Evidence-Based Planning in the Philippines
– Phase II

Final report, 2013-14

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<td>Annual Operational Plan</td>
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<td>BNS</td>
<td>Barangay Nutrition Scholar</td>
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<td>CBO</td>
<td>City Budget Office</td>
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<td>CHO</td>
<td>City Health Office</td>
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<td>DFAT</td>
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<td>RMNCH</td>
<td>Reproductive, Maternal, Newborn and Child Health</td>
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<td>SAM</td>
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<td>United Nations Children’s Fund</td>
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<td>UQc</td>
<td>University of Queensland consortium</td>
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Introduction

The Asia-Pacific region has made significant progress on reproductive, maternal, newborn and child health (RMNCH). Notwithstanding, the burden of preventable maternal and child deaths remains high, accounting for approximately 40% of the global burden. Large disparities across populations also persist. In the Philippines, despite national reductions in child mortality rates, substantial variations still persist across wealth quintiles, education attainment and geographically.

A large body of work has already identified the most cost-effective programs and services that can improve RMNCH outcomes and address the needs of the most disadvantaged. Delivering these interventions at scale in countries like the Philippines can significantly reduce maternal, newborn and child mortality. Unfortunately, the potential to accelerate progress and reduce inequities has not been fully realised in many countries of the Asia-Pacific due to the failure of health systems to improve the uptake of the most cost-effective RMNCH interventions. Of particular concern in large, populous and decentralised countries like the Philippines, is the lack of support for and capacity at local levels to plan, fund and successfully scale-up those RMNCH interventions.

The Evidence-based Planning and Budgeting (EBaP) project, previously The Investment Case (IC), was initiated in 2009 in four Asia-Pacific countries identified as priorities for the Australian aid program; India, Indonesia, Nepal and the Philippines, with the aim of supporting in-country implementation efforts to accelerate equitable progress towards MDGs 4 and 5. The initiative operates to improve local level planning and budgeting for RMNCH in countries where critical interventions are not universally provided or utilised. EBaP does this through problem solving with local decision-makers, using available data to analyse the main constraints to RMNCH services and to devise, cost and strategically plan for activities to overcome these constraints. Evidence-based planning implies a more rational use of existing resources towards improving health services. It also aims to improve the capacity of local level planners to advocate for additional funds to support these plans. Details of the approach and the results from the analysis have been documented.

The earlier experience of implementation of the project delivered some key lessons that served to refine the approach for delivery in the second phase. The first phase in the Philippines was implemented in three sites: Pasay City, Eastern Samar and Northern Samar. On the basis of a series of interviews, it was summarised that the EBaP approach was positively received, owing to the value-added through planners affording greater focus on the demand side of health care; identifying, critiquing and then applying empirical data to support plans; and considering costs at the same time as setting priorities. Specifically, stakeholders found that the bottleneck analysis process

3 http://www.who.int/pmnch/knowledge/publications/summaries/ks4.pdf?ua=1
4 In this report, evidence-based planning activities prior to 2012 will be referred to as IC whilst the current (2012-2014) activities will be referred to as EBP. The name Investment Case was dropped in favour of Evidence-based Planning (EBP) which was considered to be more generic and not pushing any particular tool or method.
added to their understanding of the root causes of problems in health care for women and children, with the bottleneck analysis being more systematic and probed harder than traditional SWOT analysis they had been using. The process of data gathering, reflection and analysis also added value through revealed incorrect estimates that had prevailed for years. The approach gave health planners added confidence in their decisions. In Eastern and Northern Samar the timing, in the early period of the year, allowed the approach to feed into their Annual Operation Plans (AOPs) and budgets for 2011 however Pasay City planners were being exposed to the new multi-year City Wide Investment Plan (CIPH) for DoH and were somewhat overwhelmed by new planning approaches. Participants appreciated the workshops’ scheduling - relatively short and focused as a series of four or five sessions involving two days each, and based in the Philippines not overseas as a cost saving approach. The least useful element of EBaP was simulation modelling to estimate cost and impact of lives saved which was of limited interest to stakeholders at LGU levels and had limited user-friendliness. Some planners perceived that the demands of gathering and preparing data for participatory analysis as a “gruelling” or “tedious” aspects of the EBaP project.

A program review in 2012 reported that there is limited evidence that the project is able to influence major shifts in priorities or resource allocation and highlighted the influential role of politics in planning and budgeting. It was recommended that future iterations of the EBaP project should more deeply engage the private sector, local politicians and mayors, and that more pro-active and sustained follow up must employed with LGUs, DoH, PhilHealth and development partners.6

As evaluation and reporting of the first phase of EBaP in the Philippines has completed, this report will focus on the second phase implementation of the sub-national work undertaken. The second phase was undertaken as a partnership between UNICEF Philippines and the University of Queensland-Nossal Institute for Global Health consortium (UQ-c) alongside the University of the Philippines Centre for Leadership, Citizenship and Democracy (CLCD) and the city offices of three municipalities of the Philippines; Quezon City, Davao City and Puerto Princesa City.

The health system and EBaP in the Philippines

RMNCH in the Philippines

The Philippines has achieved significant economic and development progress in the recent decade and is now classified as a lower middle-income country with a human development index (HDI) of 0.66 ranking 118 out of 187, yet is not on track to achieve MDGs 4 or 5 and is highly inequitable. The HDI in the highest achieving provinces is more than double that of the lowest 10 provinces.7

National and regional averages mask significant disparities. For instance, the average annual family income in National Capital Region (location of Manila) can reach US$ 6058 which it is less than a third of this in the poorest regions.8 Maternal mortality ratio (MMR) figures vary significantly from

UN estimates of 91 in 2013 to 67 in the 2011 National Health Information System (HIS) but all sources show little progress. Across regions the under-5 mortality rate (USMR) ranges from 21 deaths per 1,000 live births to an alarming 55 and the neonatal mortality rate (NMR) varies from 7 deaths per 1,000 live births to 29. Newborn mortality is a critical priority, now accounting for 42% of all under-5 deaths which triggered the recent development of the National Essential Intra-partum and Newborn Care Program (EINC). Common childhood illnesses are prevalent and pneumonia and diarrhoea remain the leading causes of death for children.9 The National Nutrition Program aims to screen all children under 6 years of age annual for malnutrition and finds that there are pockets of wasting and stunting prevalence above public health significance cut-offs which must be addressed. Skilled birth attendance (SBA) and antenatal care (ANC) coverage has increased across the nation however quality of care is inadequate, particularly for lower socio-economic women. The total fertility rate (TFR) has reduced since 1998 nationally from 3.7 to 3 in 2013 although ranges from 2.3 to 4.2 across regions. The use of modern contraceptives falls far short of demand: only 37% of women of reproductive age currently use a modern method although demand is as high as 72%10.

The Philippine Health Insurance Corporation (Philhealth) is contributing to the pursuit of MGDs supporting Universal health care with paid membership and free indigent enrolment for the lowest wealth quintile (20%) population. The scheme also aims to contribute to quality of care though an assessment of health facilities, both public and private sector, prior to awarding Philhealth accreditation. However, the majority of health centres are not yet accredited and nationally only 60% of the population are enrolled for coverage with Philhealth insurance11 although the actual utilisation of benefits is reportedly far lower.

The context of the health system and planning in the Philippines

The country is administratively divided into 17 regions, with sub-divisions to provinces followed by municipalities termed Local Government Units (LGUs). The sector is decentralised with management of primary health service delivery at the LGU level by the City/Municipal Health Office (CHO/MHO). The LGU provides health services to community divisions of Barangays, then further sub-divisions of Puroks, through a series of facilities depending on the site and size of populations, including Health Centres (HCs) with and without lying-in clinics for birthing services (LIC), Rural Health Units (RHUs), Barangay Health Stations (BHSs), and Satellite Clinics. The National Department of Health (DoH) retain responsibility for Regional and Provincial Hospitals, and provide health program and planning guidance to LGUs through a network of Regional DoH Representatives. Human resources are posted according to facility type. In relation to RMNCH services the system comprises health program coordinators, medical officers (MOs), nurses (RNs), midwives (MWs), Nutrition Officers (NOs), Barangay Nutrition Scholars (BNSs) and Barangay Health Workers (BHWs).

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10 Philippine Statistics Authority (PSA), and ICF International. 2014. Philippines National Demographic and Health Survey 2013. Manila, Philippines, and Rockville, Maryland, USA: PSA and ICF International
11 As above
The health system is summarised in Figure 1, which serves as a guide only as the structures and human resource composition vary by municipality, and particularly in urban and rural settings.

Figure 1. Overview of Philippine Health System structure relative to RMNCH services

The private sector is estimated to service 30% of the population and employs over 70% of all health professionals in the country.\(^\text{12}\) The accessibility, affordability and quality of care delivered by the private sector in the Philippines is of high importance, but particularly more relevant in urbanized settings rather than rural.

Health planning and budgeting takes place at the LGU level in several forms. The CHO, with support from the City Planning and Development Office (CPDO) will develop health plans which are presented, potentially revised, and approved by the Mayoral Office and Budget Office prior to implementation. The series of plans include: the periodic (average 4 years) City-wide Investment Plan for Health (CIPH), yearly Annual Operation Plan (AOP)/Annual Investment Plan (AIP) and the Local Poverty Reduction Action Plan (LPRAP). Within this well-established planning structure a number of processes are embedded, such as the assessment with CIPH Guidelines and Checklist by Regional DoH Representatives, LGU scorecard for monitoring key health program indicators against

targets and Bottom-Up Budgeting (BuB) approach. In terms of timelines, CIPH plans are developed on a 4-year cycle, with AOPs created annually from April – September, although time periods vary slightly between LGUs, and draw somewhat from the overarching CIPH. It is optional for LGUs to submit LRPRAP proposals to DoH with deadlines in February – March of each year.

**EBaP participating municipalities**

The selection of municipalities for Sub-national EBaP work; Quezon City, Davao City, and Puerto Princesa City, for the second phase of EBaP drew from the priority LGUs of the UNICEF program which includes 30 municipalities and 6 cities with a basis of priority concerning poverty and inequity. UNICEF applied the National Household Targeting System for Poverty Reduction to identify geographic pockets of high poverty and inequity based on a set of socio-economic indicators for households. The three cities selected were identified as having significant pockets of populations with high vulnerability based on classifications; rates of primary school attendance, childhood malnutrition, access to potable water, access to electricity, informal settler populations, environmental disaster risk, waste management services, and access to public facilities such as schools and health centres. The localities are shown in Figure 2.

*Figure 2. Philippines country map, three EBaP municipalities*
Quezon City
Quezon City is the most populated municipality of the Philippines with an estimated 3,179,536 residents and a 2.92% annual population growth rate. It is spans a large land area that is four times the city of Manila and occupies a quarter of all Metro Manila but even with such size the population is dense. The City is administratively divided into six districts with 142 barangays. The overall population is generally young, with 38% less than 21 years of age. The City is more significantly characterised by a large population of poor and informal settlers living in communities, mostly concentrated in District II. The population of District II accounts for 20% of the entire Quezon City population and the 2011 household survey revealed that around two-thirds of the 79% of Quezon City households categorized as poor are found in District II.

For the implementation of EBaP, the CHO identified District II as a priority site based on an equity focus and need - the burden of disadvantage is greatest in District II with the poorest populations and the least utilisation of health services. The high population in Quezon City means that health centre managers (medical officers managing Barangay Health Centres) take responsibility for the delivery and demand-generation of health services in their catchment area, with the support of District Health Managers and City Program Coordinators. The CHO identified health centre plans as important to develop context-specific health programs, given the high diversity of Quezon City. The aim to craft the city level AOP drawing on these health centre plans is constrained by the capacity of sub-city units. The CHO have instituted a health planning template for health centres however most health centre managers have not received training in health planning.

Consultation discussions lead to the conclusion that EBaP would support capacity building and development of health plans in 11 health centres of Quezon City District II, engaging health centre managers across 5 Barangays as well as District II Managers and Program Coordinators. Table 1 shows the Barangays and health centres within District II implementing the EBaP program.

