The role of learning from other countries in Nepali health system reform

Focusing on CB-IMCI/NCP/IMNCI reform.

Learning for Action Across Health Systems –
Case Studies

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Acknowledgements

Executive summary

Background

Nepal is one of the poorest countries in Asia and has achieved only modest growth over the past two decades. Despite this, and its land-locked status, difficult topography, a decade-long armed conflict, political instability, and vulnerability to natural disaster (such as the 2015 earthquake), it has achieved sharp reductions in poverty and achieved Millennium Development Goal (MDG) 4. Coordinated efforts by the government and increased financial investment by international partners may have taken the lead in enabling this, but huge national social capital in the form of female community health volunteers (FCHVs) also played a vital role.

Focal reform

Our analysis traces three connected interventions: Community-Based Integrated Management of Child Illnesses (CB-IMCI), the Community-Based Newborn Care Package (CB-NCP), and Community-Based Integrated Management of Newborn and Childhood Illness (CB-IMNCI). The first targeted under-five mortality and was the product of a contextualised World Health Organization (WHO) recommendation. The second reflected the government's attempt to reduce neonatal mortality when a contextually implementable WHO recommendation was not available. The third is a merger of the first two, taking into account the contemporary state of Nepal's health system (given that what is possible now was not possible when CB-IMCI or CB-NCP were first launched) and adjusting some of the more controversial components of CB-NCP.

Key findings

The existence of a clinical guideline that could be implemented in Nepal's health system (and was endorsed by the WHO) significantly grounded the ultimate policies (allowing for minor contextualisation). Where there was no applicable guideline (i.e. in the case of CB-NCP), the evidence base alone was not strong enough to dictate the outcomes. The design of CB-NCP included, to some extent, a canvassing of the international literature. Issues arose where there was not enough evidence to categorically inform a decision but a clear need to do something (for example, how to treat asphyxia in the community).

Both international and national evidence played a role in conceptualisation and contextualisation of the reforms. A network of technical working groups reporting to steering committees and then on to directors and ministers enabled the contextualisation of international evidence into a nationally implementable policy. Locally generated evidence and the credibility of the WHO were both facilitators of internalisation (at different stages). Decision makers looked to India, Bangladesh, and Pakistan more than elsewhere for the international evidence that was used. Internalisation needed to go beyond government decision makers. Key donors and the general public also needed also needed to internalise lessons for the reforms to be successful.

Direct implications for the Bill and Melinda Gates Foundation (BMGF)

There is significant scope for learning between countries with respect to the package of services provided to the population and the manner in which that package is delivered. In some instances, international guidelines exist and the challenge is to adequately contextualise them. In other instances, however, health systems may have to develop packages from scratch. In such cases it is still possible to learn from other countries, but ensuring all the necessary organisations agree on the final package and guidelines may be more difficult.

Table of contents

List of abbreviations

ADRA	Adventist Development and Relief Agency
ARI	Acute Respiratory Illness
BMGF	Bill and Melinda Gates Foundation
CBAC	Community-Based Management of ARI and CDD
CB-IMCI	Community-Based Integrated Management of Childhood Illness
CB-IMNCI	Community-Based Integrated Management of Neonatal and Childhood Illness
CB-NCP	Community-Based Newborn Care Package
CDD	Control of Diarrhoeal Diseases
CHD	Child Health Division
CHL	Community Health Leaders
CHX	Chlorhexidine
FCHV	Female Community Health Volunteer
FHD	Family Health Division
IMF	International Monetary Fund
IMR	Infant Mortality Rate
IRHDTC	Integrated Rural Health Development Training Centre
NEPAS	Nepal Paediatric Society
NFHP	National Family Health Programme
N-TAG	Nepali Technical Assistance Group
JSI	John Snow, Inc.
MDG	Millennium Development Goal
MoF	Ministry of Finance
MoHP	Ministry of Health and Population
NDHS	Nepal Demographic Health Survey
NGO	Non-Governmental Organisation

NHTC	National Health Training Centre
OPM	Oxford Policy Management
SNL	Saving Newborn Lives
STC	Save the Children
TWG	Technical Working Group
U5MR	Under-Five Mortality Rate
UMN	United Mission to Nepal
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Introduction

The most crucial period for the survival of children is the first day, week, and month of life (UN, 2015), with preterm birth complications, intrapartum-related complications, and pneumonia being the major causes of under-five mortality (Liu *et al.*, 2015). As estimated by the United Nations (UN) Inter-Agency Group for Child Mortality Estimation, between 2016 and 2030, if the mortality rate remains at this 2015 level, 94.5 million children will die before they reach the age of five (You *et al.*, 2015). That being said, much progress has been achieved in terms of under-five mortality. Globally, by the end of 2015, under-five mortality had declined to 6 million (43 deaths per 1,000 live births) from the 12.7 million (90 deaths per 1,000 live births) it had stood at in 1990. Sixty-two countries achieved the MDG 4 target, out of which 24 were low- and lower-middle-income countries (You *et al.*, 2015). Similar progress has been observed in MDGs 5 and 6. Maternal mortality (MDG 5) declined by 45%, HIV infection fell by almost 40%, and almost 6.2 million malarial deaths were averted (MDG 6) between 2000 and 2015 (UN, 2015).

Neonatal mortality, however, has not shown a similar trend – progress has been much slower. An increasing proportion of under-five mortality is due to neonatal deaths. Although the gaps are narrowing, deaths are highest among the poorest households, rural areas, and among uneducated mothers.

Since the turn of the century, many countries have been able to achieve rapid growth but with only moderate reductions in poverty (World Bank, 2017). Nepal, on the contrary, has shown modest growth but sharp reductions in poverty. According to the Inclusive Development Index of the World Economic Forum 2017, Nepal ranked 27th among developing countries. This is above India, Cambodia, Brazil, and Sri Lanka. However, its low growth means that it still has a low *per capita* income and, unlike most of its South Asian peers, has not been able to graduate from low-income status. Nepal's land-locked status, difficult topography, and vulnerability to natural disasters, such as the recent 2015 earthquake, have become important development barriers. In addition, a decade-long armed civil conflict and the outmigration of large numbers of people, transition to a multiparty democracy from a monarchy, frequent change of government, and unsupportive policy choices have further hindered the growth process over the last 20 years (World Bank, 2017). Because of low investment and low growth equilibrium, by 2015 some analysts believed that Nepal was falling toward becoming a fragile state (International Monetary Fund (IMF), 2015).

At the same time, Nepal has made substantial progress in achieving MDG 4, with reductions in the infant mortality rate (IMR), under-five mortality rate (U5MR), and increased measles immunisation among children under five. The IMR has decreased from 108 per 1,000 live births in 1990 to 33 in 2014 and 32 in 2016. According to the Nepal Demographic Health Survey (NDHS), (MoHP and Macro International Inc., 2016), the U5MR decreased from 162 per 1,000 live births in 1990 to 39 in 2016. Several factors, including focused and coordinated efforts on the part of the government, increased financial investment, political commitment, national and international non-governmental organisations (NGOs), bilateral organisations, UN agencies, and communities have played an important role in achieving and sustaining this result (Smith and Neupane, 2011). In programmatic terms, the initiation and rapid coverage of interventions targeting the major causes of under-five mortality, through a variety of community-based approaches, have facilitated this transfer process. Interventions such as CB-IMCI, CB-NCP, CB-IMNCI, semi-annual distribution of

vitamin A supplementation, immunisation, Chlorhexidine (CHX) cord care, WASH activities, and deworming programmes have all contributed to this decline.

This case study focuses on Nepal's journey to CB-IMNCI, moving through CB-IMCI and CB-NCP over the last 20 years. It is an example of a low-income country defining and adjusting a package of health services available to a priority group (in this case children). The report aims to analyse the role that learning from other countries played in this journey.

At the global level (but with an implicit focus on low- and middle-income countries), the WHO and UN Children's Fund (UNICEF) introduced IMCI in 1995 as an integrated strategy to prevent illness, treat and cure sick children, and improve the survival of children under five in countries with more than 40 deaths per 1,000 live births. Children often suffer from multiple conditions, making single diagnosis impossible and requiring combined therapy for successful treatment. IMCI is an integrated strategy that promotes accurate diagnosis, focuses on rational use of drugs, combines the treatment, and broadens the approach to ensure that co-morbidities are not missed. The package targets the five main killer diseases – pneumonia, diarrhoea, malaria, measles, and malnutrition – and consists of three components: improving health workers' skills, strengthening health systems, and improving family and community practices. In 2003, the terminology was changed to IMNCI with the inclusion of sick newborns under one week of age; many countries also renamed the approach following the change. With scientific advancement, including innovations in vaccines, therapies, and communication practices, the package is continuously being reformed.

