

## **PROJECT REPORT: THE MOBILE IMCI PROGRAM (PERU) 2009-2010**

### **I. Summary**

The Mobile IMCI (AIEPI Móvil) project uses DataDyne.org's Mobile Information Platform (MIP) to provide public healthcare volunteer advocates in indigenous Peruvian mountain communities with information reinforcing the main training points of professional development courses provided by Peru's Ministry of Health with support from the Pan American Health Organization and the Adventist Development and Relief Organization. The courses taught strategies for implementing the Integrated Management of Childhood Illnesses (IMCI) methodology to improve healthcare services for children and the mothers who care for them. The project was funded by the UN Foundation and was created and implemented by DataDyne and the Zoltner Consulting Group (Santiago, Chile).

The project was a controlled experiment to test the theory that following instructor-led IMCI training with a series of course-related text messages for a period of 5 months will prove a cost-effective way of enhancing training by increasing trainees' retention of the key concepts taught and, therefore, increasing the quality of care in rural Peruvian health facilities. IMCI, or *the Integrated Management of Childhood Illness* (AIEPI in Spanish), is a holistic methodology designed to improve women and children's health outcomes by ensuring that overworked community health practitioners properly assess and treat the children who walk through their doors each day – along with the mothers who care for them. Since IMCI strategies were first implemented in Latin America and the Caribbean in the mid 1990s, Peru has been a regional leader in its implementation. PAHO and Peru's Ministry of Health have collaborated to produce excellent, field-tested training materials to teach IMCI strategies to both health professionals and low-literate peer volunteers, but the high cost of sending professional instructors to Peru's isolated mountain communities means that trainings have historically been few and far between. Though a number of projects attempt to lower training costs by providing online training, poor connectivity in the rural Andes and the lack of technical expertise make internet-based classes a challenge for the population.

The SaludMóvil project addressed this problem by using DataDyne.org's Mobile Information Platform (MIP) to provide additional or more advanced information bit by bit over time via text messages in order to extend the competencies gained during instructor-led training. MIP provided a low-cost alternative to instructor-led courses that proved particularly effective for highly specific material that is difficult for trainees to remember, such as the amount of nutritional supplement recommended for children of different ages. Like any SMS message, SaludMóvil message recipients were able to save messages on their cellphones, providing an index of key points which most trainees carry with them at all times, thus increasing faithfulness to the life-saving medical protocols taught in the training sessions.

SaludMóvil was selected as the best Peruvian m-Health or m-Environmental project for 2010 by the World Summit Award Mobile (WSA Mobile - <http://www.wsa-mobile.org/>).

## II. Partners

### A. Pan American Health Organization, Family and Community Health Area

The Pan American Health Organization (PAHO) is an international public health agency with more than 100 years of experience in working to improve health and living standards of the countries of the Americas. It serves as the specialized organization for health of the Inter-American System. It also serves as the Regional Office for the Americas of the World Health Organization, part of the United Nations.

The Family and Community Health Area (FCH) is one of PAHO's four major technical areas and is responsible for providing country focused technical cooperation addressing several broad thematic areas including: Maternal & Perinatal Health, Newborn and Child Health, Immunization, Adolescent & Youth Health, Aging, Nutrition, and HIV and STI.

Besides the work of FCH in general, PAHO has three important initiatives related to this proposal that will be represented on a project advisory board:

- The Latin American Center for Perinatology (**Centro Latinoamericano de Perinatología - CLAP**), which was founded in 1970 to strengthen the ability of member countries to equitably provide sustainable quality family, maternal, newborn and women's healthcare. CLAP provides regional leadership to promote primary healthcare strategies with a holistic perspective that can be designed to increase the quality of life during the entire lifecycle. The center plays a particularly important role in knowledge management, the creation or identification of appropriate technologies and the recommendation of public policies regarding women's and infants' health in the Americas.
- **The Regional Working Group to Reduce Maternal Mortality** and its **Safe Motherhood Initiative**, is collaboration between PAHO, United Nations Agencies and Ministries of Health in the Americas to reduce maternal mortality and achieve universal access to reproductive health for women.
- **Regional Plan for Neonatal Health on the continuum of Maternal Health Care**, newborns and children, a plan of action to reduce both maternal and infant mortality in the region.