Health centre level annual plans are not typically a mainstay of city planning in most municipalities as this stage in the Philippines. In this sense, EBaP triggers a paradigm shift and health system strengthening by building capacity of health managers for critical consideration of data, systematic prioritisation responding to local constraints, and a new formal communication mechanism between peripheral-middle-central level health administration in Quezon City.

Table 1. Quezon City District II Barangays and health centres of the EBaP project

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<th>Barangays</th>
<th>Health Centers</th>
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<td>Commonwealth</td>
<td>Commonwealth</td>
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<td></td>
<td>National Government Center</td>
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<td>Batasan Hills</td>
<td>Batasan Hills Super</td>
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<td>Batasan Annex</td>
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<td>Payatas</td>
<td>Payatas A</td>
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<td>Lupang Pangako</td>
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<td>Bagong Silangan</td>
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Davao City

Davao City is based in the province of Davao Del Sur in Southern Mindanao, is home to a population of 1,544,900 and is a trade, employment and educational hub in the region. The LGU is administratively sub-divided into 16 districts with a total of 182 Barangays. Davao City has great diversity with highly urbanised districts as well as Geographically Isolated and Disadvantaged Areas (GIDA) which are remote and home to indigenous population (IPs).

In early 2013 the city administered a Program Implementation Review (PIR) to assess the health sector needs. This revealed below target performance in many primary health care programs; expanded program on immunization (EPI), contraceptive prevalence rate (CPR), tuberculosis screening and treatment as well as facility-based delivery (FBD) rates and skilled birth attendance (SBA). The review most importantly identified key sites of inequity, for instance six districts achieved the 2016 DoH target of 90% FBDs however 10 districts fell well below, including Calinan (65.9%), Baguio (49.6%), Paquibato, (31.7%) and Marilog (23.3%). Growth monitoring assessments suggest an increase in the number of malnourished children (under 5 years) from 1,907 severely underweight in 2010 to 2,597 in 2012 (DC OPT data 2012).

The leaders in health services in the city; CHO, CPDO and Sangguniang Panlungsod Committee on Health, expressed interest in adopting the EBaP approach to strengthen the Annual Operation Plan (AOP) for 2014 by examining the precise constraints and challenges and developing more specific programs. The city offices expressed the key need for health plan strengthening as the local contextualisation of health program activities. Health plans in Davao City are prepared in a routine and timely manner. However, they adhere to the DoH programs without local stakeholder engagement or deep consideration and adaptation of program delivery to suit the unique local challenges. The process and local data used for analysis of constraints was identified as a major value-add.

For a feasible initiation with the EBaP approach the city leaders and partnerships elected to prioritise the health issue of childhood malnutrition. The data indicates a growing burden and the city health child nutrition program was limited to screening. With malnutrition as an underlying cause of 45% of all child deaths (Black et al), the risk of child death as high as 20% for children with severe acute malnutrition, and evidence of increasing prevalence in the LGU, an EBaP focus on nutrition in children under-5 years was an optimal pursuit for progress towards MDG 4.

Puerto Princesa City

Puerto Princesa City is the largest city in the country in terms of land area with a total of 253,982 hectares, representing 17.04% of the total land area of the island of Palawan. The city is a major tourist destination, and discourages extractive industries or those that might pollute the natural environment. The City has 66 barangays, comprised of 35 urban and 31 rural/remote barangays. The urban barangays cover 14,716 hectares or around 6 % of the total land area of the City, while the rural/remote barangays comprise the major bulk of the City’s total land, which is 239, 275.7 hectares or 94.2%. However the population of almost 226,000 is highly concentrated in urban areas (77%) which puts a strain on services in these areas. The city has a high dependency ratio of 62%. 
During the consultation session with the city officials, it was decided that EBaP could be useful to provide better evidence for the upcoming AOP by identifying specific constraints and strategies. A very big constraint for the analysis was the budget ceiling, and the ability to prioritise so this aspect of EBaP was particularly welcomed. Whilst specific problems related to services provided in remote communities and to the indigent population had been raised, it was decided that EBaP would be applied as a ‘whole-of-city’ approach. It was also considered that this would capacitate the program managers to be able to effectively advocate for resources.

**Implementation of EBaP in the Philippines**

The EBaP program in the Philippines adopted two distinct foci: the **Sub-national level** with capacity building in health planning and budgeting, and the **National level** with support in advocacy, policy and program development in areas of priority that have emerged from sub-national work.

EBaP employs a conceptual framework for incorporating evidence for more effective local health planning, programming and budgeting. The approach synergises with existing planning process, structures and timelines equipping the local focal points for health planning with skills and tools to draw on evidence, collect more rigorous data, and comprehensively cost activities, when they develop AOPs, CIPH, LPRAPs and other health plans and proposals.

In order to strengthen health planning and budgeting and progress towards MDGs 4 and 5 at sub-national level, the following activities took place in the three cities;

**Sub-national (capacity building on EBaP);**

- Annual Operational Plans (AOPs) for health 2014, and 2015, using an evidence-based approach and analysis.
- EBaP Technical Teams for local leadership and a sustainable approach to EBaP, instilled within existing government planning structures and systems.
- Implementation of new priority health programs emerging from EBaP planning;
  - Community-based Management of Acute Malnutrition (CMAM) in Davao City
  - IMCI Computerized Adaptation and Training Tool (ICATT) for IMCI training in Puerto Princesa and Davao City.
Implementation of EBaP at the sub-national Level

Training a national academic institution

A national academic institution – the Centre for Leadership, Citizenship and Democracy (CLCD) of the University of the Philippines, was recruited to facilitate implementation of EBaP and to establish a sustainable model of EBaP in the Philippines in the long-term.

A series of training workshops were delivered by UQ-c to build the capacity of CLCD to support the cities with data and logistics in the first phase as they developed their AOPs for 2014. The first session focused on understanding the EBaP process, health planning and budgeting in the Philippines health system, and preparation for adaptation of EBaP to meet cities’ needs. The second session instilled an understanding of EBaP methodology, intervention prioritisation, data analysis in planning and the bottlenecks approach, and effective facilitation techniques.

As the CLCD team of 10 staff were predominantly from a Public Administration and Management background, a third session was delivered by UNICEF and local experts (Obstetrician/ Gynaecologist) orienting on RMNCH conditions and interventions. This served to familiarise the team with the necessary terminology and service delivery systems in order to effectively interact with health managers and planners in the cities. The teams was divided into three teams - one dedicated to each of the three municipalities, and prepared to facilitate workshops for EBaP applications for AOPs 2014 with the context, planning needs and priorities in mind.

Outputs from this training included, development of a set of Philippines-specific EBaP training materials on evidence-based planning; 10-staff CLCD team capacitated to develop bottleneck charts and facilitate the analysis in the three cities, with support from UQ-c; a relationship between the three implementing agencies; UNICEF, UQ-c, CLCD. The most significant challenge of this activity was the gap in RMNCH expertise among CLCD team members. The team fed-back that some elements of the training were difficult to follow due to the RMNCH technical aspect, and this did limit the capacity of the team to facilitate municipalities in health planning independently in the future.

The launch of EBaP Phase II

Launch Workshop

Phase II of EBaP was launched at an informative and interactive workshop in Manila, inclusive of stakeholders from all levels of government, municipal offices, and development partners. This served to introduce the EBaP project but most importantly sought input for tailoring EBaP to align with current health planning and budgeting systems and to fill the gaps and challenges experienced by the three EBaP municipalities.
The 2-day launch was opened by Dr. Madeline Valera, Assistant Secretary for Health, and Dr. Abdul Alim, Deputy Rep of UNICEF Philippines, and attended by 60 participants represented a wide cross-section of health planning actors.

The launch workshop achieved clear consensus of how the approach would best be applied in the three cities. After mapping current challenges and strengths in planning and budgeting in the LGUs, and processes, timelines and templates, it was concluded that EBaP would align well with existing systems, and that, whilst the DoH programs must be maintained, it would address important planning challenges and health priorities that were being neglected in the three LGUs. The following conclusions were drawn from the launch workshop and heavily informed the design of EBaP Phase II:

- Satisfaction with the current planning and budgeting processes is mixed with the main concerns centering on the limited support from DoH in the process of planning. Health planning and budgeting is centralised at municipal offices, without engagement more widely across the health and other sectors. Health centre managers are not clear on the specifics on developing plans and receive unstructured support from district managers but no formal training in planning.
- A consistent concern among LGU and central Government participants is the lack of context-specific strategies in annual LGU plans. Municipal health offices are accustomed to developing plans however annual plans are often amended versions of the previous year’s plans with minimal meaningful reflection on whether the same activities are needed in the current year. Strategies are typically drawn from a DoH ‘menu’ rather than self-devised. Health planning has become somewhat automatic and EBaP was identified as an asset to strengthen plans and develop activities more relevant to the local challenges.
- Data use for planning is an established practice however stakeholders are not entirely satisfied, finding that the use of data is limited, quality of data may be a concern, and the process lacks a structured approach that encompasses a thorough analysis. The systematic approach of EBaP with bottleneck analysis was highly appreciated as a complement to existing planning activities and to offer contextualisation in strategies.
- Evidence in planning is demanded by city counsellors and budget division and supporting data must be demonstrated for project approval. In this regard, program coordinators are responsible for explaining rationale using relevant data in support of their plans. However, all three municipalities noted a key challenge as defending the plan to the city budget division and that resources to support advocacy are needed.
- In reality, planning is not as straightforward as simply following guidelines and a disconnect between evidence and political priorities must be balanced.
- LGUs are not satisfied with their existing prioritisation processes which draw from a narrow scope of health burdens.
- Time management is challenging with demands divided between planning and implementing, and various timelines and forms in place by DoH. It is critical that EBaP integrates with the existing templates and schedules to avoid adding to this burden.
- Indicators for performance are largely limited to quantity of services, neglecting quality of care. This has a significant influence on health services as health managers focus heavily on achieving targets and motivation tends to diminish once a target is achieved or services for
which there are no targets tend to be neglected. Further, the restrained number of performance indicators omits several important health issues, including indicators for care for childhood pneumonia and diarrhoea cases, two of the leading causes of death in children under five.

This launch workshop was well received by attendees although two years on not all stakeholders continued to feel well connected to the project as the large scale workshop was not repeated and staff turnovers led to some loss of institutional and programmatic memory.

City Consultation Meetings

Consultation meetings were held in each of the three municipalities as follow-up from the Launch Workshop. These were hosted by the respective City Health Offices, with relevant EBaP partners and a range of stakeholders from the City government Offices, non-government organisations (NGOs), health service providers and Philhealth. Through such, the specific planning and health foci, timelines and plans of action for EBaP were developed for each site with the output of rational, detailed concept notes.

Annual Operational Plans (AOPs) in three municipalities

The three municipalities; Quezon City, Davao City and Puerto Princesa City, were supported by the EBaP implementing partners to apply an evidenced-based method synchronising with existing processes and timelines to strengthen two consecutive AOPs, for 2014 and 2015. The focus and approach was tailored to meet the needs and priorities identified by the CHO, DPHO and stakeholders of each LGU and therefore differed between each site. Close support was provided for application of EBaP in the AOPs for 2014 as this was the first exposure to EBaP in the sites whilst for AOPs of 2015 the internal city EBaP Technical Teams were able to support their municipalities to apply the EBaP methodology needing only selected and more distant technical support from the partners.

The process undertaken to develop the AOPs for 2014 in each city involved:

1. development of bottleneck charts by the CLCD team with support from UQ-c;
2. validation workshop for input and refinement by city health managers;
3. analysis in a multi-stakeholder participatory workshop;
4. writeshop with city health, planning and budget office staff to integrate the findings into the AOP for submission to authorities.

The analysis and results for AOPs 2014 in the three municipalities are presented.
Quezon City

In Quezon City, EBaP activities were scheduled to align with the city’s preparation of the AOP 2014 and are summarised in Figure 3 below.

