



UNIVERSIDAD PERUANA
CAYETANO HEREDIA



Simposio Internacional
sobre la estrategia de
Salud Móvil para América Latina
25 - 26 Marzo 2011

**Symposium on mHealth strategy
for Latin America**

March 25-26 2011

Lima, Peru

Report (English version)

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Symposium on mHealth Strategy for Latin America

On March 25th and 26th 2011, leading Medical Informatics and Bioinformatics professionals from around Latin America and North America had the unique opportunity to convene for a two-day conference to discuss challenges and brainstorm solutions to improve and enhance mHealth in the Andean Region. The **Symposium on mHealth Strategy for Latin America** was held in Lima, Peru and organized by the Andean Global Health Informatics Research and Training Center (*QUIPU*) with support from the Fogarty International Center (FIC)/ National Institutes of Health (NIH), Universidad Peruana Cayetano Heredia, the US Naval Medical Research Unit 6 (NAMRU 6), the Universidad del Cauca (Colombia), and the University of Washington (Seattle). The Organizing Committee would like to profoundly thank the support from the following institutions: **mHealth Alliance, The Inter-American Development Bank, The Pan American Health Organization, The Peruvian College of Physicians (CMP), and The Rockefeller Foundation.**

Meeting attendees from 12 countries, representing the government, academic health institutions, research organizations, and industry, gathered to discuss topics of interest including mobile health case studies from around the globe, mLearning and approaches to reproductive health, the use of informatics as a tool to strengthen global health research, surveillance and data collection, and comparative effectiveness research and research training. Growing from the experiences from the initial meeting of QUIPU in 2010, this symposium was primarily focused on participatory methods through the use of case studies and thematic driven discussions. The following link provides access to the meeting agenda, speaker bios, and a summary of twitter feeds, and slides presentations:
<http://mhealth.andeanquipu.org/>.

The purposes of this conference were to share experiences and lessons learned from researchers involved in mobile health projects across Latin America regarding research and training opportunities and to promote North-to-South and South-to-South collaborations among researchers and representatives from private and public institutions from Latin America and abroad. The conference brought together some of the leading administrators, researchers and government officials in the area of innovative mHealth interventions and prevention research in Latin American and around the world, giving them the opportunity to exchange ideas, share experiences, and think

together about ways to more effectively and efficiently use these invaluable resources and collaborate. Sessions were organized into thematic panel discussions and covered issues related to challenges and lessons learned from ongoing studies, mlearning and educational accessibility, chronic disease, infectious disease, research and research training, relationship building between private and public entities, politics and mobile health and a concluding with a bridge discussion on the future of mobile health in Latin America.

Highlights

- Participation of over 150 attendees representing 12 countries.
- 37 Peruvian and international speakers and moderators.
- Keynote remark by Dr. Julio Frenk (Dean of the Harvard School of Public Health).
- Transmission via Elluminate live web casting.
- On-line Twitter discussion using the hashtag #mhealthla.
- More than 800 tweets coming from 79 twitter users during the two-day event.
- Archives of our live stream video and clips from the event posted at the website: <http://mhealth.andeanquipu.org/>.

Symposium on mHealth Strategy for Latin America

Keynote Lecture: Dr. Julio Frenk (Dean, School of Public Health, Harvard)

The conference proceeded with a keynote lecture by Dr. Frenk, Dean of the school of Public health at Harvard University. Dr. Frenk spoke about how the world is currently experiencing an important phase in Global Health, in the past decade global health has moved away from a domain of experts to a role where the most fundamental themes in the agenda include economic growth, security, democracy and human rights issues in which health now plays a central role. Dr. Frenk focused his lecture on the institutional context of mHealth rather than talking about the content of mHealth. That is, mHealth has great potential to revolutionize change in areas where it could not be reached before, however changes in institutions must be incorporated as well in order to permit mHealth to reach its full potential.

He then elaborated on the necessity of changing from the traditional pyramid model of centralized health systems to the idea of spaces of health so that universal health to the overall population could be reached. By moving towards the idea of spacious health will allow for a broader range of connectivity and networking which will result in better quality of services, access to communication and strengthen continuity. Dr. Frenk feels that in order to achieve these changes interaction between technology and institutions must be strengthened and the key on how to achieve this is through the acronym LIST (L-leader, I-institutions, S-systems, T- technologies). ICTs, equipment and infrastructure all form part of technologies. In order for this to function properly they have to form part of a system that permit to guarantee the interaction of all these resources. These systems however require institutions such as universities, medical centers, Ministry of Health, etc. The institutions are the vehicles that mobilize the common interest of everyone, for this reason this area must strengthen, unite and work together. Lastly, the L stand for leader, it is the responsibility of the leaders to orientate ethical and political issues.