### B. DataDyne.org

DataDyne is an award-winning Washington, DC-based organization creating innovative and affordable enterprise information and communications tools primarily for health, agriculture and international development under the leadership of Dr. Joel Selanikio. Named by Forbes as one of the most powerful innovators of 2009, and the recipient in that year of both the \$100,000 Lemelson-MIT Prize for Sustainable Innovation, Dr. Selanikio is an internationally-recognized thought leader within the fields of technology, health, and development as well as practicing pediatrician; an assistant professor at Georgetown University; and a former outbreak investigator with the Centers for Disease Control and computer consultant on Wall Street. DataDyne has regional offices in Washington, DC; Santiago, Chile; and Nairobi, Kenya.

DataDyne is creator of the **EpiSurveyor Mobile Data Collection Software**. EpiSurveyor, winner of the 2009 Wall Street Journal Award for Technology Innovation, is a web- and mobile-tool, which allows organizations to gather research, management, and other data from the field using common mobile phones. More than 3,500 people and organizations are using EpiSurveyor in more than 170 countries worldwide; making it by far the most widely used mobile-phone-based data collection system within the global health and international development sector.

### **III. Background and Context**

#### **A. Progress Against Maternal Mortality, Yet Significant Work Ahead**

Each day a woman dies every minute due to complications during pregnancy or childbirth; seven newborns die before completing their first month of life and 20 children die before reaching their fifth birthday. This dire outlook has made maternal and newborn care one of the strategic priorities in global healthcare as evidenced by the United Nations' Millennium Development Goal number five, which aims to reduce maternal mortality by 75% between 1990 and 2015 and for achieving universal access to reproductive health.<sup>1</sup> According to the 2008 Millennium Development Goals Report, in that year more than 500,000 women across the world died during their pregnancy, during delivery or within six weeks after the delivery, with most of these maternal deaths occurring at home.<sup>2</sup> Latin America and the Caribbean has made great progress in the area, reducing the maternal mortality rate by almost 41% between 1990 and 2008, but still has a difficult road ahead if it is to meet the Millennium Goal. In Peru, the maternal mortality rate (MMR) in 2008 was roughly 81 per 100,000 live births, while the mortality rate for children under five years of age was 32.1 per 1,000 live births.<sup>3</sup> The region as a whole reduced infant mortality by one third between 1990 and 2000 and appears on track to meeting the Millennium Development Goal, though still faces substantial challenges.

#### **B. Maternal and Infant Health Policies in Peru**

In 1990, with assistance from the Pan American Health Organization (PAHO), the country instituted one of the first relevant policies on the matter, the "Seguro Materno Infantil (SMI), which introduced an infant and maternal insurance strategically focused on poor and low income populations.<sup>4</sup> Reducing the maternal mortality rate was set as the first National Health Objective in the Peruvian "National Co-ordinated Health Plan 2007-2020", with specific goals on reducing complications during pregnancy, delivery and post delivery, among others.<sup>5</sup> In 2008 in accordance with these priorities, the government created the Strategic Program for Maternal and Neonatal Health (PSMN), with a fund appropriation that represents roughly 4% of the Ministry of Health's budget.

Governmental efforts have successfully improved maternal health status in Peru and in Latin America in general. Maternal mortality has decreased in the last two decades from 185 deaths per 100,000 live births in 1997 to 81 in 2008; however, these achievements are not equally distributed and include vast differences between geographic regions and

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<sup>1</sup> The World Health Organization, [http://www.who.int/topics/millennium\\_development\\_goals/maternal\\_health/en/index.html](http://www.who.int/topics/millennium_development_goals/maternal_health/en/index.html)

<sup>2</sup> United Nations. The Millennium Development Goals Report: 2008. Geneva: UN, 2008.