*Figure 3. Key activities for AOP 2014 in Quezon City, District II*

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>March-April 2013</td>
<td>Data and Bottleneck chart preparation</td>
<td>CLCD, UQ-c, MCH expert</td>
</tr>
<tr>
<td>April 18-19, 2013</td>
<td>Validation workshop</td>
<td>CLCD, UNICEF, UQ-c, CHO, coordinators, HC managers</td>
</tr>
<tr>
<td>April 25-26, 2013</td>
<td>Workshop of Bottleneck Analysis and Strategies</td>
<td>CHO, CPDO, BHW, NGOs, BNS, Supply office, Nutrition Council</td>
</tr>
<tr>
<td>May 8-9, 14-15</td>
<td>Writeshop of AOP</td>
<td>CLCD, HC managers</td>
</tr>
</tbody>
</table>

**Bottleneck charts**

The interventions and indicators for the bottleneck charts was first drafted by CLCD with technical support from UC-c and UNICEF. Quezon City health program coordinators and district managers then gave significant input for the finalisation of indicators and insertion of data thus were heavily involved in the technical process.

The data for bottleneck charts was disaggregated to the District II level and the scope of analysis encompassed each section of key RMNCH services for breadth of stronger strategies in the AOP 2014. For feasibility in the set AOP timeframe and covering 11 health centres, the analysis was streamlined to three maternal and child preventive and curative interventions, used as proxies to represent the range of service delivery platforms and cadre. The three interventions were;

- Exclusive breastfeeding until 6-months (community preventive care)
- Ante-natal care (preventive pregnancy care)
- Antibiotics for childhood pneumonia (child curative care)

Data for the bottleneck charts was sourced from; Municipal Consolidated Annual Accomplishment Report (2012-13), the National Nutrition Survey (NNS) 2011, the Family Health Survey (FHS) 2011, and compiled from the supply office, records of program coordinators and individual health centre records of 2013.

The bottleneck graphs and explanations are provided below.
Exclusive breastfeeding until 6-months (community preventive care)

Exclusive breastfeeding was selected as the intervention to represent community preventive care. Breastfeeding has a high impact on newborn and under-five outcomes. It is also an intervention that requires minimal equipment and technology, and whilst it is often initially administered at a facility shortly after birth, a whole-of-community approach encompassing education and support for mothers, including breastfeeding support groups, produces the best outcomes.

To indicate the supply of essential commodities, the city staff chose mother-and-baby booklets as this is the source of essential knowledge for breastfeeding practices. The city receives only 2750 per year from central DoH but catered to 23,862 births in 2013. Human resources is represented by public midwives, BHWs and Community Health Workers (CHW) who are trained in lactation counselling as these cadres are take responsibility for breastfeeding promotion. Geographical access was measured as areas with active lactation counsellor assigned. Out of 48 areas, only eight were assigned a lactation counsellor. The first utilisation indicated women having some awareness by practising any breastfeeding as the proportion of infants 0-6 months ever breastfed. For continuation of use, indicative of a higher quality or more valuable practice, the proportion of infants exclusively breastfed from birth to 6 months was applied. Quality practice or service was measured by percentage of children exclusively breastfed until 6 months and also breastfed within one hour of birth. Several limitations associated with the definitions and reporting of these indicators were found. The National Nutrition survey was the preferred data source owing to inaccuracy of the HIS data collection for early breastfeeding initiation.

Ante-natal care (preventive pregnancy care)

ANC was chosen as the proxy for preventive pregnancy care since quality ANC covers many interventions known to impact on maternal mortality and morbidity. As well as facilitating the identification of risky pregnancies and the treatment of conditions known to affect maternal mortality and morbidity, utilisation of ANC also increases the likelihood that women will deliver in a facility, improving outcomes when complications occur.
Provision of iron-folate is an important aspect of ANC and is therefore is used as the commodity indicator for this intervention. Since midwives are primarily responsible for delivering this intervention, the number of midwives in relation to need (calculated by the ratio 1:5,000) was used as the human resource indicator. To indicate the ability of women to utilise the service, ‘any ANC’ was used. The continuity indicator of ANC4+ illustrates whether women are willing to continue to use the service, with four visits being the standard. The quality indicator provides information on the frequency of visits and services provided which are both necessary for good outcomes. In this case it also implies early first use (ANC in the first trimester) since it is not possible to provide complete dosage of iron-folic acid if women do not present for ANC early in pregnancy.

Antibiotics for childhood pneumonia (child curative care)

Antibiotics for childhood pneumonia was selected to represent child curative care. This proxy intervention addresses the leading cause of under-five mortality. This (and other curative interventions) can be overlooked because, unlike some preventive interventions such as vaccinations, there are no specific targets for treatment.
One effective treatment for under-five pneumonia is amoxicillin which was used as the commodity for this intervention calculated by taking the number of months any of the 11 health centres had stock-out of the drug over the twelve months of the year for all 11 health centres. The integrated management of childhood illness (IMCI) is the gold-standard training for treatment of a number of serious childhood ailments, including pneumonia, therefore public doctors, nurses and midwives trained in IMCI was taken as the indicator for human resources. Only seven out of 77 of these staff had this training in Quezon City. The indicator for utilisation was the number of cases seen out of the number of expected cases using the population of under-five children and a prevalence of 9% for pneumonia from the FHS 2011. For continuity, the number of expected cases given antibiotics was the indicator used, which was calculated to be all those who actually presented to the health facility. As a measure of quality, the number of children followed up after treatment was used.

**Validation workshop**

A validation session was held prior to the bottlenecks workshops. The key discussion points in validation were;

A major issue for Quezon City is the high numbers of mobile and informal settlers in the city, especially in District II. Whilst the Department of Health provide the city with population targets based on census data, the true population is considerably greater. This is reflected in the fact that some coverage reaches over 100%. It is a major problem for health centres (who appear to be ‘over-performing’) in their attempts to advocate for additional resources to extend their services. It was suggested that the differences between utilisation, continuity and quality should be the focus of discussions rather than the exact percentage coverage, which were likely to be inaccurate.

It was noted that the data used for continuity regarding the treatment of under-five pneumonia was being reported differently by different facilities. For some facilities ‘treated’ meant that they dispensed medicine to the patients. For other facilities, ‘treated’ was recorded even where prescriptions were provided, although there was little follow up to ensure that carers had purchased the necessary medicines for their children.

Health centre managers from the 11 facilities used this as an opportunity to learn the technical process of bottleneck chart development so they had the skills to employ the method with teams in their health centres. An exercise was undertaken for each health centre to create a complete bottleneck chart representing ORS treatment for childhood diarrhoea.

**Bottleneck analysis workshop**

Four half day workshops for participatory analysis of the constraints highlighted in the bottleneck charts and development of responsive, specific and localised strategies, were held on 18/19 April and 25/26 April. The workshops included managers and staff from the 11 health centres in District II, District II and city health officials including the city health officer, city planning and budgeting and RMNCH consultants.
**Critical constraints identified in District II**

**Staffing** – there were very low ratios of staff to population. District II has a public midwife ratio of 1 : 15,500 population – far above the desired ratio of 1 : 5000. This is compounded by ‘official’ population numbers underestimating the population to serve due to large numbers of mobile and informal settlers, as reflected in first utilisation of ANC of 112%. All staff at health centers multi-task however the staff shortage means there are very long waiting times for patients. Most midwives and nurses are not trained in IMCI (only 9% are trained) and therefore cannot give antibiotics for U5 pneumonia which overloads the medical officers.

**Supplies/Commodities** – there are very low supplies and frequent stock outs of essential medicines and no method for re-stocking for some supplies. Recording at many health centers masks the stock-out problems with stocktake only once per month which does not capture stock-outs at other times. Population under-estimation means allocated stock is too low for the actual demand. Stock-outs have critical impact on quality of care. Ferrous sulfate is out of stock within 4 months of the year, amoxicillin suspension to treat child pneumonia is out of stock almost every month so staff cannot dispense the recommended 2 bottles per case. The recording system does not disaggregate by complete dose/half dose/prescribed, so low quality service is not apparent. With pneumonia being a leading cause of child death this is a major priority.

**Utilization** – for some important interventions (e.g. U5 pneumonia, childhood diarrhea) very few patients seek care at the health centre. This has 2 main reasons: patients give low importance to seeing a health professional for these issues; and there are long waiting times. For the very poor there is no provision for transport to a hospital until the case becomes severe. There is no target set for the number of child pneumonia or diarrhea cases seen (compared to EPI or ANC for example) so it is difficult to track effective service, and difficult to motivate and reward staff performance.

**Continuity** – There is a big drop-off between ANC1 and ANC4+. This is due to; long waiting times; poor quality of facilities (crowded/no air-conditioning or fan); women have their first ANC too late so cannot have ANC4+; there is no follow-up for women referred to hospital (e.g. teen pregnancies); people migrate in late pregnancy back to home villages and there is no follow-up on their case.

**Quality** – Lack of supplies of ferrous sulphate as well as late presentation for ANC (too late for full iron supplements) mean overall quality achieved is low. Quality care for U5 Pneumonia is very low as staff cannot dispense the recommended 2 bottles of amoxicillin suspension, instead they can only give only 1 bottle and a prescription, or when stock is out they can only prescribe and hope the family purchase the two bottles from an external pharmacy.

Few staff are trained in IMCI and IYCF or lactation counselling so quality of breastfeeding counselling is low. Inadequate support to mothers cannot overcome the influences of traditions, vanity, formula companies, difficulties with attachment and painful breasts, pressures from work and family. Thus, early and exclusive breastfeeding to 6 months are low; only 61% and 53%.

We know that much of the population will access services through the private sector but there is a lack of information on the private sector or the quality of the services they provide.
What are health centers doing?

The health centers have used EBaP to critically assess the supply, demand and quality of their health services. In light of that, they have more developed more specific plans to address some of the issues. In particular these concern improving the quality of service and efforts to improve demand for services.

- improved recording systems to track stock-out issues,
- re-echo training in the health centers for staff capacity
- more efficient and effective triage and express queues, referral and follow-up systems,
- active case finding, and masterlisting with participation by parent and purok leaders.
- strategies to boost patient awareness with creative IEC, incentives to patients, and outreach
- rewards to motivate staff for achievement of targets and for quality standards.
- linking with high profile barangay activities to disseminate health promotion messages

Strategies for AOP 2014 at the District II and CHO level

To support the health centers to achieve high performance in coverage and quality in 2014, the District II team developed several strategies to **address the higher-level critical supply side issues.**

**Human resources**

- Update present organizational structure to respond to the demands
- Hire more health workers based on population ratio: CHO to advocate to Mayor’s office for increased number of contractuals; increase rate of contractuals similar to permanent salaries, even without benefits
- Training Needs Assessment (TNA) of Health HR for private and public staff
- Capability building using IMCI training revised modules/eIMCI and IYCF package for MOs and RNs. Develop Quezon City trainers instead of relying on external providers.

**Commodities supply**

- Profile the increase/discrepancies in population estimates to advocate for a higher budget allocation on essential medicines to LGU and DOH – relate to sintax.
- CHO sit as member of BAC
- Integrate Community Health Information Tracking System (CHITS) into logistics management. Front end- CHITS, back end- supply officer, pharmacy for automatic requests to central office, sharing of stocks among HCs, open access to inventory data, medicine deliveries tracking system. Provide training and regular support to health staff.
- Disaggregate recording system by prescribed / half dose / full dose treatment for MCH services
- Buffer stock to be held at district level for flexibility

**Service delivery**

- Stricter implementation and monitoring of the milk code
- EINC -regulation of private lying in clinic and birth facilities
- Develop a functional two-way referral system for follow up (public and private)
- Liaise with companies/businesses to increase more breastfeeding stations in the workplaces
- Enforce mandate of CHTs and expand beyond CCT

**Writeshop for AOP 2014**

In preparation for the presentation of the health center AOP to the CHO (May 14 and 15), the health center managers and District II supervisors underwent writeshop/coaching on their respective preliminary AOP. The coaching gave the participants the avenue to test case their proposed AOP based on their bottleneck charts and strategies. A number of them prepared their HC bottleneck charts and used these as basis for strategies to address constraints regarding supplies, personnel, utilization, continuity, and quality of service.