After the launch of IMCI, a lack of sufficient, sustained, and focused global leadership led to poor programme monitoring, target identification, and operational research. Only those countries with strong leadership and commitments were able to keep up with the global targets. IMCI showed promising effects in countries where there was a favourable health system, systematic planning and implementation, and political commitment for institutionalisation. The package has now been implemented by more than 100 countries with varying degrees of success (WHO, 2016b).

In Nepal, the process of implementing IMCI started soon after the WHO launch, and continues to be modified today (see Figure 1).

**Figure 1: Relevant programme start dates in chronological order**
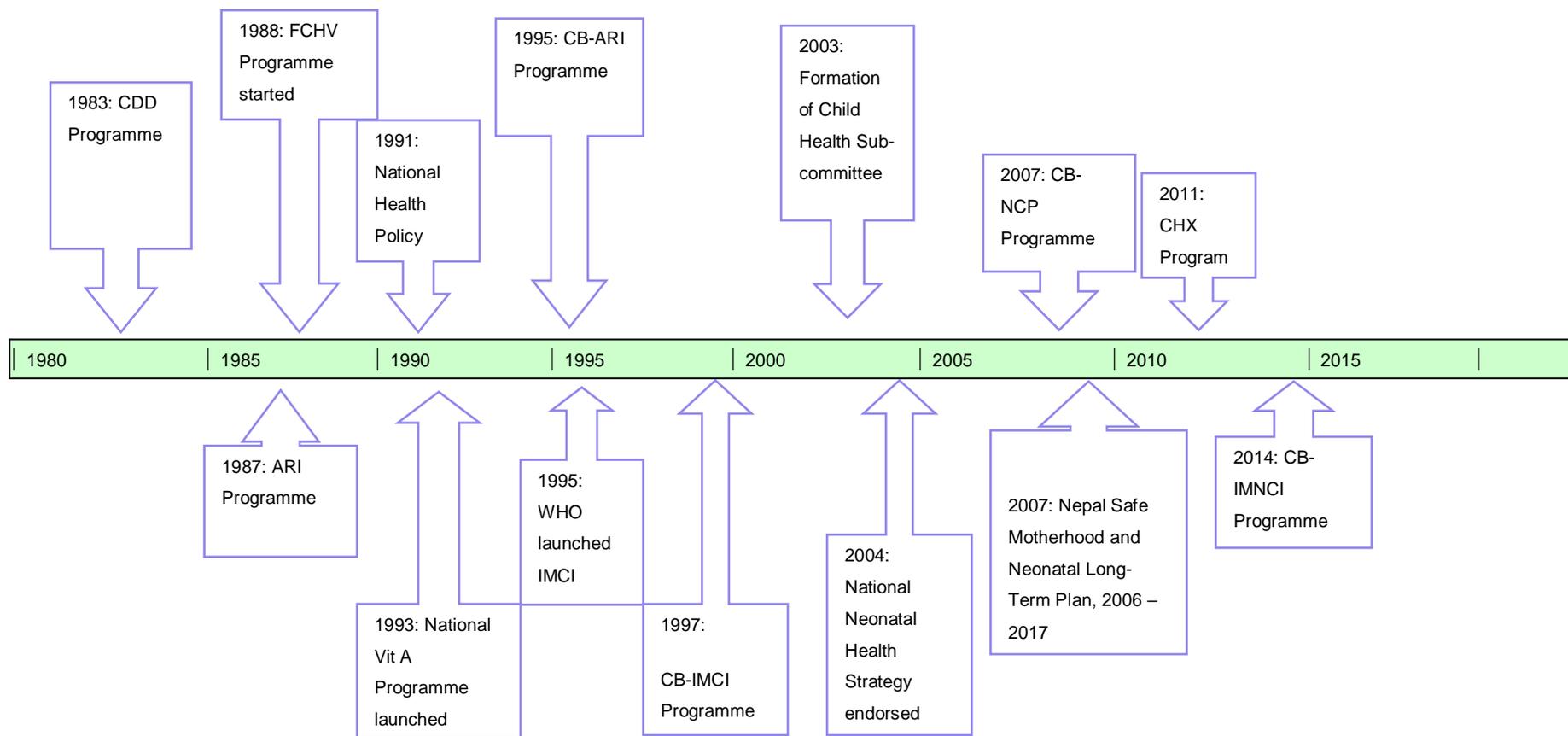
Methodology

We use a series of semi-structured interviews to gather initial information on the reform processes that have led to Nepal's current version of its nationally implemented IMNCI. Our aim is to develop a basic understanding of '*what, why, and how*' learning from other countries played a role (if at all).

This is a case study of health system reform in a low-income country[1] that had made significant progress against the health-related MDGs by 2010. This progress was assessed by replicating an approach used by the Center for Global Development (Leo and Barmeier, 2010), but focusing specifically on MDGs 4, 5, and 6 using their publicly available dataset.[2]

We use a phased conceptual framework of international policy transfer to guide the exercise, and a narrative approach to describe how the reform progressed through each stage. The conceptual framework (depicted in Figure 2) starts with conceptualisation. This is the beginning of the policy transfer process and refers to the development of the broad idea of the policy itself. Formation and contextualisation refer to the process by which the key conceptual and operational tenets of policy are concretised and the process by which policy is considered for adoption and modified to the social, economic, political, and cultural norms of the recipient country respectively. Internalisation is the process by which a formed policy is accepted and transformed by in-country policy systems. Operationalisation is the process of actually carrying out or implementing the reform. Finally, evaluation refers to critical assessment of any component of the reform – either formal or informal. These concepts are outlined in further detail in the project's previously published Landscaping Review Part 3.[3]

Figure 2: Phased conceptual framework for international policy transfer

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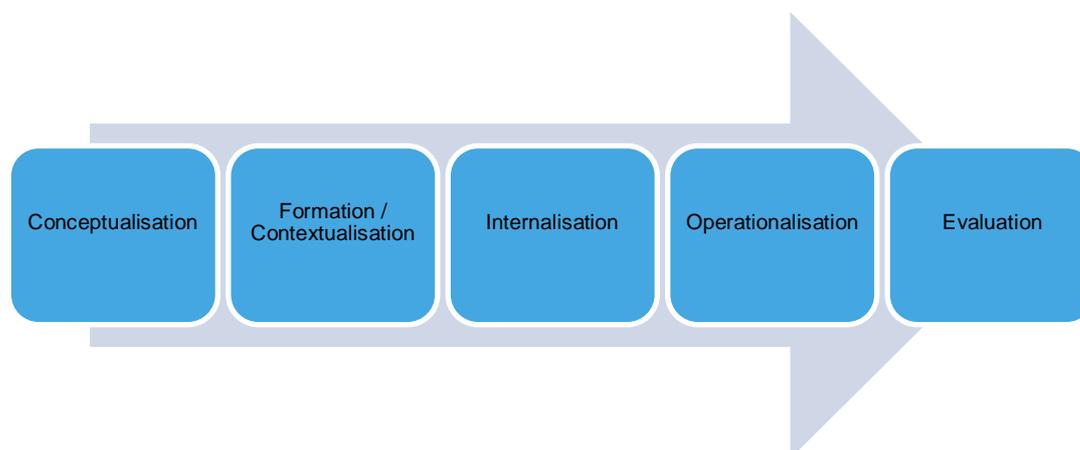
[1] Low income as defined by the World Bank..

[2] Dataset accessed on 19 June 2017. Available at www.cgdev.org/page/mdg-progress-index-gauging-country-level-achievements

[3] The phased conceptual framework is slightly adapted from one constructed in the project's Landscaping Review part 3, which is available at https://learningforaction.org/research-papers/landscaping-review-part-3/

Key informant interviews are the main source of information for this study, backed up by literature and document review (see the Bibliography for the list of documents reviewed). Key informants were selected purposefully and interviewed between 10 and 15 September 2017, with a view to including a wide range of participants who have played a direct role, either past or present, collectively across each phase of the selected reforms. Informants were targeted to give a range of perspectives across different categories of individuals involved in the policy development and transfer process – politicians, senior civil servants, senior health advisers in UN agencies, bilaterals and NGOs, health professional bodies, and academics. These included current or former officials of the Ministry of Health and Population (MoHP) and the Ministry of Finance (MoF), development partner organisations, hospitals, and training centres. Where it was not possible to coordinate an interview during the scheduled week, effort was taken to arrange an interview at a later date over Skype.

Interviews during the initial week were conducted face-to-face, led by the second author as overall project manager and accompanied by the first author as principal investigator and notetaker. One further interview was held over Skype in November 2017 and a second in August 2018, bringing the total number of interviews to 14. The first author also fulfilled the role of informant/insider as described by Fontana and Frey (1994) – able to act as a guide through the Nepali health system, recommend who should be interviewed, bring an extensive background understanding, and establish trust with those being interviewed. The Oxford Policy Management (OPM) Nepal Office also played a crucial role in this respect – advising on who should be interviewed and setting up the interviews. An interview topic guide (see Annex A) was developed in advance, with sections and suggested prompts for each of the policy transfer phases as well as general questions on whether these reform experiences were common in Nepal, whether there are particular barriers to learning in policy reform, and whether other countries had attempted to learn from Nepal regarding these reforms. Each interview lasted approximately one hour. Notes were taken during the interviews and subsequently typed up by both authors individually. The first draft was completed by the first author, and edited by the second author. Data from the document review was primarily used to corroborate information gathered during the interviews.