<sup>3</sup> PAHO. Regional Health Observatory

<sup>4</sup> Seinfeld J. Improving access to birth attention of marginalized populations in Peru. Policy Paper/FOCAL. 2011

<sup>5</sup> Ministry of Health. Plan Nacional Concertado de Salud. Lima: MINSA, 2007.

socioeconomic groups. Currently, the maternal mortality rate is higher than 80 per 100,000 women in some low income regions located in rural mountain and jungle communities such as Ayacucho, Puno or Huancavelica, yet is less than 5 per 100,000 in wealthier and more populous coastal regions such as Lima, Ica, Callao and Arequipa.<sup>3</sup>

### **C. Strategies to Reduce Maternal and Infant Mortality**

Evidence demonstrates that sufficient prenatal medical care has a significant protective effect against maternal and infant mortality and other negative outcomes because of its ability to detect conditions that can lead to mortality or other negative outcomes for either mother or child. Though the most effective proven protective factor, prenatal care remains difficult to achieve in rural areas, especially among indigenous populations that are culturally less likely to use the medical system. Rather than simply making health services available in rural areas, the Peruvian medical system takes an “accessibility perspective” that stresses the “availability, accessibility and acceptability” of health services.<sup>6</sup> *Availability* refers to the human and technical capacities of the system to respond to health needs, *accessibility* focuses on the ability of patients to reach appropriate health facilities and the barriers they face when trying to do so, and *acceptability* explores cultural and other obstacles to using health services that are both available and accessible. From a social determinants’ perspective, there are strong social factors linked to inequities in maternal healthcare access: for instance, evidence exists suggesting that women’s education is a significant factor which explains the utilization of maternal health care in Peru.<sup>7</sup> Evidence shows that improving communication and relations between health professionals and pregnant women increases the uptake of preventive obstetric care and is therefore a key factor to achieving good results at birth and afterwards. The provision of appropriate and accessible information about positive healthcare practices during pregnancy and birth has been recognized as a central aspect of that communication.<sup>8</sup> Our team proposes to expand and scale up the AIEPImóvil project, an innovative project that has met with initial success by training community volunteers to support health communications in Peru.

### **D. Increasing Evidence that mHealth Strategies Can Improve Healthcare**

In recent years, mobile technologies have shown particular promise in supporting health-related education and the provision of health services. Short messaging services, or SMS text messages, have become a very efficient tool for communicating to improve access to healthcare. SMS messages are a fast and popular mode of communication that are lower cost and more reliable than phone calls in rural areas. Increasing evidence suggests that SMS messages provide a new opportunity for delivering health behavior changes interventions.<sup>9</sup> Text messages have been used to improve communication between sexual health clinics and patients, contraception reminders and sexual health promotion and education, particularly in the field of sexual health.<sup>10</sup> Though the literature is still very new, but there is some strong evidence suggesting that SMS text messages can improve service delivery through appointment reminders and improve communication between health care workers. Some

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<sup>6</sup> Wallace SP. The no-care zone: availability, accessibility, and acceptability in community-based long-term care. *Gerontologist* 1990;30:254-261.

<sup>7</sup> Elo I. Utilization of maternal health care services in Perú: the role of women’s education. *Health Transition Review* 1992; 2; 1;1-20

<sup>8</sup> Rowe R. Garcia J. Macfarlane A. Improving communication between health professionals and women in maternity care: a structured review. *Health Expectations* 2002 5; 63-83

<sup>9</sup> Fjeldsoe B. Marshall A. Miller Y. Behavior change interventions delivered by mobile telephone short-message service. *American Journal of Preventive Medicine*. 2009;36;2:165-173.