He concluded with the fact that health involves everyone, whether you are a provider, health professional or patient, and that through mHealth it can empower us to work better and meet our needs by not only eliminating barriers in health but to also advance in the fields of economic, democracy and human rights.

Panel 1: “Lessons Learned form around the globe on deploying mHealth applications” (Moderator: Walter Curioso, Peru)

Panelists: Robert Mayes (GHIP, AMIA), Patricia Mechael (Columbia University), Brendan Smith (Vital Wave Consulting) and John Zolter (Datadyne)

Dr. Walter Curioso, Research Professor at Universidad Peruana Cayetano Heredia, introduced the panel of four speakers who described various case studies from their experiences implementing mHealth interventions development programs around the globe. The panel considered the varying challenges and successes and sought to define the sorts of services that clinicians, patients and general population within the cultural context need and expect and the different ways that such services have been provided in the past and might be provided in the future. Speakers and the areas they represented included:

The first panelist, Robert Mayes currently serves as Executive Director of GHIP and previously as a senior advisor on health information technology issues at the federal Agency for Healthcare Research and Quality (AHRQ). His recent work and discuss for this symposium focused on the need to move away from data centric models in the use of mobile technologies and use of health informatics created for the individual user not the larger health care company. Dr. Mayes described the need for a paradigm shift in the use and implementation of technology in health care settings both globally and domestically. Noting that often care is based on the urgent needs of the sick and as such does not look further to create solutions for health care. Mayes described the changing face of technology highlighting how individuals can now talk to anyone at anytime, additionally this is not just verbal communication but also visual. This evolution in communications has had a profound effect on how healthcare system and needs to be in the creation of future structure and points to the need to create new nodes adapted to the user to allow for the openness and interconnectivity of the networks that are in use and in place. Mayes proves and optimistic outlook explaining how have the opportunity for information sharing, but in order to implement this change in health care communications, there is building of partnerships among institutions, both private and public, and the individual users and to build the communication channels around the identified needs of these partnership. The bottom line is that as mobile health professions we are at the stage of re-thinking professional and human relationships.

Patricia Mechael, the second panelist, is the Director of Strategic Application of Mobile Technology for Public Health and Development at the Center for Global Health and Economic Development at the Earth Institute and mHealth advisor for the Millennium Villages Project at Columbia University. Based on personal experiences Mecheal developed a strong appreciation for the importance of technology for health communication. With this growing desire

and interest she continued her exploration through doctoral studies in the discipline and started to focus on the natural progression of telephone use as a tool in telemedicine in Egypt and Bangladesh. From her work Dr. Mechael discussed that one of the most important lessons learned was to select technology for health communication to meet the needs of individuals in the specific community with the lowest level of training. She found that often computers were challenges to learn and teach people to use regularly, however she quickly observed that mobile phones were already being used and could be an innovative platform for health communication. Building on evidence based on existing systems and processes opensource applications were developed with the typical mobile phone user in mind. Dr. Mechael explained from her work in Africa with the Millenium villages project to detail to success use of mobile technology for implementation of maternal and child health, to monitor adherence to immunizations and rapid diagnostic and malaria tests. She made the argument that these structures are already in place, it is not the job of the medical research community to be mindful of policy and outcomes when developing the next stage of standards. Our next aim shall be to show how the data we are collecting is interrelated to other data points and more importantly other service data delivery pathways.

The last two panelists, Brendan Smith and John Zolter represented private sector consultancies and illuminated a different set of objective and goals when recalling lessons from global mHealth studies. Notably, Mr. Smith made an interesting distinction between two types of interventions 1) near term, which are designed for ongoing health research and general population 2) larger system, based on interface with health information system and/or the supply chain. The bottom-line was that both required planning, framework analysis and vision but have different target goals, which need to be considered. Additionally, both were insistent on the conversion from the flashy side of technology to the user driven models. All panelists commented the baseline need for the creation of thoughtful and flexible programs not driven by mobile health but rather community needs.

Panel 2: “ Mobile Education: mLearning and Reproductive Health.”
(Moderator: Joanne Campbell, Ecuador)

**Panelists: Katluska Castillo (IMT AvH), Walter Curioso (WawaRed),
Jeannette Cachan (Georgetown University)**

The following track discussed mobile education through mLearning and in Reproductive health. It is essential to come up with ideas to help not only women, but a woman with children as well as it is a known fact that women without education are limited. Thus, the presentations focused on women’s health in Latin America and mHealth as the tools to improve health delivery.