In addition, a first draft of the report was circulated among interviewees (for them to circulate wider if they wished) for further feedback. Where new insights arose at this stage they are incorporated into the work as a reviewer comment.

As this report is part of an eight-country series, local ethics approval was not also sought on a country-specific basis. Instead, the overall study was assessed and approved by the Ethical Review Committee of OPM.[4] The Chatham House Rule[5] was observed throughout.

Data from the key informant interviews and document analyses were used to address, at each stage of the policy transfer framework, what, why, and how (if at all) learning from other countries played a role. Learning from other countries is distinguished from

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[4] As this study is repeated in eight different countries, a centralised ethical approval was considered appropriate (other than in Solomon Islands, where local approval was required).
[5] When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

learning from systematised evidence to give a sense of whether information and learning played a role at all. A better understanding of these issues will contribute toward the wider project's final recommendation to the BMGF on future investments that may increase the capacity of health sectors in low-income countries to learn from the successes and failures of other countries as they implement their own system reforms.

The main limitation was the time to conduct the interviews (one week in-country). With more time, a wider group of informants could have been reached, which would have yielded even richer insights. As such, it is important to consider this study as just a rough and preliminary description of what may have happened. As reviewers of this report have highlighted, 14 interviews is not enough to give a conclusive account of a 30-year reform process. This is just a start in terms of trying to understand the historical policy process in Nepal and specifically how it related to CB-IMCI through to CB-IMNCI.

Results

1   How did interviewees position themselves in relation to the six phases of policy transfer?

The face-to-face interviews took place over a period of six days, with two online interviews completed later. A total of 14 key informant interviews were conducted (including the two conducted by Skype). The participants included current and former officials of MoHP (three interviews with separate individuals), MoF, Save the Children (STC), WHO (two separate interviews), UNICEF, Paropakar Maternity and Women's Hospital, Kathmandu Medical College and Teaching Hospital, John Snow, Inc. (JSI) Chlorhexidine Navi (Cord) Care programme, the United States Agency for International Development (USAID), Plan International, and the OPM Nepal office. Some individuals had worked for a variety of the abovementioned organisations.

Most of the government officials had a long history of working in the health sector and specifically in the maternal and child subsector. These officials also had significant experience working in different divisions such as the Child Health Division (CHD), Family Health Division (FHD), Logistics and Management Division, National Health Training Centre etc., with roles ranging from a former section chief to a former director general and a former Minister of Finance. Similarly, most of the informants working in the international organisations had at least 15 years of relevant work experience working in different roles that could be mapped on to different stages of the conceptual framework. However, some were new to Nepal and could only refer to more recent developments. Some of the informants, although not relevant in programmatic and technical terms, were interviewed in order to understand the cross-sectoral, general organisational perspective.

For ease of reading, parts two to six of the results section are presented consecutively for CB-IMCI, CB-NCP, and CB-IMNCI.

2   CB-IMCI

Use of systematic evidence and learning from other countries with respect to the Conceptualisation stage

IMCI is an 'integrated approach to child health that focuses on the well-being of the whole child'.[6] In 1995, WHO and UNICEF published IMCI guidelines for assessment, classification, management, and referral of children entering health facilities and encouraged countries with U5MRs above 40 per 1,000 live births to adopt it. The aim was to drive a departure from disease-specific management of illness, which risked missing key opportunities for effective treatment. For example, without integrated

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[6]

www.who.int/maternal_child_adolescent/topics/child/imci/en/www.who.int/maternal_child_adolescent/topics/child/imci/en/

management, a child presenting fever as their primary symptom may be treated for fever and discharged. Under the IMCI guidelines, that child should also be checked for fast breathing, malnutrition, etc. – a holistic approach of case assessment and management. It is an attempt to identify co-morbidities, tailor treatment and referral decisions accordingly, and to provide guidance on future ill-health prevention (WHO, 2016b).

All interviewees stated that the guidelines for IMCI were introduced to the MoHP by the WHO. However, a number highlighted that the general ideas of integrated management of illness and community-based involvement in health programme implementation were not new. Child survival interventions in Nepal had begun with the Control of Diarrheal Disease (CDD) programme in 1982, followed by the Acute Respiratory Infection (ARI) programme in 1987. Alongside these, community support for planning and programming of public health initiatives had started with a Community Health Leaders (CHL) programme in 1980 (which had evolved into the Female Community Health Volunteer Programme by 1988), targeting safe motherhood and the use of family planning. Both the CDD and ARI programmes independently experimented with the use of community volunteers with favourable results (discussed below) and, internally, the decision was made to merge the programmes into Community-Based Management of ARI/CDD (CBAC).

As one interviewee outlined, the specific IMCI package and guidelines were designed by an international organisation, based on evidence from around the world. In its specific form, the idea was new to Nepal when introduced. However, the idea in its more general form (integrated management of illness) was already being implemented. Moreover, many (but not all) of the particular interventions (diarrhoea and pneumonia) within IMCI were the same or similar to those in CBAC (but without the community-based component) and similar to those offered separately by the other programmes within the MoHP. Hence, the major change was that IMCI integrated all existing vertical packages into one horizontal, comprehensive package.

A key feature of the idea that facilitated uptake was the source – people trusted the WHO as a genuine authority without vested interests in particular programmes.

Use of systematic evidence and learning from other countries with respect to the Formation/Contextualisation stage

The main contextualisation of IMCI was the addition of the community-based component to the guidelines.

A year prior to the implementation of the CBAC programme, the Government of Nepal with support from WHO and UNICEF piloted Nepal's first IMCI programme at the health facility level in Mahottari district in 1997. After the implementation of CBAC at the community level and IMCI at the health facility level, it was observed that community case management of ARI and diarrhoea at the community level was higher and more effective than the implementation of IMCI at the health facility level. Based on these results, the MoHP decided to merge health facility-based IMCI and the CBAC approach to form a new package program – CB-IMCI (Houston *et al.*, 2012). Initially, WHO, UNICEF, and USAID/JSI provided support to the government for CB-IMCI. Later, National Family Health Programme (NFHP), PLAN, CARE, Adventist Development and Relief Agency (ADRA), JICA, Save (US), AusAID and United Mission to Nepal (UMN) also joined. In addition to these international organisations, national organisations such as Nepal Paediatric Society (NEPAS), Integrated Rural Health Development Training

Centre (IRHDTC) and Nepali Technical Assistance Group (N-TAG) also offered support, mainly at the health facility or community level. The government budget was first used to train health workers in this programme in 2005/06.

Under CB-IMCI, FCHVs managed cases of ARI and diarrhoea at the household level and referred severe cases to the health facilities (as they had been doing under CBAC). Once in the facilities, health workers broadly followed the WHO's original IMCI guidelines. Some interviewees mentioned small changes to the package, specifically for the malaria and nutrition components.

This process was specifically engineered by the CHD of the MoHP. The CBAC, malaria, measles, and nutrition programmes were invited to look at the WHO guidelines and make recommendations on where changes were necessary. These were then reported to the Minister, who accepted the recommendations.

Overall contextualisation of the WHO IMCI guidelines was facilitated by locally generated programmatic evidence (comparing the community- and facility-based IMCI approach) and inputs from senior staff with prior experience implementing vertical programmes targeting diarrhoea, pneumonia, malaria, measles, and malnutrition. The combination of functioning internal technical and research networks meant that individuals had the information they needed and could coordinate the decision-making process needed for adaptation.

Use of systematic evidence and learning from other countries with respect to the Internalisation stage

Interviewees were generally in agreement that the initial WHO recommendation to move toward facility-based IMCI was not controversial among government, medical professionals, and development partners. Suggested reasons for this were the authority of WHO in terms of identifying best practices as well as the fact that it was broadly in line with the direction the health sector was already moving in with CBAC.

Similarly, the addition of the community-based component to IMCI was not considered controversial. Although not entirely without opposition, the idea that uneducated community volunteers could provide these services had already been largely internalised through previous evaluations of their contribution to vitamin A distribution (West *et al.*, 1991), treatment of ARI with Cotrimoxazole, and treatment of diarrhoea with the promotion of home-based preparation of a salt-sugar-water solution (BASICS II and USAID, 2004) – all prior to the roll out of CB-IMCI, and all based on research carried out in Nepal.

Internalisation of the WHO recommended guidelines was facilitated by the authority of WHO. Where deviations were made from those guidelines, in-country evidence was available to support the decision.