<sup>10</sup> Lim M. Hocking J. Hellard M. Campbell A. SMS STI: a review of the uses of mobile phone text messaging in sexual health. *International Journal of STD & AIDS*. 2008;19:287-290.

articles suggest that it can improve diagnosis, prevention, treatment and rehabilitation by supporting adherence to the medication and monitoring illness and medical interventions.<sup>11</sup>

## **IV. The Integrated Management of Childhood Illness**

### **A. IMCI/AIEPI Strategies Directly Address Child and Maternal Mortality**

The Integrated Management of Childhood Illness (IMCI or AIEPI in Spanish) is a systematic approach to the health of children from 0 to 5 years of age health which focuses on the whole child rather than solely curing illnesses. The approach was developed by United Nations Children's Fund and the World Health Organization.<sup>12</sup> The IMCI strategy has been accepted throughout Latin America as the strategy most likely to achieve USAID long-term goals related to child survival in Latin America to decrease child mortality within the context of the Millennium Development Goals. The Pan American Health Organization (PAHO) has been the primary supporter of IMCI strategies in Latin America and the Caribbean and has worked in close coordination with Ministries of Health, NGOs, and other donors to accelerate the implementation of IMCI, and to improve the effectiveness of the IMCI strategy in the region.

### **B. Peru's Leadership in the Implementation of IMCI**

Peru was one of the first countries in which IMCI strategies were piloted beginning in 1996 and has been a leader in the region since that time, continually innovating in the development of IMCI curricula and strategies and their institutionalization in the healthcare system. Peru initially implemented IMCI with health professionals in clinical contexts but in 1999 began training community healthcare promotion agents in IMCI strategies because community participation is such an important component of IMCI. In 2005 Peru became one of the first countries in the region to institutionalize IMCI strategies and concepts by writing them into the country's general health law and associated regulations.<sup>13</sup>

### **C. The Importance of Community Health Promotion in IMCI**

Community health promoters focus on educating mothers and other caretakers in order to promote habits and knowledge that prevent mortality while leading to healthy physical and mental development during early childhood and throughout the lifecycle, such as preventative health check-ups during pregnancy, knowledge of risk signals for both mothers and children during and after labor, vaccinations, good hygiene, sound nutrition and care during illnesses. Community health agents also promote the participation of other social actors that can affect the health of infants, children and their mothers, such as schools, community-based organizations, faith-based organizations and NGOs. Community agents are especially important actors for Peru's rural first people's communities, which are culturally less likely to use medical services; their effectiveness, however, is highly dependent on the quality of training they receive and whether agents can recall the knowledge learned during their training while in the field. The proposed AIEPI móvil project directly addresses that training and follow-up to training.

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<sup>11</sup> Bahadur K. Murray P. Cell phone short messaging services for HIV/AIDS in South Africa: a literature review. *Studies in Health Technology and Informatics*. 2010; 160.

<sup>12</sup> [http://en.wikipedia.org/wiki/Integrated\\_Management\\_of\\_Childhood\\_Illness](http://en.wikipedia.org/wiki/Integrated_Management_of_Childhood_Illness)

<sup>13</sup> For example, Ley General de Salud N° 26842 and RM N° 506 – 2005

## **V. Project Design**

### **A. About AIEPI móvil (MobileIMCI)**

During 2009-2010, the *AIEPI móvil* (MobileIMCI) project used *DataDyne.org's Mobile Information Platform (MIP)* to provide continuing education support to volunteer community health advocates in indigenous Peruvian rural mountain communities. The intervention was designed to address the problem that trainees, who have basic literacy skills and educational backgrounds, quickly forget much of the critical IMCI content taught during in-person training sessions but that in-person training and follow-up activities are expensive and therefore impractical to conduct on a repeated basis.