The objective of the project “mLearning to improve training of health professionals in Peru” was to evaluate which of the two smart phones (Nokia vs. iPhone) were easier to use amongst 20 physicians specialized in HIV working at hospital for the ministry of health in Peru. The results concluded that the iPhone had more acceptance (18/20) because of its friendly user interface, however costs of the device has to be taken into consideration. The Wawared presentation held by Dr. Curioso touched on the topic about maternal health amongst pregnant women in one of the poorest districts in Peru, Ventanilla. The objectives were to find alternative solutions on how to improve health by including technology, therefore it was essential to design one platform that would reinforce the health system (i.e. collecting data once) and empower women through information. The Internet and SMS text messages through cell phones were the technology used for this initiative. Interoperability, private-public alliance and evaluations are themes that the project is working towards. Lastly, two initiatives from Georgetown University were presented, iCycleTel , a system based on the use of SMS text messages to advise participants on their fertile cycle and iCycleBeads, a system that uses the iPhone or iPad to monitor their fertility and prevent pregnancies.

Through the Q&A portion topics of importance discussed were that although, iPhones were the preferred device, not everyone can afford iPhones, thus should the focus be on simpler technology? Privacy was another topic that came up, the panelists agreed that privacy and confidentiality was an important factor when applying mHealth solutions. Finally, illiteracy in women or different types of dialects spoken was discussed. Literacy rate amongst the Wawared project was high, however there was an option to call a hot line. As a result, Dr. Curioso mentioned the importance of knowing the culture when conducting studies, it essential to explore and investigate the cultural factors, in that way one will find out if it is possible to add other things or be able to evaluate other populations.

Panel 3: “Chronic Diseases.” (Moderator: Daniel Capurro, Chile)

Panelists: Ita Lange (Chile), John Piette (University of Michigan), Ernesto Gozzer, Peru), Jaime Miranda (CRONICAS, Peru), Rodrigo Saucedo, Mexico)

This panel was lead by Dr. Daniel Capurro, who started the session by giving an overview of the state of chronic diseases in the Americas and the critical role that technology is playing in the forefront of ongoing research. Following the introduction, Dr. Lange, representing an interdisciplinary working group presented on the incorporation of mHealth specific to diabetes surveillance and prevention programs in Chile. Dr. Lange’s work focused on type-2 diabetes, aiming to give support to those diagnosed pre-diabetic or diabetic. Through the use of mobile communication with health centers, patients involved in Dr. Lange’s study have the ability for continuous contact

with nurses and doctors striving to provide a medical support network to promote healthy behavioral changes to diminish the risk of type-2 diabetes.

The impetuosity of the presenters in this panel was to look at existing technology that works within the at-risk population, to take advantage of what is already working well to be the foundation for that we are trying to build for behavioral health interventions. Similar to Dr. Lange, Dr. John Pietter discussed how the observation of large-scale cell phone use drove the development of the model and pilot testing data of a cloud computing system for delivery of medical support between for patients suffering from chronic illness in Honduras. Building on the arguments presented by the two previous speakers, Dr. Ernesto Gozzer discussed the creation and use of *CareNet*, an adherence, monitoring and treatment tool for the prevention of diabetes through mHealth. The underlining thought was that through an interactive technology support network patients would be able to self-track and feel supported virtually. Interestingly, only one computer and one cell phone was used in this study. This case-study yielded an interesting discussion regarding the use of operational research in resource poor countries and the importance of keeping the technological aspects within the needs of the target population.

To conclude the session, Dr. Jaime Miranda presented data on cardiovascular illnesses collected through the use of cell phones within three Latin American countries. Looking within populations in Argentina, Guatemala and Peru, a mobile SMS platform was implemented to assess the prevalence of hypertension in rural communities versus urban dwellers. The overarching theme was that mHealth is an innovative tool for preventative care and the focus needs to shift from looking at the pitfalls that drive the changes to looking at that has worked and the demographic profile of the population in which it is working. As elaborated by the panelists during the question and answer session the end goals need to be based on population driven interventions, and the need for qualitative research that drives the focus of the mHealth interventions.