A second write-shop was held which involved a guiding of the health centre managers to improve their plans by thoroughly detailing strategies and providing line items and costing. The EBaP project used the existing health centre plan template set by the CHO and familiar to the health centre managers to add analysis to the plans, create stronger and specific strategies, and improve completeness of annual health centre plans. Health centres are not responsible for budgeting and thus no costing are included with EBaP in Quezon City, in line with the city processes.

These improved plans were submitted to the CHO. The output in Quezon City was 11 health centre plans incorporating the analysis and new strategies developed in the workshop. The city health office was to draw on these plans in writing the City-wide AOP 2014.

Finally a District II level write-shop was held (9 July) to provide a broad understanding of the problems and solutions for the district as a whole. The results of this write-shop were to be presented to program managers responsible for the write up of the AOP at city level.
Davao City

In Davao City, the series of EBaP processes to contribute to a stronger, locally tailored nutrition program within the AOP for 2014 took place from April 22\textsuperscript{nd} to May 21\textsuperscript{st} 2013. The process for Davao City is summarised below in Figure 4.

**Figure 4. Key activities for AOP 2014 in Davao City**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>March-April 2013</td>
<td>Data and Bottleneck chart preparation</td>
<td>CLCD, UQ-c, CHO, Nutrition Council Rep</td>
</tr>
<tr>
<td>March 5, 2013</td>
<td>Validation workshop</td>
<td>CLCD, UQ-c, CHO</td>
</tr>
<tr>
<td>April 22-24, 2013</td>
<td>Workshop of Bottleneck Analysis and Strategies</td>
<td>CHO, CPDO, BHW, NGOs, BNS, Supply office, Nutrition Council</td>
</tr>
<tr>
<td>May 20-21, 2013</td>
<td>Writeshop of AOP</td>
<td>CLCD, UQ-c, UNICEF, CHO, CBO</td>
</tr>
</tbody>
</table>

**Bottleneck charts**

The main workload for compiling the data and preparing bottleneck charts was assumed by CLCD with the technical support from UC-c and leadership support from UNICEF. This included frequent liaison and input from personnel at the city health office in Davao and drew on the city’s latest HIS data thus was a process inclusive of the city managers.

To comprehensively analyse the local constraints contributing to the burden of childhood malnutrition, and develop a comprehensive child nutrition program within the Davao City AOP 2014, a series of both preventive and curative priority interventions for child nutrition were selected.

These served as proxy interventions - to represent the service delivery platform and cadre, and were analysed in the four bottleneck charts;

- Exclusive breastfeeding of infants aged 0-6 months (preventive)
- Complementary feeding of children aged 6-24 months (preventive)
- Oral rehydration solution (ORS) for childhood diarrhoea (curative)
- Management of severe acute malnutrition (curative)


The bottleneck graphs and explanations are provided below.
Exclusive breastfeeding of infants aged 0-6 months (preventive)

To indicate the supply of essential commodities, the city staff chose mother-and-baby booklets as this is the source of essential knowledge for breastfeeding practices. The city receives only 7000 per year from central DoH however catered to 41,000 births in 2013. Human resources is represented by BHWs who are trained in lactation counselling as this cadre takes the lead role in breastfeeding promotion and directly train the Breastfeeding Mother’s Support Groups (BMSGs) in every Barangay. Since 2010, 150 newly employed BHWs are yet to receive lactation counselling training thus 1026 of the 1176 BHWs in post are trained. Geographical access was measured as functional BMSGs, with functional defined as including a BHW facilitator and meeting monthly, which was in place in only 48 of the total 182 Barangays in 2012. The first utilisation indicated women having some awareness by practicing any breastfeeding as the proportion of infants 0-6 months ever breastfed. For continuation of use, indicative of a higher quality or more valuable practice, the proportion of infants exclusively breastfed from birth to 6 months was applied. Quality practice or service was measured by the percentage of children exclusively breastfed until 6 mos and breastfed within one hour of birth. Similar to Quezon City, several limitations are associated with data for this indicator. NNS survey was the preferred data source owing to inaccuracy of the HIS data collection for early breastfeeding initiation.

Complementary feeding of children aged 6-24 months (preventive)

This intervention builds on that of breastfeeding with resources required, focal point health worker cadre, and different knowledge and skills of carers.
Food was the primary commodity selected and revealed a significant issue in food insecurity with 83.3% of households in the Davao del Sur region unable to secure three meals per day in a past year. Barangay Nutrition Scholars (BNS) in relation to need with a population basis of 1 to 3000 represented the human resource situation. Davao City has 350 BNSs in place to serve a 1,544,903 population. For access to this service, carers should receive household outreach visits at least once in the last six months within the Operation Timbang (OPT) nutrition program for growth monitoring and child nutrition education and support. Demand-side indicators for child nutrition care practices are not measured within the HIS and thus were sourced from the NNS 2011 for sub-regional level. First utilisation captures the delayed initiation of complementary feeding whilst continuity illustrates the extent to which a better practice of both timely complementary food introduction with continued breastfeeding occurs. Optimal child feeding practice was presented as a quality indicator of minimum feeding frequency for age and variety.

**Oral rehydration solution (ORS) for childhood diarrhoea (curative)**

Child curative care, illustrating medicine supplies, illness detection, care-seeking, and quality of formal health services, was represented with ORS for management of childhood diarrhoea – a priority intervention for averting acute wasting as well as addressing a leading cause of under-5 mortality.
The supply of commodities within the health system was measured as health centers with stock in each month of ORS and zinc in the past year. The city received 286 ORS sachets per quarter in 2012 while there were 849 recorded cases, each case needing 2 sachets dispensed. This intervention optimally requires human resources of midwives and nurses trained in integrated management of childhood illness (IMCI). In Davao City, of all 167 public midwives and nurses, only 44 are IMCI trained. Geographical access to ORS for children with diarrhoea was measured through households able to reach a health centre within one hour. The health office map shows that 96.6% of all households have such access, though access is limited for those residing in 21 GIDA barangays. On the demand side, the first utilisation of ORS is the proportion of children under 5 with diarrhoea who were seen at a public health facility. The HIS data shows that only 4.2% of children with diarrhoea are reported, based on the number of expected cases with 8% prevalence (DHS). Continuation of use illustrates how many cases were given treatment at the public health centres, which was 2.8%, thus only two-thirds of those who sought care were treated. Quality care was indicated by cases treated with both ORS and zinc, which was as low as 1% based on HIS data.

Management of severe acute malnutrition (curative)

The management of several acute malnutrition (SAM) in children under-5 years was not previously implemented by any LGUs of the Philippines, except in emergency settings. For this reason, the quality care indicator is zero. The CHO of Davao City elected to include this bottleneck chart to assess the supply-side determinants in advance for an effective plan and program design.
The supply of essential commodities for the management of childhood SAM was measured by the stock of micronutrient powder and supplementary food in relation to need, on the basis of SAM cases (n=3010) in 2012. Davao City received only 16,257 sachets of micronutrient powder in 2012, meeting only 4.2% of the need, and no supplementary food program was in place. The city also assessed stock of vitamin A capsules owing to the fact that it is an existing program had has a high impact on preventing death in SAM cases. The most pertinent human resource for this program are BNS, who number 350 in relation to a 1 to 300 population, thus cover only 68% of need. Geographical access to such care was indicated by the number of children reached by Operation Timbang (OPT) through which cases are identified. The OPT Annual Report for 2011 shows that the program had 86% coverage. First utilization illustrated service delivered as basic provision of micronutrient powder to identified malnourished children (an activity of OPT program), which was provided to only half of malnourished children. For continuous use, none of the malnourished children 6-24 months were given Vitamin A supplementation. Quality service was indicated by supplementary feeding care of SAM children which is zero as the program is not initiated.

Validation workshop

In Davao City on 5 March 2013 a validation workshop was held for refinement of the data and bottleneck charts for extensive engagement and input from city health managers. The workshop was attended by city health program managers (nutrition, MCH, BHW coordinator), city health officer, supply officer, nutrition council representative, as well as the EBaP team of CLCD, UQ-c and UNICEF. The participants discussed each indicator, data input and source for all four bottleneck charts. The result was a thorough understanding the bottleneck chart content, changes to some indicators and data, and open discussions on current limitations in scope and quality of the city’s HIS data.

The key discussion points in validation were;
As an indicator of access for health information particularly for breastfeeding, Barangays with functional Community Health Teams (CHTs) was raised as an option. This is an ideal source of care as CHTs comprise a midwife, BHWs and BNS, providing home visits, education and follow-up support. However, the program is only scaled to a small number of priority barangays through the Conditional Cash Transfer (CCT) program at this stage. This does not capture access for the entire population in need thus BMSGs was selected by the city.

On exclusive breastfeeding, the primary discussion point was the indicator of quality. The CHO initially applied the HIS data, the most local and up-to-date source, however this process drew long discussions and revealed significant discrepancies in contrast to the NNS 2011 for the proportion initiating breastfeeding within one hour: 97% vs 61.7% respectively. On investigation, health facilities customarily “tick-the-box” on post-partum breastfeeding records. Further, interpretation of the indicator varies greatly with some delivery attendants considering this breastfeeding within one hour, others within 4 hours, and others that counselling was provided. This was noted as an action point for refreshing birth attendants on the system.

For the human resource indicators focusing on BNSs and BHWs, it was debated and became open that no recommended ratio has been set. There is a minimum of one per barangay however needs vary depending on terrain, population, land area which is not accommodated presently in guidelines. This is at the discretion of Barangay Captains. The city from hereon elected to aim for a 1:3000 population, with distribution to prioritise the most remote areas in which one BHW or BNS cannot travel to reach all households.

It was also during this validation workshop that the city government realised that critical data on complementary feeding practices for children were not being collected. The city have not used the NNS prior to EBaP but found the information very useful for critical analysis in planning and were motivated to expand the indicators collected routinely.

For management of childhood diarrhoea, the city has no set targets and records only number of cases seen and treated, not the number in need in the population. The demand indicators in the bottleneck charts were a new method of calculating the target – for prevalence of diarrhoea in the total population under 5-years. The current services delivered to only 2.8% with ORS and 1% with ORS and zinc was extensively debated but by working through the calculations the city participants confirmed that care-seeking is very low and this was seen a realistic estimate. The limitation is that carers may seek ORS from pharmacies which is adequate care for most cases and is not measured in HIS data.

Typically, each health program coordinator manages and holds their own data and reporting for their own program. There is no centralised database where all managers can access the data and the various divisions rarely come together to discuss health service delivery. Participants’ feedback was very positive regarding this process and workshop. This also afforded the city health managers a deep understanding and ownership of the charts ready for the analysis workshop with wider stakeholders.
**Bottleneck analysis workshop**

A Bottleneck Analysis workshop, for participatory analysis of the constraints highlighted in the bottleneck charts and development of responsive, specific and localised strategies, was hosted by Davao City health office on May 20-21, 2013. The workshop was inclusive of a more than 18 stakeholders of the two days, representing the city health office, planning office, budget office, supplies office, nutrition section, BHW federation, nurse and midwives, and indigenous population in GIDA barangays.

The consolidated constraints identified in the workshop for the four bottleneck charts are presented below. In response to the constraints, stakeholders devised a suite of strategies which were further developed and refined in the Writeshop and incorporated, with costings, in the AOP 2014. The consolidated strategies are presented below with regards to the outputs of the Writeshop.

**Supply of commodities insufficient due to coordination and targeting issues**

The lack of clear procedures in targeting supplies and coordination of supply with distribution times is impacting on quality of care. The inadequate of supply of mother and baby booklets, only 7,000 supply for 41,000 pregnant women is due to allocation from DoH rather than local appropriation based on need. The booklets are thick and expensive thus the city does not print additional copies. The stock of ORS is variable, at time there is stock out whilst previous year have seen oversupply and expiration of sachets. Procurement is not rationale as recording and targeting of childhood diarrhoea cases is not embedded in the system. Once supplies arrived at the city the system flows well to distribute to districts and then health centres. Further, lack of coordination is a critical issue for the supply of micronutrient powder as it arrives mid-year however the OPT program reaches all children in the first quarter, thus BHWs and BNSs are unarmed with any commodities when they identified undernourished children.