While IMCI was embedded in the government's annual workplan, suggesting internalisation of the package by the government, interviewees in two separate meetings argued that CB-IMCI was a donor-led initiative and, by implication, not fully internalised by the government. It was suggested that CB-IMCI (and its future incarnations) have been implemented in a programmatic manner, without due consideration of the wider government health system. For example, it is not clear how they fit into core government health plans for the introduction of Social Health Insurance. A key criticism related to this was the number of trainings carried out. The

claim was that these were paid for by donors and took staff and volunteers out of their core functions for considerable amounts of time overall. One interviewee's suggestion was that if this was a government-led initiative (or fully internalised by government) these trainings would have been integrated into the government's system for training health workers (through the National Health Training Centre). Indeed, that government trainings (including IMCI) were given by the concerned divisions (IMCI training was given by CHD) under MoHP, funded by different donors, does suggest a lack of internalisation by the government. Moreover, in one interview it was suggested that the idea to add 'CB' to the name was a branding strategy by staff involved in the programme to further increase donor buy-in. They suggested most Nepali service delivery interventions at the time were community based – it went without saying, and that putting 'CB' in the name highlighted the central role of international partners (for whom 'CB' did not go without saying) in the reform's development.

Reviewers of this report have challenged this point. They suggested that there are currently a range of government-funded training schemes conducted through programme divisions, although examples have not been provided. In addition, one reviewer suggested that the 'CB' was added not because it was a donor-driven exercise but in order for the government to make sure that the WHO (and others) knew that the Ministry of Health was committed to taking interventions beyond the health facility level and into the hands of community health workers, FCHVs, and the community/family members.

Overall, for those groups within the health sector that had internalised CB-IMCI, local data and WHO status were key factors. For those suggesting that internalisation within government was not complete, the issues were not about efficacy but rather about long-term sustainability and how it fit within wider government plans.

Use of systematic evidence and learning from other countries with respect to the Operationalisation stage

WHO and UNICEF piloted the first IMCI programme at the health facility level in Mohottari district of Nepal. The CB-IMCI programme evolved after the observation that community case management of ARI and diarrhoea at the community level was more effective than the facility-based IMCI. This started the community case management and referral of severe cases to the health facilities (Houston *et al.*, 2012; Ghimire *et al.*, 2010). Based on these findings, CB-IMCI was piloted in three districts. The package included three major components:

1. Improving health worker's skills (training);
2. Strengthening health systems (including community recording and reporting of cases); and
3. Improving family and community practices (WHO, 2016b).

The nationwide implementation of CB-IMCI was completed in 2009 with a further revision of the package in 2012 (Department of Health Services, 2015/16) when, based on the global and WHO recommended guidelines, the use and amount of some medicines was updated. Partners such as UNICEF, Plan International, and Care assisted with the operationalisation.

The evidence and learning from other countries that influenced the operationalisation stage of CB-IMCI impacted particularly through the contextualisation stage. The

inclusion of community-based interventions was based on evidence already discussed above.

Use of systematic evidence and learning from other countries with respect to the Evaluation stage

The WHO IMCI/IMNCI strategy has been evaluated at the international level. There has been near universal adoption of IMNCI by priority countries (WHO, 2016b) and the recent 2016 Cochrane findings suggests up to a 13% decline in child mortality associated with community and health facility level IMCI activities (Gera *et al.*, 2016). The same IMNCI review also highlights poor programme monitoring, lack of sufficient, sustained, and focused global leadership, lack of targets identification, and operational research as issues. The report further suggests that only those countries with strong global leadership and commitments have been able to keep up with the global targets and IMCI has shown promising effects in countries where there was a favourable health system, systematic planning and implementation, and political commitment for institutionalisation (WHO, 2016b).

An integrated, after-training follow-up of the CB-IMCI training with built-in case assessment procedures for health workers and FCHVs gave implementers the opportunity to provide individual and case-based feedback to trainees. These onsite follow-up procedures conducted three months after the completion of training also gave an assessment of the effectiveness and efficiency of the programme at the community level. However, from the interviews, very little was mentioned about evaluation of the CB-IMCI package. One publication suggests that the implementation of the CB-IMCI programme has shown that the success of the programme depends on how well it is simplified and modified to meet the need and capacity of the local health workers (Ghimire *et al.*, 2010).

During the period, the bigger issue was considered to be the observed lack of care for newborns. Because of this, the evaluative stage of CB-IMCI in Nepal and the conceptualisation stage of CB-NCP (discussed below) largely overlap.

3   CB-NCP

Use of systematic evidence and learning from other countries with respect to the Conceptualisation stage

Interviewees generally agreed that the idea of a community-based package for newborn care came from the perceived success of CB-IMCI as a tool for reducing under-five mortality overall, coupled with the observations that newborn care was not adequately reflected in the IMCI package and that newborn mortality specifically was not decreasing in Nepal. The CB-IMCI guidelines largely dealt with children aged from two months to five years. At that point, Nepal had no national-level targeted interventions for newborns at the community level.

The 2006 NDHS highlighted that, while under-five mortality had decreased significantly, the newborn mortality rate was stagnant. Also, a newborn verbal autopsy study conducted as part of the survey showed that infections, asphyxia at birth, low birth weight, and hypothermia were the leading causes of neonatal death (MoHP, 2006).

Meanwhile, the launch of STC USA's Saving Newborn Lives (SNL) Programme in 2001 helped to direct political attention toward newborn survival initiatives. The development of a National Neonatal Health Strategy in 2004 and the Nepal Safe Motherhood and Neonatal Long-Term Plan 2006–2017 provided further impetus to find a solution to this problem.

Advocacy was paired with the initiation of community-based projects and research trials to generate local evidence on strategies to improve newborn survival. In-country research on home detection and treatment of neonatal sepsis (Khanal *et al.*, 2011), community-based management of low birth weight babies (SNL and USAID, 2008), behaviour change and communication activities for newborn health, and postnatal care visits by volunteers (Pratap *et al.*, 2011) suggested that community volunteers could play a role in a future newborn care package. Moreover, there was already international evidence from SEARCH Gadchiroli in India, which had established that community-based interventions for newborn health could be both affordable and effective (Bang *et al.*, 1999). Finally, the Nepal Health Sector Programmes 1 and 2 (2004–2009 and 2010–2015) both gave more focus to community-based programmes with a referral mechanism.

However, as far as the MoHP knew, no such package existed. The WHO had published its IMNCI package in 2003 but this was not community based. On the other hand, the experiences in Gadchiroli, as well as the more recent research in Nepal, had shown that newborns could receive some care in the community but these did not form an integrated package.

In 2007, the FHD and the CHD carried out a joint assessment of newborn health programmes in Nepal. One interviewee outlined how ownership of newborn care had proven historically problematic. Initially, it was considered a component of maternal care and so came under the jurisdiction of the FHD. When progress was observed to be lacking (through the NDHS of 2006), the CHD got involved. The compromise ultimately reached has been that healthy newborn care falls under the FHD, whereas sick newborn care falls under the CHD.

The joint assessment recommended developing an evidence-based package within the existing community-based health system. Hence, under the joint initiative of CHD and FHD, CB-NCP was conceptualised.

One interviewee also highlighted the role that donor programme modalities may have had in this. With major implementing partners (such as STC and Plan International) receiving grants to fund newborn care-related programmes around this time, the environment may have encouraged the growth of vertically managed newborn care rather than integrated newborn care from the start.

Overall, conceptualisation was based on a combination of national data highlighting a problem, a simultaneous international advocacy movement, and research coming out of a community in India that was considered to be comparable to Nepal.

Use of systematic evidence and learning from other countries with respect to the Formation/Contextualisation stage

A steering committee was established, with between three to five technical working groups (TWGs) beneath it, consisting of representatives from professional bodies of paediatric, obstetric, and perinatal groups, academics, researchers, representatives

from the UN, USAID, and national NGOs working in the field of maternal and child survival programmes. The TWGs reviewed evidence on neonatal survival interventions, developed tools for prioritisation of interventions considering implementation feasibility and cost-effectiveness, and conducted programme learning visits to identify the necessary components that would be appropriate to the country's context (Pratap *et al.*, 2011).

The committee reviewed articles published in the international peer-reviewed journals, with a prime focus on three in particular: Bhutta *et al.* (2005); Haws *et al.* (2007); and Darmstadt *et al.* (2005). Twenty interventions that met the criteria of evidence of efficacy and effectiveness as laid out in *The Lancet* Neonatal series (Darmstadt *et al.*, 2005) were selected. The interventions suggested by the group included those for which there was evidence that they could be implemented as a large-scale programme, those which had already been tested in Nepal, and community- and outreach-based interventions (Pratap *et al.*, 2011; Khanal *et al.*, 2012).

Between August and December 2007, the TWGs conducted onsite learning visits to newborn trial sites in India (SEARCH, Gadchiroli district), Bangladesh (Projahnmo Project, Shylet district), and Indonesia (Kabupate, Cirebon), along with the in-country pilot study sites: the Kanchanpur Community-Based Kangaroo Mother Care project, the Community-Based Maternal and Newborn Care project in Banke, and the Morang Innovative Neonatal Intervention project (Pratap *et al.*, 2011).