During the course of the trial, AIEPI móvil participants from San Marcos province and Huari (Ancash) province received SMS text messages reinforcing the main learning objectives of 2-day professional development courses provided by the Adventist Development and Relief Organization using curricula developed by Peru's Ministry of Health with support by the Pan American Health Organization. The courses provided practical information to help community volunteers implement IMCI strategies to improve the health of rural Peruvian children and the mothers who care for them. Though a pilot with a relatively small sample size, the controlled experiment closed with very promising results.

### **B. A Controlled Experiment**

The project was a controlled experiment to test the theory that following instructor-led IMCI training with a series of course-related text messages for a period of 5 months will prove a cost-effective way of enhancing training by increasing trainees' retention of the key concepts taught and, therefore, increasing the accessibility and quality of care in the Peruvian healthcare system.

Because trainees were required to own a mobile phone which they generally carried with them in order to participate in the project, entry into the experiment was not random, though implementation partner ADRA noted that the great majority of potential participants met the requirement. Because the MIP platform does not require users to download software or configure their phones in any special way, any phone was acceptable.

Participants in each group were tested immediately after the last training session and separated into 3 groups according to level of tested knowledge regarding the training material. An approximately equal distribution of members of each of the three proficiency groups were then (unknowingly) divided into control and experimental groups in each community to ensure that the experiment would be testing the performance of groups with similar characteristics.

### **C. SMS Message Content Created for AIEPI móvil**

Content sent via SMS text messages for the AIEPI móvil project was based on IMCI curricula developed by the Peruvian Ministry of Health with support from PAHO expressly for use with community promoters and validated over the course of several years. The messages were written by Dr. Carlos Urbano, MD, a Peruvian IMCI specialist and pediatrician as well as former Ministry of Health employee who had written and/or edited and then taught community IMCI curricula. Dr. Urbano identified the primary learning objectives of the curriculum used for the 2-day initial community agent training and then created 140-character SMS text messages which restated the learning objectives.

Without the knowledge of participants, who lived in sparsely populated rural areas so were not likely to compare messages, separate sets of messages were developed for both control and experimental groups. Control groups received messages referring to aspects of children's healthcare that participants considered easier to understand and remember, such as nutrition information. The experimental groups received messages regarding information considered more difficult by participants, because it was based on a newer curriculum module which was less familiar to them and because it contained more numerical information, such as acceptable heartbeat rate ranges for children of different ages and other information regarding trouble signs that infants or children may display that require immediate medical attention to prevent potential death, such as low birth weight in newborns born at home.

Focus groups were held with future message recipients in each of the two test communities in order to review and solicit feedback on a series of sample messages. Participants were asked to read sample messages and describe what they understand the message is saying and to identify any words or concepts they find difficult to understand or which can be expressed in language more familiar to themselves or their peers. Following the focus groups, the test messages were corrected and all the messages for the trial were created according to the feedback obtained during the focus groups.

#### **D. SMS Message Delivery – DataDyne.org's Mobile Information Platform**

During project implementation, only one message was sent per weekday morning in order to conform with feedback from participants who indicated that more frequent messages would result in information overload and could be perceived as "spam".

AIEPImóvil sent SMS text messages using DataDyne.org's Mobile Information Platform (MIP), a text message communications system created to help development organizations, civil society and governments take advantage of the extraordinary growth of the access to SMS message capable cellular phones among the world's poor and low-income populations – including in the world's least developed nations. MIP was developed with extensive consultations from Latin American agricultural cooperatives to allow them provide information in simple terms via text messages directly to member farmers' existing cellphones. MIP's creation for the agricultural sector has ensured that the platform works well in rural, low-literate environments with limited technical infrastructure, making it highly appropriate for healthcare use in rural Peru.