**Human resource training is challenging logistically and financially**

The city has recently employed an additional 150 BHWs however they are untrained because they must attend the centre in Tagum which is far and budget was not secured for training. The quality of childhood diarrhoea care, malnutrition detection and management, and supervision of community level cadres by nurses and midwives is hampered by the lack of IMCI skills. The training has not been held since 2005 and is not a feasible model – too expensive at 750,000 PHP for 25 participants; too long as it demands 11 continuous days in training; is too far as the training centre is in Tagum (1.5 hours one-way); and is only scheduled for permanent nurse and midwives staff, excluding the many contractual workers.

**Human resource recruitment and motivation for community-level cadres is complex**

The appointment of BNSs, one of the leading cadres for childhood nutrition activities, are recruited and managed through the Barangay rather than the City Health Office. In the face of human resource shortages, the city has lobbied for increased recruitment beyond the standard one per Barangay however this is at the discretion and priorities of Barangay Captain. The Nutrition Councils are charged with advocating for nutrition program resources however many are poorly functioning due to unclear mandate and low inspiration. The honorarium for BNSs is considered low and not an
adequate incentive to attract skilled candidates. Further, recruitment is challenging in GIDA as regulations stipulate education levels that are difficult to find in remote communities.

BMSGs were initiated through UNICEF support, however maintaining them and scaling up beyond the pilot Barangays has not taken place due to a series of constraints. Barangays are not legislated to create or support the groups, no ongoing funding allocated, the role and responsibility for monitoring and motivating is unclear, and there are no incentives or honorarium for staff, members or participants. The lack of these functional groups – in only 26% of Barangays severely impacts on the reach of IEC for child health and nutrition.

**GIDA with low access to care**

Households in Davao City’s 21 GIDA Barangays have low access to care. The challenging terrain, distances, lack of transport, and insecurity in some sites constrain both care seeking and outreach services. Carers treat child diarrhoea at home with herbal remedies, often a tradition of the tribal groups, and BHWs and BNSs are able to routinely visit these households to provide IEC, conduct growth monitoring, or follow-up with malnourished children.

**Families and carers lack knowledge and resources to provide child feeding**

The critical constraint to breastfeeding is a lack of knowledge and appreciation of the importance of breastfeeding for child health and survival. IEC materials are not widely distributed, are text heavy and unsuitable for lower literacy levels, not translated into local languages, and are not perceived as interesting or user-friendly. For working mothers breastfeeding is not widely facilitated. The City has been rolling-out Breastfeeding Stations, Workplace Breastfeeding regulations, and milk-banks although availability and awareness is not yet widespread. The enticement by infant formula companies through promotions, commercials and incentives results in mixed messages to women. Counselling and concentrated support by health personnel for women to initiate breastfeeding within one hour of birth is not always afforded and limited to ‘latching-on’. The advice for women in GIDA areas from cultural and religious leaders has not favoured early or continued breastfeeding.

Households are unable to provide optimal quantity, variety and quality of complementary foods to children. Most severely, they are constrained by food insecurity which impacts at least 83% of households. This is owing to poverty and lack of secure income, and a shortage of space, knowledge and equipment for home gardening in urban areas. Several GIDA areas face the constraint of insecurity – frequent migration and fleeing means abandoning food stores and inability to farm.

In urban areas particularly, packaged foods are given to young children as they readily available and affordable, easier for parents working outside the home, and preferred by children.

**Care-seeking for child diarrhoea is not prioritised**

Care-seeking for child diarrhoea is critically low at only 4% at government health centres. Although some carers visit pharmacies for ORS or provide home-fluids and may be supported by BHWs, the consensus is that carers are complacent about childhood diarrhoea. This is considered a common illness, with care-seeking triggered at the point of severity at which time they directly attend to
hospital. Diarrhoea care is not prioritised; the health system has set no targets, and BHWs do not even record pertinent information about the children with diarrhoea.

**Care for children with diarrhoea and malnutrition is of incomplete quality**

The OPT program, scaled nation-wide, activates existing BHWs and BNSs to reach every child in community visits for growth monitoring and nutrition promotion in the first quarter of the year on an annual basis. Children identified as moderately or severely malnourished are recorded and a process of follow-up is expected to take place. The program has a reported coverage of 85%, although the city noted some challenges in the program – that remote areas are often not reached, that it is logistically challenging as Barangays lack required growth and weighing equipment and must rotate the tools, and that the quality of growth monitoring and follow-up is a concern. The critical concern is that no program is in-place to actually treat and rehabilitation children with SAM.

There is a low rate of treatment of identified malnourished children with micronutrient powder and vitamin A capsules. Micronutrient powder is often not available at the time of growth monitoring when malnourished children are identified due to ill coordinated supply, but in addition many staff dispense the sachets to healthy children and are then unable to supply malnourished children. Some carers report that child are averse to the taste thus BHWs and BNSs must employ skill with strategies to support the usage. The dosing of vitamin A capsules for malnourished children is stipulated in treatment guidelines however BHWs and BNSs, and some program managers, have no awareness of this protocol and never carry vitamin A capsules during OPT regardless of the apparent re-echo training program. For treatment of child diarrhoea, BHWs promote the use of ORS however never routinely provided zinc treatment for child diarrhoea as they have no knowledge of the importance. Supervisors attended training on administration of zinc in 2011 but re-echo seminars have not been delivered.

Participants expanded and refined the strategies developed in the Bottleneck Analysis workshop, detailing into actionable activities, identifying resources required, responsible personnel, timeframes, budgets and funding sources. The consolidated strategies and actions are detailed below in Table 2.

**Table 2. Strategies and activities for nutrition programming of Davao City AOP 2014**

<table>
<thead>
<tr>
<th>Promote early, exclusive and continued breastfeeding</th>
<th>1a. Develop and reproduce local Mother and Baby Booklets (reduce to critical info - 4 pages). Orientation on use of new booklet during district meeting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Educate mothers on breastfeeding</td>
<td>1b. Provide BHWs with breastfeeding flipchart to inform mothers during EPI, AP, waiting rooms, home visits. Set for BHWs to carry mini flip chart all times.</td>
</tr>
<tr>
<td>2. Strengthen the Breastfeeding Program &amp; reactivate BMSGs.</td>
<td>2a. Present BMSG Guidelines by the DHO &amp; District Nurse/Midwife Supervisor at Barangay session. Place on agenda, invite stakeholders.</td>
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<tr>
<td></td>
<td>2b. Public acknowledgement (resolution) of BMSG at Barangay assembly.</td>
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<tr>
<td></td>
<td>2c. Festival in breastfeeding month (August) - food, BF awareness activities, banners.</td>
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<tr>
<td></td>
<td>2d. Monitor breastfeeding program performance - Coordinator’s checklist. Orient 16 districts to do barangay monitoring using the checklist + flow-chart process = SoP (20 attendees). Reproduce checklist forms for the year</td>
</tr>
<tr>
<td></td>
<td>2e. Breastfeeding program performance reporting. Quarterly reporting by 16 coordinators to city IYCF coordinator. Meet biannually for review.</td>
</tr>
</tbody>
</table>
3. Enforce EO 51 (infant formula milk code)

- 3a. Provide copy of EO 51 booklet to all districts
- 3b. Orient private lying in clinics on EO 51
- 3c. Monitor private lying ins within Barangays to ensure compliance (enforce BF program/no milk formula advertisements). Yearly registration only granted when orientation certificate is presented.
- 3d. Enforce punishment of violation of EO 51 (as per guidelines)
- 3e. Re-orient BHWs and BNSs on EO 51 during Barangay assemblies

4. Promote breastfeeding at the workplace

- 4a. Identify companies (criteria eg. Over 200 personnel) and conduct 1 day orientation to HR officers on RA 10028 - creation of breastfeeding station.

Improve complementary feeding in line with IYCF best practices

<table>
<thead>
<tr>
<th>1. Improve knowledge of mothers, religious groups, tribal leaders (GIDA focus 11 Barangays) in nutrition and breastfeeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Create GIDA outreach team (MO, RN, MW, NO, BHW). In district groups x 4 by CHO coordinators team. IEC for MCH and IYCF. Increase frequency.</td>
</tr>
<tr>
<td>1b. Increase frequency of mothers classes - quarterly in GIDA. Healthy snacks, cooking demos, recipes in mothers classes to motivate attendance. 4 GIDA districts, 201 puroks, 1 class/purok, 30 pax/class. Invitation from BHW &amp; BNS.</td>
</tr>
<tr>
<td>1d. Translation of IYCF kits to Visayan - flip charts, games, instruction booklets, recipes. For BNS &amp; BHWs in GIDA areas. 2 per Gida Barangay = 22</td>
</tr>
<tr>
<td>1e. More detailed, slower, focused IYCF counselling for mothers during OPT sessions. Incentive reward pack for trained Mother Leaders to present IYCF to mothers at OPT (team with BNS &amp; BHW) (1 Mother Leader per Barangay = 11).</td>
</tr>
</tbody>
</table>

Strengthen response to child malnutrition

<table>
<thead>
<tr>
<th>1. Improve the quality of BNS &amp; NOs performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Revitalise &amp; reorient Mother Leaders (x 1 per 11 Barangays in GIDA) to support BNS and NOs year round for mother’s classes, home visits, EPI, follow-up of malnourished children.</td>
</tr>
<tr>
<td>1b. Honorarium for Mother Leaders in 11 GIDA Barangays.</td>
</tr>
<tr>
<td>1c. Provision of masterlist of severely malnourished and underweight children from NOs to MWS in all Barangays - into TCL for monitoring at home visits.</td>
</tr>
<tr>
<td>1d. Coordinate with faith organizations, tribal leaders, DepEd, to reach GIDA children for OPT. Orientation session on key GIDA health problems, share the masterlist, plan for joint activities. 1 meeting per district, 4 reps per Barangay.</td>
</tr>
<tr>
<td>1e. BNS to adhere to report submission timelines. Motivated by public recognition at quarterly meetings. No report = no honorarium for BNS by NOs</td>
</tr>
<tr>
<td>1f. OPT team to extend stay in far-flung areas so computation can be done immediately. Instruction, meal allowance for 30 days in very remote sites.</td>
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2. Increase GIDA reps in the health workforce - scholarship for Midwifery education (2 years study, 4 years of return service. 1 per GIDA district. |

<table>
<thead>
<tr>
<th>2. Increase GIDA reps in the health workforce - scholarship for Midwifery education (2 years study, 4 years of return service. 1 per GIDA district.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2a. Negotiate with DoH to secure scholarship funding for GIDA midwife scholarships. Tecarro School of Midwifery pay 50%, must source other 50%.</td>
</tr>
<tr>
<td>2b. Establish selection screening committee (GIDA rep, CHO, Barangay Officer, Education institute). Use DoH scholarship program screening committee</td>
</tr>
<tr>
<td>2c. GIDA scholarship application promotion, provide application guide.</td>
</tr>
<tr>
<td>2d. Appoint GIDA scholars.</td>
</tr>
</tbody>
</table>

3. Increase the reach of BNS staff. Hire additional 50 BNS staff, post at least 11 to GIDA Barangays.

<table>
<thead>
<tr>
<th>3a. Proposal for additional BNSs to Local Health Board. Local Health Board to submit resolution to Local Finance Committee</th>
</tr>
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<tbody>
<tr>
<td>3b. Advocate for EO, ordinance enactment by city council for new BNS posts.</td>
</tr>
<tr>
<td>3d. Urge GIDA barangays to hire additional BNSs paid from barangay funds. Using refined criteria for GIDA BNS recruitment</td>
</tr>
</tbody>
</table>

4. Reactivate Barangay Nutrition Committees in all Barangays

| 4a. Advocate to City Mayor for sanction - order to Barangay Captain for functional Nutrition Committee + allocation of budget as 10% of IRA. |