Panel 4: “Surveillance and Data Collection” (Moderator: Ernesto Gozzer, Peru)

Delphis Vera (NAMRU-6), Antonio Bernabé (PDA-Preven), Issac Alva (Peru), Jaime Vera (Peru)

The topic of this session was about surveillance and data collection initiatives in Peru. Three presentations were presented followed by a Q&A session. Alerta, an epidemiological surveillance system that permits real time access to collected data used by Peruvian Naval forces was the first presentation of this track. The system is comprised of the Internet and telephone lines and has reporting capabilities, it has been implemented since 2002 and it is still growing strong. The PDA Preven presentation followed, which was a pilot project that used hand-held devices to collect data about

sexual health amongst 18-23 year olds in Peru. The pilot was launched in 28 cities where field workers would perform the socio demographics portion of the study and then hand over the PDA to the participants to answer the questions privately. The field worker would then, at the end of the day upload the results to a centralized database. The last presentation talked about the use of cell phones for data collection in rural areas in the Amazon region of Peru. The study focused on the Shipibo-Konibo people who are bilingual, and frequent in Lima to sell crafts. The workers that were hired were people that knew the challenges and how to work in those environments. They received training on how to use the cell phone and the tool used to collect data (Epi surveyor).

The similarities from the presentations were that all three aimed at reaching information from remote villages through the use mobile technologies. Repeated topics that were discussed in the Q&A portion of the track is the importance of training, it was recommended to invest money in training because in the long term is worth it. In addition, it is important to train the people that are going to be using the systems, not only how to use the system or the tool but a greater macro understanding on the overall process. Everyone has the capacity to learn; these projects proved that their users through proper training learned how to use the devices at hand. Lastly, another topic that was mentioned was interoperability, the importance on how data must be migrated, a way to possibility find a solution for this challenge is to use existing applications that already work.

**Panel 5: “Infectious Diseases.” (Moderator: Paula Otero, (Argentina)
Panelists: Cecilia Cravero (Chagas- Argentina), Mirko Zimic (TB- Peru),
Joaquin Blaya (Chile), Walter Curioso (Peru)**

To start the panel on the implications of health informatics in the sector of infectious disease surveillance and prevention Dr. Ceciclia Cravero gave an overview of her project treating Chagas in Cordoba, Argentina. The primary aim is an epidemiologic surveillance, through this assessment of the quantity and types of Chagas Dr. Cravero seeks to incorporate mHealth as a means to effectively catalogue, spread prevention messages and provide follow-up treatment. Identifying the need to research in this arena, Cravero shared with the panelists and audience that every 12 minutes someone in Latin America dies of Chagas. Through her work, Dr. Cravero argues that due to the urgent need for interventions and Chagas treatment in Latin America, we must push existing technology to create immediately acceptance and usable platforms for healthcare.

Following Dr. Cravero case-study, Dr. Joaquin Blaya elaborated on the next steps for tuberculosis tele-diagnostic systems in Latin America. Blaya illustrated that because tuberculosis is an airborne disease with eight million newly diagnosed cases per year and that from the moment of transmission to symptoms, more that 10 months can lapse rapidly spreading the infection,

there is a need to enhance the diagnosis speed and accuracy in order to cut down on transmission rates. Currently there are two programs implemented in Chile and Peru to address tuberculosis diagnosis 1) via the use of a Palm devices and 2) an internet based software system, both created for lab technicians users in mind. The study involving the use of hand-held technology, the Palm, has been structured to be a randomized control trial with an evaluation component to assess the benefit of using the device. The second mHealth internet-based system being tested is called E-Chasqui, and connects lab systems by the creation of a network of national, hospital level and health center labs. As learned for the challenges of both of these current studies, a good system which works in isolation is not enough and must seek test all programs in the field and to develop the use of open MRS systems to anticipate the technological and users changes to come.

Dr. Walter Curioso concluded the panel with his explanation and discussion of Cell-POS, showing how mobile technologies can support and be adapted for the improved adherence of HIV medications. The development of this study was based on a prior qualitative study, which showed that one of the main reasons for low adherence to HAART was because participants simply forgot to take this medicine. These results drove the creation of an SMS reminder platform, with content developed by the user population, to remember to take antiretroviral medicines. Interestingly, the users choose to not only have SMS reminder but for the message to be motivational. Three types of SMS reminders were created, 1) reminder to take medication, 2) MD appointment reminders and 3) nutritional tips. All presentations in the infectious disease panel stressed the need to look for prevention first and foremost.