MIP provides flexible and interactive SMS-based access to training topics, information available on the Internet (including RSS and Twitter feeds), and other information, including coordination messages from program staff. The software platform was created by local programmers who were hired, trained and supervised by DataDyne in Latin America during a two-year collaborative pilot involving the COOPEUMO agricultural cooperative in Chile's O'Higgins region, which focused on providing real-time information to rural farmers, such as market prices and weather forecasts. This collaboration, funded by the Knight Foundation, was awarded the 2010 FRIDA prize for promoting the Latin American Information Society, the 2009 Yahoo! Green Award for supporting environmentally sound practices and the 2009 Social Justice Award of the French-American Charitable Trust for supporting the rural poor.

The success of MIP in both the DatAgro project in Chile and the Mobile IMCI project in Peru is leading to further expansion in partnership with civil society and the Pan American Health Organization (PAHO), including a new collaboration with the Ministry of Health of Honduras. In Honduras, the platform is used in the PreveMóvil project to send youth-

developed prevention messages to Gay, Lesbian, Transgender and Bisexual youth at high-risk of HIV and other sexually transmitted diseases. A coalition of civil society organizations in Chile, Peru, Colombia, Bolivia, Ecuador and Spain are also proposing its use for a “DatAgro 2.0” collaborative project in those countries.

## E. Promising Results Merit an Expansion of the Experiment

Project participant knowledge regarding training material was assessed three times: *Assessment 1* – before any training took place, *Assessment 2* – immediately after the two days of in-person training, and *Assessment 3* – at an in-person gathering after receiving text messages for a period of 5 months. The experiment was concerned with any differing results between the second and third assessments amongst the experimental and control groups which may be explained by the differing text message contents.

Due to the small size of the two communities participating in the experiment (22 community health promoters in Huari and 19 in San Marcos), the results of the experiment are not statistically reliable, but they were very promising: recipients of the experimental messages stayed at almost the exact level of knowledge regarding the training topics tested, with changes too small to reliably measure, whereas control group members were unable to recall a significant amount of the content they had mastered during the course of the 2-day training sessions, **losing 23% and 14% of their tested knowledge** respectively. Because of these results, *Mobile IMCI* was nominated as the best Peruvian m-Health project for the 2010 World Summit Award Mobile (<http://www.wsa-mobile.org/>) and has recently been nominated as the best Peruvian e/Learning project for the 2011 World Summit Award.

<b>Community Health Agent MobileIMCI Assessment Results – Peru, 2010</b>	
<b>San Marcos</b>	
Experimental Group	-2%
<b>Control Group</b>	<b>-23%</b>
<b>Huari</b>	
Experimental Group	-1%
<b>Control Group</b>	<b>-14%</b>

## VI. Proposed Next Steps

### A. New Intervention Populations

#### 1. Community Health Agents

The SaludMóvil pilot has shown that even the most non-technical users – such as the low-literate, primarily indigenous, peer health volunteers from Ancash province – are able to immediately understand and benefit from the project due to MIP’s use of the familiar SMS text messaging protocol. Volunteer Community Health Promotion Agents have expressed the desire to use MIP-sent messages not only for continuing education, but also to help them make their everyday work more efficient. For instance, they would like to coordinate visits to the mothers of their caseloads using the

system and would like to increase their communication with the mothers in general by sending weekly text messages and allowing mothers to contact them via text message.

## **2. Health Professionals/Clinics**

Project partners would also like to test the same methodology with clinical health professionals using messages derived from similar training curricula that were specifically developed for the population.

Health professionals such as doctors, nurses, Midwives (or “parteras”) and clinic aides charged with providing health services to pregnant mothers, mothers in labor and children ages 0 to 5.

### **B. IMCI Training Focused on the Onset of Labor and 48 Hours Afterwards**

Though results of the relatively modest pilot are not statistically significant due to the small size of the sample trained and tested, the project undoubtedly merits repetition with a larger sample group. The project team submitted a proposal to USAID’s Saving Lives at Birth project (<http://www.savinglivesatbirth.net>) to adapt existing IMCI curricula for clinical health professionals in order to focus the content on the period between the onset of labor and 48 hours after birth when the majority of infant and maternal mortalities occur. The revised curriculum will stress both preventative behaviors and preparations which can reduce the risk of unexpected complications during the risky period, and recognizing and quickly reacting to trouble signs which may present themselves. At the close of the application use period, PAHO will publish the revised IMCI curriculum and make it available to other countries in the region.