Based on the literature review and onsite visits, the interventions shortlisted were categorised into two groups. The first group consisted of interventions that could be piloted in more than one district based on global evidence of efficacy and effectiveness, while the second group consisted of interventions that needed further experience in Nepal and could be piloted at limited scale. Interventions in the first group included a behaviour change communication strategy, postnatal care to mothers and newborns, community case management of pneumonia/sepsis, and prevention and management of hypothermia. Those in the second group included the promotion of institutional delivery and clean delivery practices for home deliveries, care of low birth weight newborns, recognition of asphyxia, initial stimulation, and resuscitation of newborn babies (Pratap *et al.*, 2011).

After identifying the interventions a broader TWG meeting was organised, recommendations were discussed and analysed, and finally endorsed on 16 October 2007 by the committee. On 21 December 2007, CB-NCP was officially endorsed by the MoHP Secretariat (Pratap *et al.*, 2011).

CB-NCP was a Nepali-designed package of care, influenced by a systematic survey of national and international evidence, based on a community-based philosophy and training approach that incorporated lessons from the CB-IMCI programme. It ultimately consisted of seven interventions, which had been proven independently in different local and global contexts but had not been tested as a combined and comprehensive 'package' (Pradhan *et al.*, 2011). However, one reviewer of this report believed that not all of the seven interventions had the same amount and quality of evidence to endorse their inclusion. Another reviewer highlighted that, while the process was overall a positive one, it neglected details about how interventions were delivered in other settings, meaning that it did not adequately capture contextual differences.

This is a comparatively clear example of a structured attempt at learning across health systems, and it highlights some of the key challenges. One of the main enabling features was the purposeful nature of the process – it was clear in advance what the

MoHP wanted to learn. This is not to say that all of the answers were accessible but, because of the clear objective, during contextualisation of the strategy the MoHP was able to make a systematic attempt to ensure they were informed by the best available evidence relevant to their specific question.

Use of systematic evidence and learning from other countries with respect to the Internalisation stage

The need for an updated package that incorporated newborn care was not controversial. Political attention was focused by various international initiatives on newborn survival, including the launch of the SNL programme in 2001. The public release of the SNL-sponsored 'State of the World's New-borns: Nepal report' by the Prime Minister of Nepal further helped to draw attention and resources to newborn survival in Nepal. This was later backed by endorsements from the highest level of government, SNL resources, growing interest from international agencies and NGOs, dedicated local health experts, and a growing evidence base (Smith and Neupane, 2011).

The components of the final package, however, were controversial from the start. The two most controversial aspects were: 1) an incentive payment encouraging FCHVs to attend deliveries and make follow-up visits to the child during the first month; and 2) the 'bag and mask' technique to be used by FCHVs in some asphyxia cases. While contemporary leadership within the MoHP was heavily in favour of these options, the professional medical bodies and some among the development partners were not. There was concern that the bag and mask technique was too technical (and dangerous if done wrong) to be implemented by FCHVs without medical training. There was international evidence relating to the use of bag and mask in the community, although a number of interviewees disregarded the relevance of this on the basis that those health workers had more training than FCHVs. There was also concern that the incentive payments would not be sustainable in the medium to long run, would decrease the amount of time spent and interest/attention given by FCHVs on other tasks, and that, in any case, FCHVs were not trained for delivery and so their presence should not be encouraged or legitimised.

USAID, in particular, expressed its concerns over use of bag and mask by FCHVs and the sustainability and usefulness of the case-based incentives scheme. Their concern was that the evidence was not used appropriately to examine the technical feasibility and relevance to the package. Putting different stand-alone interventions that were tested successfully in settings different to Nepal and packaging them into one CB-NCP made implementation complex.

To counter the arguments against community use of bag and mask (which appears to have generated the most controversy), one interviewee formerly of the MoHP argued that, while aware of the risks, without community engagement a newborn with asphyxia born at home would not survive. In many places around the country (at the time CB-NCP was launched), adequately equipped health facilities were not accessible enough for all mothers to attend during delivery. What other options were there?

Ultimately, based on the argument 'let's try it and see', the government, STC, CARE, Plan, and UNICEF agreed to fund and implement a 10-district pilot. The districts supported by CARE and Plan were funded through USAID's Child Survival Grant. This example highlights that pilots can play a role in negotiations that is more than just data

collection. In this case it appears that the decision to pilot enabled the departure from a stalemate where key stakeholders could not agree on a way forward.

Use of systematic evidence and learning from other countries with respect to the Operationalisation stage

Following the pilot, the programme was rapidly expanded. There was a national working group under the IMCI section of the CHD within the MoHP. All stakeholders involved with the operationalisation of the programme would meet on a monthly basis, or more regularly if needed. Here they would agree on the overall plan and strategy, so that implementation could be synchronised at the district level.

According to some reviewers of this report, this expansion occurred without comprehensive review of implementation quality, lessons learned, and results gained. Instead this expansion appeared to be based on some potentially biased anecdotal reports. For example, FCHVs were reporting no neonatal deaths, the training of health workers including FCHVs showed signs of progress, the institutional delivery rate was increasing, and FCHVs were motivated given the new role and the financial incentive.

Coverage quickly reached 39 districts. One interviewee suggested that this led to weaknesses in implementation. Their view was that Nepal's most successful programmes have taken 10 years to roll out from pilot to national coverage. This was the case with CB-IMCI and vitamin A supplementation (1993–2003). The longer period of time gives the required space for programmes to evolve and change as well as to ensure quality along the way. This was not the case with CB-NCP, for which more than half of the districts were covered in less than five years, and the approach was much more complicated than something like vitamin A supplementation. The rapid scale-up was not conducive to learning along the way.

It was also observed that the two programmes (CB-IMCI and CB-NCP) were unnecessarily running in parallel. With this duplication, overall investment was large and not as effective as planners and policymakers had promised. Many working in the sector started to think that the two programmes should be integrated.

USAID (in particular) was not in favour of the rapid expansion and pushed the idea of participatory evaluation/assessment. They wanted to prevent risk of further expansion of a programme that, as far as they were concerned, could have huge resource implications but limited impact.

Use of systematic evidence and learning from other countries with respect to the Evaluation stage

The CB-NCP assessment was a key and controversial moment in the history of these reforms. There was disagreement among the interviewees as to exactly what the role of government was in the evaluation. One interviewee stated that UNICEF, USAID, and STC wanted a sense of whether the package was working and were uncomfortable about the rapid scale-up from the pilot without any evaluation. They did have the baseline and endline data for the 10 pilot districts. From this they knew a bit about improvement of indicators, but they wanted more nuanced and useful effectiveness analysis. Another interviewee stated that government participated but neither blocked nor assisted the evaluation. A third interviewee stated that the whole evaluation took place without the permission of the MoHP. Some interviewees suggested that the

evaluation was conducted after reaching a joint consensus to understand which interventions were working and which were not – for further programme modification. On the other hand, one interviewee suggested that the steering committee (led by government) wanted to measure the cost-effectiveness of the programme and requested UNICEF and STC to support the programme for evaluation. A few also thought that the government took the matter lightly and was not concerned until the results, analysis, and interpretation of the evaluation came out. One reviewer of the report mentioned a joint letter from USAID, UNICEF, and the UK Department for International Development submitted to the MoHP concerning rapid scale-up on CB-NCP, but this was not mentioned in the interviews. Another reviewer highlighted that this may be an issue that needs a wider array of perspectives, with 14 interviews clearly insufficient given the wide variety of opinions.

UNICEF, USAID, and STC hired an external consultant to conduct an assessment of CB-NCP. The results were concerning and became controversial. First, the CB-NCP assessment report (McPherson, 2012) suggested that FCHVs were doing very little in the management of newborns with low birth weight, birth asphyxia, sepsis, and hypothermia. Part of the suggested reason was that FCHVs were not really capable of doing what was asked of them by the package, and a second part of the reason was that patients were increasingly demanding services from more qualified health providers, often based at health facilities. Third, the decision to rapidly expand the programme from pilot to scale-up was a rushed rather than a planned process.

However, the report also highlighted some notable improvements in selected components. The institutional delivery rate had doubled, there was increased mother's exposure to essential newborn care messages and knowledge and practice of essential newborn care practices, and there was an increase in the percentage of mothers receiving postnatal care from health facilities.

Ultimately, the mid-term evaluation led to significant reprogramming of newborn and child health service delivery, tipping the balance away from health service delivery by FCHVs. These aspects are discussed in the next section, which outlines the merger of CB-NCP and IMCI into CB-IMNCI.

4   CB-IMNCI

Use of systematic evidence and learning from other countries with respect to the Conceptualisation stage

CB-IMNCI is the current package of community care that targets both newborns and children. It is a merger of CB-IMCI and CB-NCP, although it also has some important differences.