5. Procure weighing scales for OPT (1 per BNS = 350)

<table>
<thead>
<tr>
<th>5a. Review the inventory - identify BNS’s without Salter weighing scales= 150 are needed, either missing or non-functional.</th>
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</thead>
<tbody>
<tr>
<td>5b. Letter for solicitation of scales to City Counsellor</td>
</tr>
</tbody>
</table>
| 6. Contribute to food insecurity projects | 6a. Referral system for GAM families (underweight) to the city agricultural office for inclusion in vegetable gardening program. Masterlist of GAM to Barangay Captain for prioritised inclusion in program.  
6b. Tap Barangay Captain for food-for-work program to prioritise households with malnourished children. Provide master list  
6c. Strengthen and mainstream inter-agency coordination on food security. During CNC meetings raise the food security topic. |
| 7. Initiate program for Community Management of Severe Acute Malnutrition for children. | 7a. Develop a comprehensive program to respond to SAM including targeting, procurement, distribution, staff training and monitoring  
7b. Submission of program proposal to Local Health Board, endorsed by CHO  
7c. Implement IMAM in partnership with UNICEF and other relevant agencies. Training of NOs, BNSs, BHWs for improved OPT and IMAM care  
7d. Secure year-round supply of supplementary food and vitamin A capsules |
| Increase reach and quality of IMCI interventions | 1. Up-skill midwives to IMCI | 1a. Establish IMCI training centre in Davao city (hospital). Meet with DoH/UNICEF/DoH/CHO/SPMC/Davao Regional Hospital to negotiate modifications to training, propose 4 x 3 days blocks. |
| 2. Increase availability of ORS | 2a. Lobby Barangays to procure ORS and zinc. In barangay sessions - present data on diarrhoea to justify. 6 pax; Barangay Capt/Kagawad / Treasurer.  
2b. Include ORS stocks for BHWs for immediate care of diarrhoea cases.  
2c. Monitor inventory of ORS and zinc supplies at monthly BHW meeting |
3b. Awareness raising by midwives regarding ORS/Zinc and availability of supplies from BHW at bgy general assembly |
| Increase staff capacity for maternal and child care | 1. Increase staff skills in CDD for quality care | 1a. Train newly hired staff (RN and MW) in 2 day CDD training (2 per district x 16 districts plus 5 trainers/support staff = 37 participants)  
1b. Trainers training for MOs, supervising nurse (2 per district) plus 5 trainers  
1c. Refresher training for BHWs and BNS staff in CDD (focus on zinc) by MOs & Supervisors (1 day training, 2 sessions per barangay). |
| 2. Increase skills for staff in IYCF and nutrition counselling | 2a. Refresher training for health personnel on IYCF (5 day training. 94 MW plus 16 RN = 110 plus 7 trainers) 3 batches.  
2b. Re-orientation for NOs + BNS in distributing Vit A, deworming, and micronutrient powder during OPT (in guidelines, but not practiced). First for NOs at monthly meetings. Second, NOs orient BNSs at monthly BNS meeting.  
2c. Re-echo by Medical Officers any updates during regular RN, MW meetings |
| 3. Increase staff skills for recording and monitoring | 4a. Train new staff on proper recording and targeting - 3 staff per district (one encoder and one RN and one MW supervisor) + 5 trainers. 2 day training. |
| Strengthen recording, monitoring, and targeting | 1. Strengthen inventory and monitoring system | 1a. Review target-setting for BHSs for all critical supplies and cross-check with procurement plan.  
1b. BHWs submit Target Client List (TCL), checked by MWs then supervisors  
1c. Midwives submit RHIS to be checked by program health supervisor > district medical officer > program manager |
| 2. Monitor and Incentivise performance | 2a. Awards and performance incentives for well performing BHWs and midwife/nurse at BHS (cash and plaque)  
2b. Remind private hospitals and clinics on submission of diarrhoea and pneumonia data. CHO inform business bureau that reports required before renewal of business permit  
2c. Develop standardized individualised treatment form for all programs (ANC/IYCF/IMCI/EPI). Meeting of program coordinators to create form.  
2d. IMCI semi-annual program review. IMCI staff (39) plus 5 facilitators 1 day. |
| Strengthening the procurement system | 1. Clarify roles for procurement at district | 1a. Issue a memorandum and meeting with CHO on targeting and procurement and distribution - 16 plus 6 participants. |
Writeshop for AOP 2014

In a Writeshop, in Davao City on 20-21 May 2013, with a small team from the city health office, city planning and development office, city budget office, CLCD and UQ-c translated the results of the bottleneck workshop in the AOP 2014. The team used the existing template developed by DoH and used by the city, to detail the new nutrition-focused activities which could integrated simply into the wider AOP 2014.

Participants expanded and refined the strategies developed in the Bottleneck Analysis workshop, detailing into actionable activities, identifying resources required, responsible personnel, timeframes, budgets and funding sources.

Puerto Princesa City

In Puerto Princesa City, EBaP activities took place to align with the city’s preparation of the AOP 2014. The events are summarised in Figure 5.

Figure 5. Key activities for AOP 2014 in Puerto Princesa City

Bottleneck charts

The compilation of data and preparation of bottleneck charts was assumed by CLCD with the technical support from UC-c and leadership support from UNICEF, with frequent inclusion in the process of Puerto Princesa city program coordinators.

For an analysis that identified major constraints to service delivery, added strength to strategies across each section of key RMNCH services in the AOP 2014, four maternal and child, preventive and curative, interventions were selected. These served as proxy interventions to represent the range of service delivery platforms and cadre. The four were;

- Exclusive breastfeeding until 6-months (community preventive care)
- Facility-based delivery (pregnancy clinical care)
- Expanded program on immunisation (EPI) (child mass preventive care)
- Antibiotics for childhood pneumonia (child curative care)

Data for the indicators of the bottleneck charts was sourced from; Municipal Consolidated Annual Accomplishment Report (2012-13), National Nutrition Survey (NSS) 2011 and Family Health Survey (FHS) 2011 and Philippines Demographic and Health Survey (DHS) 2008.

The bottleneck graphs and brief explanations are provided below.

**Exclusive breastfeeding of infants aged 0-6 months (preventive)**

![Graph showing indicators of exclusive breastfeeding]

As for Quezon City and Davao City, mother and baby booklets were used as the commodity for Exclusive Breastfeeding. It was revealed that there were no booklets supplied by the DoH. Nurses, midwives, city nutrition program coordinator (CNPC) and Barangay health scholars (BNS) trained in infant and young child feeding (IYCF) was used as the indicator for human resources. Access to a functioning community health team (CHT) was used for access since breastfeeding counselling was included under the responsibility of this team. Demand side indicators followed that of the other cities with the same data issues.

**Facility-based delivery**

The impact of this intervention in terms of maternal and newborn morbidity and mortality and the low levels of skilled birth attendance in Puerto Princesa make an analysis of facility-based delivery an important addition to the bottlenecks analysis for the city.
Delivery kits were the chosen commodity for this intervention with data revealing very low coverage across the various facilities offering this service. The number of public midwives in relation to need (1:5000 population) was used as a measure of human resources. The population that was one hour from the city center was used as an indicator of geographical access since this is where the majority of lying-in clinics are located. It was noted in addition that this access would not be 24/7 since public transport from many locations was restricted to once or twice daily. The utilisation and continuity indicators were SBA and SBA at a facility respectively, revealing few health professionals attended deliveries outside a facility. Since the intra-partum and post-partum period are the most risky for mothers and babies, the quality measure included that this facility-based delivery had also included post-partum check-up, with less than a third of those who needed it receiving this service.

**Expanded program on immunisation (EPI) (child mass preventive care)**

EPI is a critical intervention for prevention of childhood illness and provides a good proxy for the delivery of outreach services.

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**Pregnancy clinical care:**

Facility-based delivery

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMODITIES: % of lying in clinics with no stock-out of delivery kits in the past 6 months</td>
<td>22.2%</td>
</tr>
<tr>
<td>STAFF: % of available public midwives in relation to population (1:5000)</td>
<td>93.4%</td>
</tr>
<tr>
<td>GEOGRAPHICAL ACCESS: % of households within one hour of a lying-in clinic</td>
<td>88.1%</td>
</tr>
<tr>
<td>UTILIZATION: % of deliveries attended by SBA</td>
<td>53.2%</td>
</tr>
<tr>
<td>CONTINUATION: % of deliveries attended by SBA at a facility</td>
<td>48.6%</td>
</tr>
<tr>
<td>QUALITY: % of deliveries attended by SBA at a facility and received post partum check-up</td>
<td>27.9%</td>
</tr>
</tbody>
</table>

**Child mass preventative care:**

Expanded program on immunisation

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMODITIES: % of months CHO had stock of DPT in the past year</td>
<td>100.0%</td>
</tr>
<tr>
<td>STAFF: % of midwives trained for EPI program</td>
<td>45.8%</td>
</tr>
<tr>
<td>GEOGRAPHICAL ACCESS: % of EPI outreach sessions held as per scheduled in the past year</td>
<td>100.0%</td>
</tr>
<tr>
<td>UTILIZATION: % of under-1 year olds covered with DPT 1/ Pentavalent 1</td>
<td>80.7%</td>
</tr>
<tr>
<td>CONTINUATION: % of under-1 year olds covered with DPT 3/Pentavalent 3</td>
<td>78.0%</td>
</tr>
<tr>
<td>QUALITY: % of under-1 year olds with full immunisation coverage (FIC)</td>
<td>68.3%</td>
</tr>
</tbody>
</table>
The combined vaccine for diphtheria, pertussis and tetanus (DTP) was chosen as the commodity indicator for this intervention and data revealed that the city health office did not run out of stock in the past year. Since midwives are primarily responsible for delivering this service, the percentage of midwives trained for the EPI program was used as the indicator of human resources. Geographical access to EPI is through outreach and therefore the percentage of sessions held as scheduled was the indicator. The utilisation and continuity indicators were percentage of children under one who had received DTP1 (partial efficacy) and DTP3 (full efficacy) respectively. Quality coverage was full immunisation against the most common childhood diseases as per the Philippine vaccine schedule.

Antibiotics for childhood pneumonia (child curative care)

Cotrimoxazole was used as the commodity for this intervention with the measurement of stock-out at satellite clinics, of which only two had stock-out. Only four out of 69 public doctors, nurses and midwives are trained in IMCI, the gold-standard training for treatment of a number of serious childhood ailments, including pneumonia which was the indicator used for human resources. The indicator for utilisation was the number of cases seen out of the number of expected cases using the population of under-five children and a prevalence of 11.6% for pneumonia from the FHS 2011. For continuity, the number of expected cases given antibiotics was the indicator used, which was calculated to be all those who actually presented to the health facility. As a measure of quality, the number of children followed up after treatment was used. In Puerto Princesa it was not common practice to follow up on cases so the value for that indicator was zero.

Validation workshop

A validation session was held on 29 and 30th April to confirm the data used for the bottlenecks charts and for the subsequent analysis. Whilst there was discussion around the use of different indicators most were retained.

The problem of using population targets estimated on previous census was raised. It was considered that population targets are over-estimated and as such targets are difficult to achieve. For exclusive breastfeeding it was noted that BHW are only orientated and not provided the full training therefore
midwives, nurses, city nutrition program coordinators and barangay nutrition scholars trained in IYCF was the preferred indicator for human resources. Whilst Pentavalent was being introduced in Puerto Princesa, the commodity of DTP was considered appropriate for this analysis. The assumption that those who were seen at a facility for pneumonia were treated with antibiotics was retained despite the lack of recording.

**Bottleneck analysis workshop**

The Bottleneck Analysis was conducted from May 15-16, 2013 at the Emerald Playa Resort and Eco Park. Participants included representatives from the CHO, CPDO, CBO, CSWDO, the two satellite clinics of the city government, as well as the 4Ps field office. Delegates from civil society organizations Center for Health and Development, World Vision and the Philippine Nurses Association also participated.

The critical health systems constraints from the bottlenecks workshop are described below:

**Supplies**
Limited LGU budget for delivery kits was attributed to poor supply of this item which is not seen as a priority by the mayor and/or legislative body. The inability to justify using evidence and the lack of formal request were also highlighted.