### **C. Project Toolkit for Using SMS Technology to Enhance IMCI Training**

The project team would like to create an *Online Toolkit for Using SMS Technology to Enhance IMCI Training*. The Toolkit would include:

- Description of the **MIP platform** and ways in which it can be used for IMCI or other health care methodology training
  - Technical platform and manuals
  - Description of process and entities involved
- **Content Creation**
  - Content development methodology (flow chart)
  - Content development materials (surveys, focus group outlines)
  - Content development partnership strategies (idea list, sample contracts)
- **Training**
  - Description of training which should be provided to users (training outlines and samples)
  - Description of training which should be provided to administrators (training outlines and samples)
  - Description of training which should be provided to content creators (training outlines and samples)
- **Financial Analysis**
  - Cost components of sending SMS messages (cost explanation and sample budgets)
  - Other costs to consider (cost explanation and sample budgets)

## **VII. Key Project Personnel Bios**

### **A. Pan American Health Organization - World Health Organization**

#### **Christopher J. Drasbek, Senior Advisor- Integrated Child Health, Family and Community Health Area – Healthy Lifecycle Project**

Mr. Drasbek has over twenty-five years experience in public health working at the Pan American Health Organization. In the early 1980's he began his career in the Regional Program for the Control of Diarrheal Diseases (CDD). In 1993, he was assigned to the new Combined Regional CDD and ARI (Acute Respiratory Infections) Program, responsible for the Organization's cholera surveillance and development and implementation of country extra budgetary cholera projects, case management training, and CDD/ARI monitoring and evaluation activities.

*In 1996, he began providing technical cooperation in support of the Integrated Management of Childhood Illness (IMCI) strategy. Primary areas of concentration include providing Regional leadership for: formulating child health policies and strategies, establishing partnerships with bi-lateral government and civil societies, leading the vision for the expansion of the community and family component of the IMCI strategy within the context of the Millennium Development Goals (MDG) and the renewal of primary health care; advising Member Countries in the strengthening of case management training, and developing planning guidelines and indicators to assess progress and impact of child health activities.*

Extensive work in the WHO Interagency Working Group on IMCI Multi-country Evaluation Studies (Bill and Melinda Gates Foundation), *Countdown to 2015 Maternal, Newborn and Child Survival Technical Series*, and resource mobilization with private sector, bi-laterals, faith-based organizations and foundations (American Red Cross, Catholic Medical Mission Board, United Nations Foundations, Bristol-Meyar Squibb Foundation, Canadian Government, Spanish Government, USAID, UNICEF, Junior Chamber International, Church of Latter-Day Saints, Seventh-Day Adventist Church, Catholic Relief Services, DataDyne, Novartis Foundation for Sustainable Development, Pastoral de Salud, and others).

#### **Dr. Miguel Dávila D., Consultor Nacional en Salud Infantil y AIEPI, OPS**

Dr. Miguel Dávila is a pediatrician that has worked since 1998 as a national consultant and specialist in IMCI programs for the Peru office of the Pan American Health Organization. Prior to his work at PAH, Dr. Dávila served as Director of the National Program to Control Respiratory Infections for the Ministry of Health of Peru; as attending pediatrician at Peru's National Institute of Child Health; and as a member of the Supervision and Monitoring team for the Doctor and Nurse training program implemented by the Universidad Peruana Cayetano Heredia with financial support from USAID. Dr. Dávila has also served as the coordinator of the Maternal and Infant Primary Care Promotion and Prevention Coordinator for the Association for Defense and Development of Andean Communities in Peru (ADECAP). Dr. Dávila holds a Bachelor's degree in medicine with a specialty in surgery, a postgraduate degree in pediatric medicine from the Universidad Nacional Mayor de San Marcos and a Master's in Public Health from the Universidad Peruana Cayetano Heredia.