There was a lot of overlap between the CB-NCP and CB-IMCI programmes. Many of the interventions, the service delivery strategy, programme management, and target beneficiaries were the same. The implementation of both programmes resulted in duplication of some or most of the interventions, resource fragmentation, and overburdening of work. Considering the pertinent need, in late 2015 the MoHP decided to integrate the successful elements of both programmes into a new package CB-IMNCI (Department of Health Services, 2015/16; MoHP, 2017). This holistic package not only addressed the major childhood illnesses among the age group two months to 59 months, but also addressed the major problem of sick newborns aged 0–2 months.

Most of the interviewees seemed to agree that the CB-NCP assessment was a major inciting factor for the merger. One of the key reforms in the new package was a change in the role of FCHV. In CB-IMNCI, FCHVs are no longer mandated to carry out assessment, diagnosis, and interventions at the community level. Their function is now limited to distribution of basic drugs such as Oral Rehydration Solution, Chlorhexidine, Iron and Zinc tablets, and health promotion. They are there chiefly for early detection, referral, and education/counselling. The exception to this is in remote areas, where FCHVs are still carrying out some of the extra services because facilities are not feasibly accessible. In addition, and as included in the earlier package, they are required to immediately refer any cases (newborns or children) showing signs of danger. Similarly, interventions previously delivered by FCHVs (partially or completely) such as management of non-breathing cases using bag and mask, skin-to-skin contact, and management of neonatal sepsis and childhood illness are not to be delivered through the volunteers. Furthermore, as per the WHO recommendation, the first-line drug for the treatment of pneumonia and neonatal sepsis has been changed from Cotrimoxazole (which FCHVs had been trained in) to Amoxicillin (which, in most areas, FCHVs had not be trained to use). Instead, the CB-IMNCI component now consists of additional social and behavioural change community-level activities aimed at demand generation for newborn and child health services, which are primarily undertaken by FCHVs.

Use of systematic evidence and learning from other countries with respect to the Formation/Contextualisation stage

After the inception of the programme in 2014, based on the learnings, the first revision of the package was carried out in 2015 where the modality of the programme was changed and a phase-wise approach was implemented. In contrast to the CB-IMCI and CB-NCP programmes, in CB-IMNCI, based on priority at the facility level, the cadres of health workers are trained at different phases. Similarly, given the contextual similarities with the earlier programme, those who have already received CB-IMCI and CB-NCP training are given a short course training compared to those who are not introduced.

Since the implementation of IMCI and the reinforcement of the referral system in Nepal, a lot of severe cases were being referred from the community to the tertiary care centres with non-existent facility-based protocols for managing such severe cases. Realising the need, a decision was made to formalise a facility-based treatment protocol, which is now referred to as Facility-Based IMNCI or FB-IMNCI. This training package has been developed especially for nurses, paramedics, and doctors working in the emergency and paediatric unit of a tertiary care hospital who often have to deal with the referred cases. For this, various documents on such matters as hospital care for children (WHO, 2013), a facility-based IMNCI package from India (Government of India, 2009), emergency triage assessment and treatment (WHO, 2005), and an advanced paediatric life support algorithm (Group, 2016) etc. were referred to, along with series of workshops consisting particularly of national experts in paediatric care. In addition, the package also incorporated some pertinent child issues such as organophosphates poisoning, developmental milestones, etc.

Use of systematic evidence and learning from other countries with respect to the Internalisation stage

The CB-IMNCI package emerged from two already institutionalised and partially internalised packages. Internalisation of this package (including IMCI and NCP) by the government can in one way be determined by its inclusion in the government's annual workplan.

In addition, based on WHO recommendations and international standard practices, and to facilitate the existing IMNCI package, the CHD has developed an additional component under newborn care services that aims to strengthen the existing IMNCI services. Similarly, the government commitment to free delivery and newborn care services and the safe delivery incentive to encourage institutional delivery and promote maternal and newborn health are examples of a wider government commitment (beyond the reforms discussed in this report) to achieve the global targets.

A core underlying question throughout this case study has been the extent to which the MoHP just accepts or engages with and then sometimes accepts WHO guidelines. Interviewees highlighted many examples, especially by the stage of CB-IMNCI, in which government has not directly adopted WHO guidelines. The consensus was that when a policy or an intervention is recommended, the MoHP looks into the details and adopts based on the need, feasibility, finance, and resources. One example is the recent recommendation regarding the number of antenatal care visits. An interviewee outlined how WHO has updated its recommendation to Nepal, suggesting that a pregnant woman should make eight such visits rather than four (WHO, 2016a). According to the interviewee, this is considered currently unfeasible and support programmes need to be given time to develop before the guideline can be implemented. Another example has been the use of Chlorhexidine. WHO recommends application of Chlorhexidine only for home births, in settings with high neonatal mortality (30 or more per 1,000 live births), and as a temporary measure, according to the local situation (WHO, 2014). Nepal now has a neonatal mortality rate lower than this, but the use of Chlorhexidine for cord care, as part of essential newborn care, has been expanded nationwide with technical support from the Chlorhexidine Navi (Cord) Care programme and embedded within both community- and facility-based IMNCI packages. This integration is a result of evidence generated in Nepal (Mullany *et al.*, 2006) and mutual learning between Bangladesh (Arifeen *et al.*, 2012) and Pakistan (Soofi *et al.*, 2012). Nepal thus became the first country to register Chlorhexidine for newborn cord care.

The example of Chlorhexidine highlights an added important component of internalisation. The particular health services delivered, perhaps more than any other component of a health system, engage with the traditions and beliefs of a country's population. In many parts of Nepal it has long been common practice to put something on the umbilicus after the cord has been cut, for example oil, butter, or turmeric powder (Karas *et al.*, 2012). Number of interviewees highlighted how important it has been to engage with these traditions when developing and contextualising the treatment guidelines. The common practice of putting something on the umbilicus makes the WHO recommendation of putting nothing (in facilities) harder to implement. A study published in 2010 found that satisfaction and compliance were high for both liquid and gel forms of Chlorhexidine and that use of either largely displaced the traditional use of oil-based mixtures. Overall, however, there was a preference for gel (Hodgins et al., 2010). Understanding these issues is important when promoting the internalisation of health service use by a community.

Use of systematic evidence and learning from other countries with respect to the Operationalisation stage

CB-IMNCI has been implemented nationwide. The important factor that facilitated this rapid programme expansion is the contextual similarity with the earlier programmes (CB-IMCI and CB-NCP). As envisioned, the expansion of IMNCI has been planned in a phase-wise manner with continuous monitoring and supportive supervision, along with onsite coaching to enhance the knowledge and skills of health workers. As with the earlier programmes, the CHD is responsible for the monitoring and quality assurance of the CB-IMNCI programme.

With IMNCI, the major responsibility of FCHVs such as delivery of Cotrimoxazole tablets (now amoxicillin) has been removed. However, given the contextual difficulties in some hard-to-reach places such as accessibility and availability of health care services, these services will still be offered by the FCHVs under the Remote Area Guidelines until further improvement in services accessibility and availability.

Use of systematic evidence and learning from other countries with respect to the Evaluation stage

Neither community- nor facility-based IMNCI have been evaluated yet in Nepal. Facility-based IMNCI has only been recently implemented, and there is no plan to evaluate it. Programme assessment of CB-IMNCI was done in 2016 (Dalglish, 2018) and 2017 (Shrestha *et al.*, 2017) although this was not an evaluation.

5 Perspectives on what helps and hinders learning from the experiences of other health systems

The case study revealed a series of factors that either helped or hindered learning from other countries throughout the reform's development.

High-level political leadership and commitment (including from outside the MoHP) toward an improved strategy for reducing newborn mortality enabled the development of a focused plan for learning and implementation. This process started with a number of high-level political expressions of interest in newborn care. That leadership then accepted the subsequent recommendations of the MoHP technical experts and also provided the backing required to enable them to act on their plan. In particular, the MoF was willing to invest heavily. This ability and confidence of the government to plan and act provided a functioning environment in which lessons from other countries could be learnt and then put into action.

The case study also includes a clear example of a systematic surveying of international literature, coupled with a strategy for filtering and contextualising that information. This was enabled because there was a defined purpose to the learning. Moreover, the government wanted this information because it wanted to act on that information. It was a clear case of demand-led learning. There was a plan for learning and a broad plan for implementation, and the two were integrated. However, it may be that certain key information was missed, such as how interventions had been implemented elsewhere, as well as what interventions and with what effect.

Against a backdrop of political will and a roughly integrated learning and implementation planning process, the MoHP was able to access the information it needed in a variety of ways. Published literature played an important role, in the form of peer-reviewed literature, programme evaluation reports, and international best practice guidelines. In particular, but not exclusively, analysis from India, Bangladesh, and Pakistan was considered relevant. This may be both because of geographical proximity but also because of some health system similarities (such as the role of community health volunteers).

