequently do not need to spend resources on monitoring the whole patient population.

> *"Newborn care in low- and middle-income countries has transitioned rather abruptly from essential newborn care for all newborns to a focus on special/intensive care for the small and sick baby without considering an intermediate group of at-risk newborns."*

However, the authors argue that this system can be further divided with the introduction of an intermediate category, recognising that many children fall between the minimal physician care and intensive care levels on the spectrum. For this group, the authors cite findings from sub-Saharan Africa where keeping a closer eye on intermediate children reduces the risk of their deterioration.

The authors also point to findings from Uganda, Indonesia, and India – where the nurse-to-patient ratio ranged from 1:15 to 1:30 – and propose that an intermediate group would reduce this ratio as children requiring only minimal supervision could be seen outside of neonatal units.

In their proposal, the authors define this intermediate group as 'at-risk newborns', describing a neonate with increased risk of morbidity and/or mortality who is still maintaining homeostasis and does not require specialist or intensive care. This group still requires close monitoring, as their risk for deterioration is high, but the technology used can be basic and delivered through a practitioner with less formal training than a nurse.

It is logical that this would reduce the burden on the formal healthcare system, which could save both time and money. However, any changes would need to be balanced with the additional cost of training this intermediate layer. The authors note that this would still be cheaper than the dichotomous model, which again is logical, but rolling this out into practice would require additional data on cost and efficacy. There may also be some children lost to follow-up or incorrect referrals of children. as adapting a two-tiered system to the three-tiered model could create confusion for both patients and healthcare workers.