## **B. DataDyne.org**

### **Joel Selanikio, MD, CEO and Founder**

A practicing pediatrician, former Wall Street computer consultant, and former CDC epidemiologist with more than twenty years of experience in combining technology and public health to address inequities in developing countries, Dr. Selanikio is one of the world's foremost experts in health technology and health management information systems, particularly in the developing country context. For his work in creating the EpiSurveyor mobile data collection system – the most widely scaled mobile technology ever created for international development – he has received both the 2009 Lemelson-MIT Award for Sustainable Technology and the 2009 Wall Street Journal Technology Innovation Award for Healthcare IT.

Dr. Selanikio is an expert in applied and operations research (both quantitative and qualitative), monitoring and evaluation, health technology and health management information systems, particularly in the context of malnutrition, malaria, measles, HIV/AIDS, and the health of refugees and internally displaced persons. As an Assistant Professor of Pediatrics at Georgetown University, and a Fellow of the American Academy of Pediatrics, Dr. Selanikio is also an authority on the health of children, including neonatal care and immunizations, and the health of mothers and pregnant women. His work has been reported on by Wired, Forbes, The Economist, The Wall Street Journal, the BBC, and the Washington Post, among others. He shared the stage with Google CEO Eric Schmidt at the World Economic Forum in Davos, Switzerland in 2010, and is a member of both the Clinton Global Initiative and a participant in the annual Renaissance Weekend retreat.

Dr. Selanikio is a graduate of the Epidemic Intelligence Service of the US Centers for Disease Control and Prevention (CDC), Brown University Medical School, and Haverford College. He speaks English, Spanish, and basic French.

### **John Zoltner, MBA, Director for Latin America and the Caribbean**

John has more than 20 years of professional experience – more than 5 working from developing countries – in the creation, implementation and evaluation of development initiatives involving the innovative use of information and communication technologies (ICTs) in order to promote public health, behavior change, social inclusion, food security, and human and economic development. John works with public, UN, non-governmental and private entities to design partnership and fundraising strategies, projects and methodologies that take advantage of the power of ICTs to empower individuals, organizations and local and national governmental entities. Current projects include: the scaling up of the Mobile Information Platform, DataDyne Group LLC's text messaging system, Mobile IMCI, a multiple award-winning continuing education project to train health workers and volunteers via text messages, and PreveMóvil, an STD prevention program developed with the Pan American Health Organization. Prior to his work at DataDyne, John held a variety of senior nonprofit management positions in the US. John holds both a Master's of Business Administration (MBA) degree and a Bachelor of Arts in English Literature with a minor in Philosophy from Georgetown University in Washington, DC, where he was an adjunct faculty member for the Center for Public and Nonprofit Leadership. John is a native English speaker and is fluent in oral and written Spanish.

### **Dr. Carlos Urbano, National Director, Peru**

Dr. Carlos Urban is a pediatrician specializing in infant and child health. Dr. Urbano trains and advises public, private and nongovernmental organizations on clinical, community and

institutional IMCI strategies. Dr. Urbano is affiliated with Peru's National Institute of Child Health, where he has been Director of Quality and Coordinator of the IMCI Training and Research department. Dr. Urbano has formerly served as Director for IMCI initiatives at Peru's Ministry of Health. He is currently Coordinator of the IMCI Management Certificate program and a professor in the Master in Public Health program at UNFV. In addition to his medical degree, Dr. Urbano holds both a master's and a Ph.D. in Public Health from the esteemed Universidad Peruana Cayetano Heredia in Lima.

## VIII. Project Advisory Board

### PAHO-Peru

i. Dr. Miguel Dávila D. (Lima, Perú)  
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