However, analysis from within Nepal was also vital. It had played an earlier role in the internalisation of the viability of FCHVs, which was central to accepting the idea of task shifting to community volunteers, which was in turn the base of most of these community-based programmes. It played a further role in persuading some stakeholders that FCHVs could provide at least some care to newborns. With bag and mask, evidence from other countries was persuasive to some but many were able to disregard it as the levels of training elsewhere were different.

One interviewee noted how, when research from Nepal was published in a peer-reviewed journal, it appealed to people's pride and confidence and local stakeholders were more likely to accept the analysis. Local research also helped to unpack the adjustments required for contextualisation of ideas. Through enabling both of these mechanisms, local pilots of particular interventions played a key enabling role in putting the learnings from other countries into action in Nepal.

Acceptance of information was also clearly facilitated by trust in the supplier of the information. The WHO was repeatedly mentioned as an important authority on clinical guidelines. This is not to say that all WHO recommendations were implemented without question or that WHO dominated the debate. Many examples of deviations and adaptations were given. However, WHO recommendations were considered to be unbiased and something to aspire toward.

Much evidence was also gathered from international field visits to India, Bangladesh, and Indonesia, among others. A number of interviewees expressed the view that such field visits can be very beneficial if there are focused objectives with well-planned and clear deliverables. However, without a clear plan that is linked to implementation, they can become 'holidays'. Further research should analyse the impact of these field visits on the internalisation process. With the time available, we were not able to unpack this sufficiently.

All of this was further facilitated by functioning internal TWGs consisting of national health authorities, national and international experts, and development partners. Through bringing together the required expertise within the country, internal networks played an important role in the contextualisation of ideas and lessons from other countries. This helped to build a common agenda, common voice, and common mission, which was an enabling environment for the use of evidence.

A final view expressed on this topic was that general health education, throughout the country, of both the medical workforce and the general population, is key. This case study highlighted the importance of a population being willing to make use of improved health services if lessons learnt from other countries are to have an impact. It also showed the importance of equipping a workforce with the knowledge required to deliver particular services. Both of these are outputs of educational processes and have been key enablers of Nepal putting the lessons it has learnt into action.

A number of hindering factors were also identified. Arguably, sector fragmentation and disagreement (particularly around the controversial bag and mask approach) created an environment in which open learning was less likely. Stakeholders became heavily invested in one side or the other of the debate. This component of the reform has not received the same level of evaluation as the others. While an evaluation was carried out, it was not as methodologically rigorous as it should have been and has not been made as publicly accessible as other reports – as such, it has been harder to contextualise the lessons available, particularly from India, within the Nepali context.

On the other hand, reviewers of this report highlighted that this many actually be fundamental to the learning process. There will always be groups who are for and against any new intervention. One reviewer said that there was space to express the concerns and to listen/address those concerns, and that this has been an important process for Nepal to go through in evolving the programme.

Second, another interviewee suggested that the different phases of this reform have been rolled out from pilot phase at different paces. Where this has been rapid (for example, CB-NCP) and without evaluation and there has not been time or the information required to allow the incorporation of programmatic learning. The rapid scale-up of programmes was suggested to create a poor learning environment. Related to this, one interviewee reflected that, with four-year programmes funded by development partners, the long period of time it would take to develop and agree on guidelines and training manuals (maybe two years) was a significant barrier to the incorporation of evidence into implementation. The necessary collaboration slows the process down.

A third clear barrier was the lack of an internationally accepted and locally implementable guideline for community-based newborn care. The process of the Nepali government surveying the literature and developing its own package may have been more difficult than had the WHO prepared the guideline already.

Analysis/discussion

6   Patterns from across the six stages

In this case study, the use of systematised evidence in the policy process has been variable. At times evidence was systematically gathered and clear connections can be seen with the policies put into action. It is hard to imagine a more transparent and methodologically reasonable way of developing a package of care than that the government started when developing CB-NCP. In addition to this, there have been multiple examples of local pilots with evaluations, as well as observable links between this research and government policy. Moreover, engagement with WHO guidelines appears to be well functioning – recommendations are considered but they are not blindly accepted.

However, with CB-NCP, the use of systematised evidence appears to have stopped at the early design stage. It may have missed important information about how such interventions have been implemented elsewhere, and early expansion happened without systematic information about whether it was working. There is still a significant unanswered question – 'did it work?' This appears to continue to split opinion among those involved. It may be that the question is now redundant anyway. One interviewee outlined how, simultaneous to the developments outlined in this report, the state of health facilities throughout the country was improved, along with an increase in the proportion of the population using them. One of the drivers for using FCHVs to deliver newborn care was the lack of alternative options – at that earlier point in time, facility care was not possible. Now that facility care is more feasible, there is a drive away from community-based care (not forgetting that this is not the case everywhere, which is why the Remote Area Guidelines are being implemented).

When systematised evidence was used, it included both cross-country and national information, and was mainly at the conceptualisation, contextualisation, and internalisation stages. Evaluations produced evidence that was used for further contextualisation and internalisation in some instances, but not others. Local evaluations of previous programmes helped with the internalisation of components of the reforms outlined in this case study. Where it was cross-country, there appeared to be a preference for information from India, Bangladesh, and Pakistan. Even from within these countries, however, evidence alone was not sufficient. It was easy for people to disregard the evidence if they were not in favour of the policy, based on differences in context, particularly different levels of training among community health workers. Evidence from within Nepal was more likely to influence policy. International synthesised evidence, presented by the WHO, also clearly influenced policy, but this needed to be presented by the WHO as a trusted authority. Where there exists a WHO-recommended clinical guideline, this significantly grounds the ultimate policy (allowing for minor contextualisation).

What/who were the institutions, individuals, and mechanisms by which (a) systematised evidence and (b) learning from other countries were introduced into the policy process?

At the central level, CHD under the MoHP was facilitated by international institutions such as WHO, UNICEF, USAID, STC, CARE, Plan, JSI, NFHP, ADRA, JICA, AusAID, and UMN. National institutions such as NEPAS, IRHDTC, BPKIHS, and N-TAG were involved at the facility and community level. Similarly, at the peripheral level, regional health directorates and district health offices facilitated the health facility staff, community-level health workers, and FCHVs, all of whom played significant roles.

Government institutions facilitated the inclusion of systematised evidence and learning from other countries into the policy process by demanding it and being open to using it, but at the same time being critical of it. Based on the interviews, many government staff appear to value evidence but, of course, are clear that it is not the only input into decision making. They also appear confident in their ability to filter and critique evidence and its relevance to Nepal. The openness with which the WHO's clinical guidelines were presented as something to aspire to, but not always right for now, reflects this. However, this is clearly not always the case, and the push to rapidly expand CB-NCP without evidence that it was working highlights that other factors influencing decisions were also high on the agenda.

Key mechanisms through which the partner institutions facilitated the process were through funding and implementing national research and service delivery, as well as facilitating access to international experience (particularly through study tours and attendance at research conferences). Funding implementation enabled the government to put some of the lessons into action, as well as to try things out (such as the various experiments with different levels of community care). Most explicitly, it enabled the training of the FCHVs to deliver the integrated packages. It is also noteworthy that development partners accepted the early local evidence that community-based interventions could be effective – something that the international community at the time did not fully recognise. Funding the research enabled the government to understand what was working, but also to participate in the international (particularly the regional) debate about community-based care. Funding access to international experiences buttressed this, and was linked with the government's action plan. In a more recent example, development partners have funded regional conferences on local research into CHX, creating the platform for Bangladesh, India, Pakistan, and Nepal to learn from each other. A local Nepali pharmaceutical organisation, Lomus, now exports CHX.

What are identified as the potential institutions, individuals, and mechanisms by which (a) systematised evidence and (b) learning from other countries could be better introduced into the policy process?

The implementation of these reforms centred on training FCHVs who are volunteer health workers. Going forward, it will likely centre on training paid health workers based in health facilities who have increased responsibilities for providing services to their community. To improve the ability to put learnings into practice, one recommendation was that the institutions for training health workers should be strengthened.

There are different cadres of health worker that get trained at different institutions. Doctors and nurses get their training in medical schools. Primary health workers (e.g. health assistants, community medical auxiliaries, etc.) that work at the smaller health units mainly get their training from privately owned health training centres.

The government-owned National Health Training Centre (NHTC), which is intended to be the centre of excellence, is functioning at a limited capacity. It has limited staff and hires consultant experts (trainers) on a needs basis. They are mostly involved in upgrading the knowledge of health workers on the basis of government annual workplans and they do not have the leverage for autonomous planning.

Currently, much of the additional training of health workers is given by the division concerned with the topic of training (for example, FHD and CHD). This drains most of the division's resources and often leads to uncoordinated and overlapping training that is often resource intensive, repetitive, and inefficient. Re-strengthening the existing training centres by building the staff capacity, updating the institution based on the latest technical standards, subscription to online journals and trainings, standardisation of existing clinical and management protocols, and development of expertise within NHTC were suggested as strategies for spreading lessons throughout the sector.