With regard to mother baby booklets, it was noted that the DoH used to provide this but have stopped providing it. As such, sometimes, midwives end up using their own resources or personal supplies, or if not, the cost is passed on to the patients.

It was suggested that existing satellite offices are considered ‘special projects’ with the budget allocated to them different from other facilities. This would suggest a potential equity issue, since these satellite clinics are meant to service vulnerable and remote populations.

Another problem highlighted was with respect to delays in delivery of medicines. The problem was not from the city to the clinics, but rather the delivery from Manila to Puerto Princesa.

**Human Resources**
Among the issues raised regarding staff in facility- based deliveries was the lack of security of tenure since job order personnel may be relieved at the start of an administration. The insufficient budget can also account for limited benefits and lack of incentives for the personnel.

There were also problems with the budget for the Exclusive Breastfeeding intervention, which could explain why staff are unable to undergo training. The staff that undertook this training are not equally distributed throughout the city. It was also revealed that trainings for satellite clinic personnel are not included in the budget. Since trainings are costly, only updates and orientations are given to personnel. The fast turnover rate and underutilization of staff were also seen as problems.

Training for the Expanded Program on Immunization is also expensive, extensive, and was not considered priority. The difficulty in inviting speakers for the training was also mentioned. Another problem observed was some trained staff in satellite clinics are not functional.

The duration of training, specifically the IMCI training for the Treatment of Childhood Pneumonia which takes two weeks, was seen as problematic. This could contribute to understaffing in satellite clinics if they undergo training. Despite the fact that IYCF and IMCI training are part of the national program, there is difficulty in initiating this training at the local level.
Geographical Access
The lack of available transportation was considered as the main constraint in access to facilities, particularly in geographically isolated and disadvantaged areas (GIDAs). It was also mentioned that while an ambulance is available, sometimes it does not have the needed gasoline.

Terrain-related problems were also seen as a challenge, specifically to those who have to pass the river. This is also related to the issue on training for staff since some barangays are far from the training venue, which leads to higher expenses for fare and accommodation.

In remote areas, there are outreach services once or twice a month. However, for services requiring urgent treatment, services are not available daily and it is difficult for them to get access to the necessary treatment.

Utilization
The discussion on issues of first use or utilization revolved around the following: the cultural beliefs and practices of individuals, information campaign, financial constraints, and physical conditions of public health facilities.

It was mentioned that people who are members of indigenous communities and lived in GIDAs have their own cultural beliefs and traditions which affect their perception and use of public health services. For instance in the case of facility-based delivery, IPs prefer that mothers deliver their babies within their respective houses by ‘hilots’ (traditional birth attendants). In treating pneumonia, they prefer herbal medicines and use their own home remedies. Only when the pneumonia case gets worse do they sometimes decide to go to a health facility.

There was a low level of awareness on the importance of using health facilities (e.g., for delivery, immunization and treatment of pneumonia) and on the importance of exclusively breastfeeding their children up to six months. This also affected the trust in public health facilities with some preferring private hospitals and clinics and misconceptions on the cost of availing services at public health facilities.

Financial issues which affected utilization of public health services and facilities include transportation cost especially for those living in GIDAs and outskirts of the city, the cost of medical supplies and medicines, and opportunity costs for parents. Opportunity costs refer to the time and money that the parents (especially those who are indigent) will forego once they go to health facilities (e.g., during delivery and health check-ups).

It was also mentioned that the physical conditions of public health facilities affected their utilization by the public. A specific case was cited wherein there is no specific or separate line for ARI/pneumonia cases and that patients suffering from these illnesses have to queue together with all other patients. Trust in the service being provided also suffered as a result of the poor state of facilities, some of which had no electricity or needed refurbishment.

Continuity
Foremost among the problems of continuity indicators was also poor information and education of clients. It was pointed out that mothers were not properly educated on proper milk extraction and storage especially for working mothers. Family members were not well informed about the benefits of having their children vaccinated and that there may be misconceptions regarding vaccines. There was also no intensified campaign on the symptoms and treatment of pneumonia thru tri-media.

The second issue focused around financial constraints and inconvenience of follow-up visits. Mothers sometimes refuse to be taken to a birthing facility due to limited financial resources to cover their
transportation and other expenses and because no-one is available to take care of their households (children and livestock). Some said working mothers felt it inconvenient to continuously breastfeed their children because they need to go home every now and then to do so.

The condition of public health facilities was also identified an issue. Patients’ expectations on the services may have not been met during their first visit. This, in turn, affected their continuing utilization of these services. In terms of capacity of the public health facilities to accommodate patients, health centers have to implement cut-offs in the number of patients that can be served due to lack of supplies and resources. This approach discourages patients to continue availing services from public health facilities.

Continuity is also difficult to monitor in the case of mobile populations. Data from private health clinics is not available and it can be difficult to track what happened to patients that originally utilized public health services in the city.

Quality
A problem that was connected with quality indicator was the poor follow-up activities by health workers. This was mainly attributed to the shortage of manpower and exacerbated by health personnel in satellite clinics not performing home visits. In terms of patients having the initiative to visit public health facilities to continue their check-up, only those who think they have problems go to facilities to do so. One participant said that mothers sometimes see post-partum check-ups as a burden, especially if they do not feel any bad symptom after their delivery. Some patients also resort to self-medication and buy medicines previously prescribed to them without any follow-up consultation from a health worker.

Another issue was the reporting system/data gathering. Data from satellite clinics are not reflected in the CHO reports and there is lack of information sharing with private health facilities. In terms of treatment of childhood pneumonia, it was mentioned that the quality indicator agreed upon for the bottleneck analysis was not in the CHO’s recording system.

In terms of information and education campaign (IEC), patients were not properly educated on the importance of continuous monitoring of their cases from health workers. On the part of health workers, training was also identified a problem. For instance new skilled birth attendants were not adequately trained on the importance of initiating breastfeeding at birth and hilots were not aware of its importance. Some private health providers encourage the use of formula milk.

Lastly, the issue of availability specifically affects the EPI intervention wherein some vaccines are unavailable or late to arrive. This was related to the centralized purchasing system by the RITM which also causes the delays and unavailability of supplies previously mentioned in the section on Supply Issues.

PRIORITY STRATEGIES

In order to help prioritize the menu of strategies that the participants brainstormed, each group was given a set of criteria as guide. They had to consider the 1) feasibility, 2) value for money, 3) alignment with policy, and 4) the ability to target disadvantaged groups of each proposed strategy. The strategies were prioritised as follows:

PRIORITY 1: Administrative Tasks

1. Filling up of 5 vacant positions
2. Preparing requisitions in advance (anticipate delays in delivery)
3. Hiring 5 permanent doctors (1 each for the 5 clusters)
4. Prioritizing permanent doctors in trainings
5. Providing same/synchronizing services in health centers and satellite clinics (EPI, prenatal, post partum)

PRIORITY 2: Forms and Processes Improvement

1. Priority lane for suspected ARI and Pneumonia cases
2. Providing BHWs, nurses, etc of list of patients to be followed up.
3. Orienting MWs on capturing data for initiated breastfeeding
4. Coordination between health centers and satellite clinics (recording system and schedules)
5. Development of patients’ database

PRIORITY 3: Technical Assistance

1. EINC training for SBAs
2. Request for funds for training from Center for Health Development (CHD)- Region 4-B
3. CARI training More feasible than IMCI training
4. IMCI Training
   a. Prioritize Sentrong Sigla BHS
   b. Prioritize far areas (Napsan, Kabayugan, Inagawan)
5. Training for satellite staff on IYCF

PRIORITY 4: Upgrading Facilities and Stocks

1. Provision of stocks of starter dose to BHSs
2. Improvement/Upgrading of health facilities to be at par with private facilities (clean, with power supply, complete equipment, attractive)
3. Provision of half-way houses for expectant mothers
   a. Request Mayor to include this as a Special Project
4. Incentives for deliveries in clinics/Buntis Kit, diapers, etc
5. Proper and regular maintenance of ambulance

PRIORITY 5: Partnerships

1. Philhealth membership especially for non-4Ps member families
2. Organizing hilots in the barangay
   a. Barangay/City Ordinance
   b. Provide incentives (PhilHealth) for referrals done by hilots
   c. Partnerships with barangay midwives and hilots during delivery
3. Clustering of barangays for IYCF training
4. Strengthen one-on-one/FGDs, counselling sessions on Exclusive Breastfeeding from BNS, BHWs, MWs
   a. Target clients list
   b. Proper monitoring
5. Specific proposals for LGU officials and potential funding agencies
6. Partnership with other agencies and NGOs for supplies
7. Partnership with Philippine Pediatric Society for proper report submission of their members to CHO
8. Order from higher office (DOH) for private paediatricians to submit monthly reports on EPI to CHO

PRIORITY 6: Information, Education Campaigns

1. Simplify Mother and Baby Booklets, Pneumonia treatment and Facility-Based Delivery IEC materials
   a. Lesser pages for easy reproduction
   b. Translation to own language
   c. Highlighting main points
   d. More visuals
   e. Catchy, short and creative slogan/tagline
2. Involvement of IP leaders on IEC for Facility-Based Delivery
3. Educating mothers on proper milk storage
4. Awareness raising on exclusive breastfeeding for other caregivers/members of the family

Writeshop for AOP 2014

In a separate AOP writeshop (17-18 June 2013), participants drafted the AOP 2014 based on the outputs of the bottleneck and strategy identification workshop. However due to a change in leadership and the subsequent replacement of around 50% of frontline health workers, significant changes to the plan were necessary and many of the EBaP strategies were dropped due to budgetary constraints.

Reflection Workshop

In November of 2013, once all cities had completed their AOP 2014 and processed budgets, EBaP drew the participants and partners all together again in a Reflection Workshop to share experiences, achievements and lessons learnt as all three sites had applied EBaP differently. This event was important for improvements to future implementation, but additionally served to collaboratively develop work plans for the next steps of EBaP based on experiences, lessons and structured identification of needs, priorities, and feasibility.

Davao City hosted the Reflection Workshop for two days, 7-8 November 2013, with an opening by the Davao City Mayor’s Office Representative, and the National DoH Family Health Office by Dr. Anthony Calibo, and attendance by CHO of Quezon, Davao and Puerto Princesa Cities, CLCD, UNICEF, and UQ-c. All three city presented the processes, outputs, and lessons of their EBaP project alongside open question and discussion times. Davao City hosted a field trip for all attendees to demonstrate the implementation of the new program of Community Management of Acute
Malnutrition (CMAM) born of the EBaP project. The workshop concluded with a facilitated, semi-structured discussion to map the way forward with EBaP, grounded in the lessons shared.

Quezon City presented that the city councillors have prioritised and allocation budget for trainings, medicines, and supplies, and focused on the strategies of;

- Establish a two-way referral system between public and private health centres
- Promote contractual staff to permanent positions, recruit additional nurses and midwives
- Training on IYCF, IMCI, Lactation Counselling, Community Management of Newborn Care.
- Motivate CHTs for more effective IEC and early identification of childhood illnesses
- Establish a monitoring process of CHT/CCT accomplishments
- Orientation for CHTs and training in Health 101 for new CHT recruits
- Training of BFSGs.
- Provide routine lab exams in more HCs for treatment of iron deficiency anaemia in ANC.
- Expand breastfeeding station distribution
- Increase awareness of MCH by conducting summits of pregnant women, distribution of IEC materials for HCs
- Advance the implementation of policies such as EOS1 and Milk Bank Ordinance No. SP 2195.

Many other demand and service quality oriented strategies, such as awards and activities to motivate health personnel, checklists and birthing plans, monitoring boards in health centres, were included in health centre plans for direct implementation and did not require budgeting in the AOP 2014. Quezon City perceived that, through EBaP, they gained a new ability to prioritise interventions for improved MCH, to identified and develop more specific strategies to address local level constraints.