7 What implications does this case study have for the final recommendations made to the BMGF?

This case study presents some important implications for the final recommendations made to the BMGF.

First, where a best practice can be identified, the presence of a guideline recommended by a trusted authority can have a significant impact on policy design. In this case study, stakeholders throughout the health sector (both government and development partners) were willing to invest time and resources in implementing the recommendations of the WHO. With this capacity, the WHO is able to synthesise lessons from other countries, and present them to new countries in such a way that enables learning and action.

Where social factors are key determinants of outcomes, best practice guidelines may be less feasible. For instance, it may not be possible to develop a best practice guideline for raising and pooling revenue to spend on health care, as each society has different social contracts and bonds. However, that does not mean that there is no potential for best practice guidelines that currently do not exist. The case study highlights that there is still no internationally recognised best practice guideline for community-based IMNCI and, before 2003, there was nothing for facility-based IMNCI either. There may be many areas of clinical service delivery for which no guidelines currently exist, and investing in these may assist countries to learn from the experiences of others as they refine the packages of care they offer. This need not stop at clinical service delivery. The WHO's System of Health Accounts (2011) is an example of a managerial best practice guideline. Further work should be done to understand the extent to which best practice guidelines are used in other health system areas, such as pharmaceutical supply chains and health information systems. Of course, it will remain important to be mindful that one size will not fit all. Some degree of contextualisation is always likely to be necessary.

The case study also includes many examples of where a guideline was followed but small adjustments were made for contextualisation. Understanding that this is a

feasible and potentially successful approach, as well as the mechanism through which learning can happen, is important.

Second, it highlights that, even within a health sector that appears to foster an adequate learning environment (for example, following the development of CB-NCP), dynamics can evolve that restrict the use of evidence. In this case, controversy and sector fragmentation may have created an environment where unbiased/rigorous evaluation was unlikely. Without unbiased/rigorous evaluation, it was hard to continue contextualisation and the learning process was stopped (e.g. the bag and mask case).

Third, and perhaps most importantly, it highlights that when a government is aligned and has a demand to learn something particular, it can coordinate a plan for that learning (defining what it wants to learn, and how it will learn it) and link that learning plan with an implementation plan. This link between purposeful learning and implementation planning may be a core pillar of other strategies to facilitate learning for action across health systems.

Fourth, in terms of resource allocation for cross-system learning, it was found that when there is an absolute demand generation within the government, even systems with limited resources can initiate and manage to collect necessary resources to make the learnings happen.

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Annex A   Topic guide

1. We believe you were actively involved in the development of policy/reform x. Could you describe the role you played?

    Probes: When did this potential policy/reform first arise in the relevant agenda? Describe all the stages of the development of the policy in which you were involved. At each stage: Who were the advocates? Were there opponents? What was your position? What were the critical factors that influenced the progression of the debate to the point that the policy/reform was able to proceed?

2. *Conceptualisation*: To what extent was the identification of a possible policy initiative influenced by formal forms of evidence (written accounts of the experience of similar policies or reforms in other national or international settings).

    Probes: What evidence was offered? (Please summarise it, including from where the evidence was drawn – locally or internationally – and what the evidence suggested would be the impact of the policy.) Who identified that evidence? Do you know from where they sourced that evidence? Did you identify any relevant sources of evidence? How did you go about identifying that and were there any individuals or institutions that supported you in this? Was the team able to identify all the evidence it wanted; and where there were gaps identified, how was the way forward decided? Was there evidence put forward at any stage that it was decided could not be trusted, or could not helpfully contribute to the debate?

3. *Formation and contextualisation*: Once the policy had gained traction and a more detailed proposal started to be developed, to what extent were discussions about the detail of that proposal influenced by formal forms of evidence?

    Probes: What evidence was offered? (Please summarise it, including from where the evidence was drawn – locally or internationally – and what the evidence suggested should be thought about in policy detail.) Who identified that evidence? Do you know from where they sourced that evidence? Did you identify any relevant sources of evidence? How did you go about identifying that and were there any individuals or institutions that supported you in this? Was the team able to identify all the evidence it wanted; and where there were gaps identified, how was the way forward decided? Was there evidence put forward at any stage that it was decided could not be trusted, or could not helpfully contribute to the debate?

4. *Internalisation*: Once a detailed proposal for the policy/reform had been finalised, to what extent were discussions aiming to ensure formal consent (such as approval through a constituted committee or legislative process) informed by formal forms of evidence?

Probes: What evidence was offered? (Please summarise it, including from where the evidence was drawn – locally or internationally – and what the evidence suggested would be the impact of the policy or supported the policy design.) Who identified that evidence? Do you know from where they sourced that evidence? Did you identify any relevant sources of evidence? How did you go about identifying that and were there any individuals or institutions that supported you in this? Was the team able to identify all the evidence it wanted; and where there were gaps identified, how was the way forward decided? Was there evidence put forward at any stage that it was decided could not be trusted, or could not helpfully contribute to the debate?

5. *Operationalisation*: As implementation mechanisms were worked out, to what extent were those informed by formal forms of evidence?

Probes: What evidence was offered? (Please summarise it, including from where the evidence was drawn – locally or internationally – and what the evidence suggested should be included in implementation design.) Who identified that evidence? Do you know from where they sourced that evidence? Did you identify any relevant sources of evidence? How did you go about identifying that and were there any individuals or institutions that supported you in this? Was the team able to identify all the evidence it wanted; and where there were gaps identified, how was the way forward decided?

6. *Evaluation*: As the policy was refined on the basis of experience (either pilot or full operational experience), what kinds of evidence were gathered and applied? Was there evidence put forward at any stage that it was decided could not be trusted, or could not helpfully contribute to the debate?

Probes: What evidence was offered? (Please summarise it, including from where the evidence was drawn – locally or internationally – and what the evidence suggested should be included in implementation design.) Who identified that evidence? Do you know from where they sourced that evidence? Did you identify any relevant sources of evidence? How did you go about identifying that and were there any individuals or institutions that supported you in this? Was the team able to identify all the evidence it wanted; and where there were gaps identified, how was the way forward decided? Was there evidence put forward at any stage that it was decided could not be trusted, or could not helpfully contribute to the debate?

For all respondents:

7. Do you think the experience of identifying, developing, gaining approval, and designing the implementation strategy for this policy is typical of the processes that are usually involved here?

   Probes: what other policies/reforms have you had detailed involvement in (a few examples if the list is long)? What factors drive those involved to seek out evidence or to fail to seek out evidence? Are there differences in the kinds of evidence or the sources of evidence used by different participants in the process? What specifically is typical or atypical in relation to interest or lack of interest or use/lack of use of other countries' experiences?

8. What gaps have you experienced in finding and using appropriate evidence both at a general level but also in terms of finding and learning from particular countries? What mechanisms can you imagine, or are aware of operating in other contexts, that you think would better support the use of evidence in this kind of decision making?

   Probes: Is there an existing organisation that you think is well placed to encourage learning from other countries? What would that organisation need to do to improve the ability of countries to learn from each other?

9. Are there institutions or individuals that constrain the use of evidence in this kind of decision making?

   Probes: raise types of evidence and knowledge broker that the respondent has not mentioned; ask about their potential to be helpful or tendency to be unhelpful; ask specifically about some of the ideas we are considering/that came out of the consultation such as use of observatories, relationships with individuals in UN agencies, study tours, academic research groups, etc.

10. Have representatives from other countries shown an interest in learning from your experiences?

    Probes: what types of information did they want? How did they approach you? Have you put any mechanisms in place to facilitate others learning from your experiences? Do you think they are working well?

Annex B   Key informants interviewed

Position of interviewees	Selection categories defined in the terms of reference
Former Health Minister	Politicians with health policy portfolios over the period of the development of the selected policies/reforms
Current senior post 1: Department of Health Services, Ministry of Health	Senior civil servants in health ministries and equivalent at state/provincial level as relevant, in office over the period of the development of the selected policies/reforms
Former Chief of Planning Division and Director of Child Health Division, Ministry of Health	
Current senior post 2: Department of Health Services, Ministry of Health	
Former Director, Department of Health Services, Ministry of Health	
Senior Programme Director, lead NGO	Senior health advisers in UN agencies; health systems experts in specialist health agencies in office over the period of the development of the selected policies/reforms
Senior post, WHO Nepal	
Senior post, UNICEF Nepal	
Senior post, USAID Nepal	
Senior Adviser, JSI	Senior health advisers and similar NGOs identified as involved in the selected policy/reform processes
Health Coordinator, lead NGO	
Country Director, local consulting firm	
Former Principal of Kathmandu Medical College, Medical Historian, Paediatrician	Academics (from university health-related departments) and staff members identified as providing advice to the selected policy/reform processes
Paediatrician and Child Health Adviser to the Ministry of Health	