Davao City reported moving forward with most of the new strategies devised in the bottleneck workshops, with priority focus on;

- Strengthening the response to child malnutrition by improving the function of NOs & BNS and masterlisting of malnourished children in all barangays
- *Pilot implementation of CMAM program with* high recovery rates, better quality care, and cost-effectiveness. It has strengthened the supply system with weekly RUTF rations, broad spectrum antibiotics, weekly assessments, and monitoring.
- Coordination with faith organizations, tribal leaders, DepEd, and other groups in order to reach GIDA children for OPT
- reactivation of mandated Barangay Nutrition Committee for every barangay
- Promotion of breastfeeding through educational materials, and distribution of manuals to lactating mothers as well as stronger monitoring of the program
- GIDA scholarship program for Midwifery education is under negotiation with DoH and education institutions to secure scholarship funding.

The strategies not currently being implemented relate to human resources – recruitment of additional BNSs and training programs on IMCI, CDD and IYCF. These were excluded due to: inability to fund; limitations in capacity such as human resources, geographical access, transport; constrained resources for management and supervision.
The CHO noted that the EBaP process revealed issues in the accuracy of data collected in Davao City, specifically OPT growth monitoring and in breastfeeding recording. In response, the city has delivered refresher training, new equipment, and supervision to improve data quality for the future.

Puerto Princesa City reported that many activities identified through EBaP have been included in the AOP 2014, specifically:

- Encouraging facility-based delivery by the enhancement of skills of SBAs through trainings on BEMONC, EINC training for non-BEMONC SBAs in
- Increase demand by developing IEC materials such as mother and child flipcharts for training of tribal BHWs, developing a 12-page booklet in Tagalog, and training of BHWs.
- Procurement of delivery kits and mother and baby kits for improved care and motivation.
- Identification and referral of non-Philhealth members to avail of free health services.
- IYCF re-echo training of BHW, Nurses, MWs, CNPC and BNS by program coordinator.
- Filling the vacant permanent midwife positions by advocacy to the city mayor and HR office.
- Networking to gain support for health programs by including the Presidents of the Palawan Medical Society and Philippines Pediatric Society in the Local Health Board, from which city ordinances and private provider regulation arises.
- Creation of a policy for the practices of hilots.
- Strict implementation of EO 51 by coordinating with BPLO.

The EBaP lead from the CHO expressed the city valued the EBaP project most particularly because it gave them an ability to effectively identify activities and gain confidence in planning because they are backed by evidence. Puerto Princesa City did not complete an AOP in 2012, although they had recently drafted the multi-year CIPH, and the EBaP project helped them to push forward and complete their plan for 2014. With EBaP the health centres have been able to think of new strategies. These have been pitched to the City Councillors who have committed to providing additional funding through the new Priority Development Assistance Fund (PDAF).

The city feedback on EBaP from earlier private interviews, was that it was well coordinated, leadership in cities and DoH were engaged and on-board, and administrators and relevant government offices such as planning, budget, social welfare and development were well informed and supportive. The leadership in one city was less supportive of EBaP, feeling comfortable with the current planning process, while other cities prioritised innovation. The Mayor and city Councillors were well engaged in some cities but not all. Workshops had been thorough and frank, with good depth and a healthy exchange, and there were suggestions that EBaP should reach more participants. Quezon City participants felt that two full days of workshops were preferable to four half-days for better immersion and unburdened by patient load in the mornings. The process led to better identification of data sources and workshops included the actual holders of information. The evidence and structured analysis in EBaP enabled staff to better articulate their challenges and defend their strategies. Use by frontline health workers was seen as enhancement as they could relate to the situation of program managers, are best placed to identify issues, and develop strategies that are more likely to suit in their setting. Participants requested that a manual for applying EBaP would be a great asset for the future.
To conclude, the Reflection Workshop participants determined that the next steps of EBaP would serve best as capacity building of Technical Teams of personnel within the city health system. The CHOs called for EBaP to be continued and the need for a sustainable system, though all cities held diffident objectives, for instance Quezon City aimed to trained front line doctors, while Davao City found value in applying to other health programs and sectors. Discussions led to the design of a training-of-trainers module, accompanied by a full manual, for cities to lead the process in the future.

**EBaP City Technical Teams**

For local leadership and a sustainable approach to EBaP, instilled within existing government planning structures and systems, a program model was designed to establish EBaP Technical Teams in each of the three cities.

The model of capacity building comprised of three aspects: 1. Training in EBaP technical methodology, 2. Training as effective trainers and facilitators of EBaP, and 3. Support as new EBaP Technical Teams implementing EBaP for AOPs 2015. UQ-c developed and provided a complete set EBaP material. The package comprised of a manual, series of technical powerpoints with explanatory notes, and resources such as learning exercises, templates, evaluation forms, for unassisted use in future work. These resources were specifically used in the training of trainers by UQ-c to build familiarity with the package to aid application later.

The EBaP Technical Teams in Davao City and Puerto Princesa City were centralised based in the city health and planning offices, while Quezon City up-skilled health program coordinators and extended this to health centre managers.

The training was delivered by UQ-c and coordinated by UNICEF. Two 3-day workshops for the cities combined together, hosted in Quezon City in February – March 2014 equipped teams with technical skills for EBaP methodology and as trainers. For the final step, Technical Teams led the process of EBaP for AOPs 2015 in their cities, responsible for scope definition, data gathering, bottleneck chart development, logistics and engagement with stakeholders. UQ-c provided background technical support only, with a focus on bottleneck chart rigour and work scheduling.

Quezon City scaled-up EBaP to more than 40 health personnel, inclusive of all CHO program coordinators, managers of all 6 districts, and 25 selected health centre managers (medical officers). In a 5-day block in May 2014 the Technical Team trained the participants on all aspects of EBaP while maintaining a focus on RMNCH – reviewing mortality and morbidity, bottleneck analysis theory and chart development, critique in the use of data, constraint and strategy development, and writing of annual health plans. Participants found the training to be very intensive with a large volume of new and technical information. This was more challenging for supervisors than health centre managers as there was no prior thinking around planning and they were grateful for some tools to assist in their programming. The aim of this training was not to write plans, but to familiarise the personnel with the EBaP process for use in their planning approach. The bottleneck charts and analysis were seen as the greatest long-term value, which participants were committed to using in the future. With
technical support from UQ-c, the workshop output was a set of standardised guide of indicators, numerators and denominators for bottleneck charts of a large range of health program to be used across all Quezon City health centres with uniformity.

Davao City Technical Team expanded the scope of EBaP to application beyond RMNCH, for analysis and strategies encompassing all major health programs included in the AOP 2015 and included program managers and stakeholders from all 16 districts thus including the entire municipality. In a 6-day workshop, on 5-12 May 2014, the Technical Team led participants through prioritisation exercises to identify leading burdens, then presented and worked through the process of developing bottleneck charts of suitable proxy interventions. The bottleneck charts represented MCH, nutrition, family planning, cardiovascular disease, diabetes program, tuberculosis program. The team adapted materials to include, for example, an analysis of mortality for the whole population, rather than specifically for RMNCH. A novel focus of the analysis was the division of health services offered in urban, rural and GIDA areas. The constraints and strategies associated with delivering services to these different areas were considered to be critical for the city’s effective scale-up of critical RMNCH interventions. The scrutiny and breakdown of data allowed health managers to identify particular disadvantaged locations which might warrant a different or intensified approach. The consideration of supply, demand and quality features of city health services was appreciated as a new and improved approach.

Similar to Davao City, the technical team in Puerto Princesa City, were interested in expanding the approach to other health programs. Two 3-day workshops were held (5-7 and 12-14 May) with participation from MCH, nutrition, TB, malaria, NCD, vector-borne disease and other program staff as well as front-line workers and those from satellite facilities. Program managers were introduced to EBaP and were challenged to scrutinise their program and to develop bottlenecks charts. It was challenging for the Puerto Princesa technical team to facilitate these sessions to include programs outside RMNCH. Whilst participants appreciated the approach, they requested specific materials which were not available for their programs. However, the session was seen to be beneficial since program managers were encouraged to use data to demonstrate the strengths and weaknesses of the services being provided. There was much debate over the many constraints to health services and the bottlenecks framework helped to facilitate an open discussion. The issue of equity was also highlighted, since program managers were asked to breakdown their data by various equity markers to discover any disadvantaged populations. The EBaP framework introduced other programs to a new way of analysing their health programs which they can take into their future planning activities. The workshop in Puerto Princesa also included a ‘Communication for development’ session to help program managers understand how to advocate and raise awareness of critical health issues, particularly important for gaining the support of government and development partners. The second three day workshop involved the identification of specific activities to improve program delivery written into plans and budgets for the AOP 2015.

Implementation support of new priority health programs

The EBaP program provided additional technical support and selected resources for design and implementation of health programs that emerged from EBaP planning. This was limited to new
initiatives that extended beyond revisions to strengthen exiting health programs to better address specific local constraints. For implementation of the latter, LGUs allocated budget from their range of sources to meet the needs in AOPs. This implementation support is an important aspect of the EBaP program as it supports LGUs to maximise the gains of decentralisation, allowing them to roll-out new health programs that they choose to prioritise in their localities. Two major programs emerged from EBaP planning: CMAM in Davao City, and ICATT in Puerto Princesa City and Davao City.

Conclusions

EBaP as applied in three cities in the Philippines has facilitated a re-thinking around the different elements necessary for the planning and delivery of good quality services. The application of EBaP was necessarily flexible to fit in with the requests of the different cities. The demand for additional EBaP training and roll-out sessions demonstrates that each city saw value in the approach and in disseminating it widely. Strategies from the original analysis were included in the AOP 2014 and have been written into the AOP 2015.

The flexibility of the approach is demonstrated in the interest of the Zuellig Family Foundation (ZFF) in being trained in the EBaP approach. ZFF are responsible for the Health Leadership and Governance Program (HLGP) offered to mayors and municipal health officers, a partnership program between the department of health, UNICEF and ZFF. ZFF staff saw the added value of the approach and how it could enhance their existing program. This training was subsequently provided in August 2014. The knowledge transfer to an institution working directly with those responsible for health planning provides a means of sustainability, now the current EBaP work in the three cities is complete.

In concrete terms, the initiative highlighted the problems with acute severe malnutrition in Davao City and sparked the development of a program to address this issue. Associated benefits include the training of health staff and improvement in the collection and use of OPT data. Davao City have since applied the EBaP approach to their HIV program. In Quezon City EBaP has empowered health center managers to improve their services and to advocate for resources where needed. Since health centre managers are responsible for the health of such large populations it was entirely appropriate to capacitate them. However, the inclusion of program coordinators and representatives from the district and city health offices ensures common problems can also be addressed at higher levels. In Puerto Princesa, budgetary considerations and recent administrative changes have constrained the impact of EBaP in the city to date. However, the recent capacity building of health program managers was well received as an improved approach to analysing health services. The city mayor, health officer and other members of the health team are currently taking ZFF’s HLGP, which it is hoped will further capacitate the city to plan strategically for the improvement of health services.

The activities at sub-national level have fed into the national policy agenda. EBaP contributed to the realisation that the current guidelines for LGUs on preparing their local implementation plans and annual operational plans were too generic and not readily applicable to the local context. A review
and improved guidelines were commissioned by the Bureau of Local Health Systems Development, DoH in partnership with UNICEF. The initiative also prompted the finalisation of the national guidelines for Community Management of Acute Malnutrition (CMAM) which had stalled, since Davao was already using this as the basis for their program to address acute malnutrition in the city. In a similar way, the very low coverage of staff trained in IMCI, a critical training for quality care for the leading childhood illnesses, provided the impetus for the finalisation of the IMCI computerised training tool (ICATT). This training should remove some of the constraints (in terms of staff time and expense) to staff training for IMCI. ICATT is due to be piloted in two of the EBaP cities (Puerto Princesa and Davao City.)

Whilst no one approach can be credited with improving the planning at sub-national level, the application of EBaP across three cities demonstrates that it can accommodate varying needs and can have a positive impact on planning for health services. A particular strength identified has been the consideration of supply, demand and quality aspects of health services that previous planning approaches had not sufficiently captured. The use of data, in particular to highlight equity issues, was also novel and can contribute to improving health services for the most disadvantaged. The various capacity building activities can help to disseminate elements of EBaP to other areas of the Philippines to improve planning and budgeting for RMNCH and other programs using evidence.