Panel 6: Strengthening Global Health Informatics Research and Training Capacities (Moderator: Fernán Quiros, Argentina)

Panelists: Diana Huama, (WHO, Peru), Diego Lopez (Columbia), Carol Hullin (IMIA-LAC, Chile), Patricia Garcia (QUIPU, Peru), Sherrilynne Fuller (University of Washington)

The panel of experts all had insightful information to share for the session “Strengthening Global Health Informatics Research and Training capacity.” Ms. Huaman from PAHO, mentioned that PAHO has recently launched an inventory of information which includes approximately 19,000 documents of text and full text articles which are now available to health professionals. Through his experience in Columbia, Dr. Lopez discussed the challenges that they are facing such as the need for the government to participate and understand research in Health informatics, as well as finding ways on how to incentivize the medical community to participate in training programs for the advancement of health informatics. To overcome these barriers, North-to-South collaborations must be met as well as to create alliances with the government. Ms.Hullin also made remarks about the need for collaboration especially within Latin America. In addition she also mentioned

how we should focus on understanding the cultural needs and resources in the area.

Dr. Garcia mentioned the importance of both training and research in health informatics and finding mechanisms to make it sustainable overtime so that critical masses of professionals that have the required competencies can be created. Training is necessary, human resources are the tools needed for mHealth to work therefore there is a need to work towards training human resources at a multi/trans professional level. In addition, academics, government institutions, professionals, students, the general population to work together so the mHealth can succeed. Dr. Fuller discussed the lessons learned throughout the past ten years in Peru, Southeast Asia and Kenya. She recommends to collect data once not many times, to teach both classic successes and failures. She believes that case studies are very important and that students should be allowed to work through the problem. She feels that the human brain is still the best form and that computers will not replace humans. In conclusion, at the discussion portion of the session the question that was asked was if health informatics programs should only be offered at a masters and PhD level or should there be the possibility to have an undergraduate program as well.

Closing Remarks: Rose M. Likins, United States Ambassador to Peru

To conclude the first day of the symposium, the newly sworn in Ambassador from the United States to Peru, and former Ambassador to El Salvador, addressed panelists and participants. Mrs. Likins began by congratulating all conference participants and QUIPU network members on their endeavors and underlining the importance of technology as the driving forces for healthcare. Likins stated that through mobile technology in the healthcare sector, we have the power and ability to transform the lives of millions.

Ambassador Likins shared with the audience an anecdote regarding the use of resources in healthcare relating to Pucallpa, a city in the Peruvian Amazon. The city was asking for a helicopter to evacuate individuals in case of medical emergencies. Ms. Linkins instead used this example to highlight how an investment in a helicopter is a poor investment and instead the investment in telecommunication for training health care workers on how to adequately treat emergencies is the responsible choice. It is now governmental and institutional responsibility to evoke the tremendous power of connectivity and support systems available with mHealth to train and provide resources for even the most remote areas of Peru. She concluded by asserting that mHealth is about empowerment and we now have the tools to analyze and share the data needed to enrich and improve communities.

Panel 7: Public - Private Partnerships (Moderator: Alvaro Argolis, Uruguay)
Panelists: Rita Aguilar (Movistar, Peru), Richardo Zúñiga (Ministry of Health, Peru), Merrick Schaefer (UNICEF)

The following panel discussed partnerships between the public and private sector. Ms. Aguilar from Movistar presented the current projects that Movistar is working on around Peru. They have formed alliances between the private and public sectors at a national and regional level so that telecommunications means can be reached out to the community. Their projects also provide training and support. These initiatives provide access to communities, which create not only economic development but development in education and health. Mr. Zúñiga from the Ministry of Health discussed in detail the public-private association law (APP) which intends to strengthen the weaknesses that exist regarding access of care and lack of communication throughout Peru. In addition, he mentioned the importance of making the universal health insurance a reality and improving public services worldwide. Projects that are being developed from MINSA include telemedicine perinatal and maternal health initiatives. Lastly, Mr. Schaefer from UNICEF spoke about the role that the organization plays through a rollout of a project. For one, they always come up with the problems that are currently in place and provide a potential solution. Secondly, they try to understand the domain and area. Lastly, once the time comes to design the system, emphasis is invested to make the application easy, the projects are designed in a way that allows and relies on partnerships. He also mentioned the importance of including academic, public and private sectors

Throughout the discussion session, Mr. Zúñiga was asked to explain the financing of projects and the difference between private and public concessions. He mentioned that the classic private concession belonged to projects such as development to build a highway as opposed to the APP which is considered to be a social sector and is financed by the state, he added that there were projects that involved the ministry of business and education. Ms. Aguilar was asked on how many Cybercafes currently exist in Peru, she mentioned that they were public services and administered by third parties, Movistar only take care of the connectivity, she included that Movistar provides education programs when needed. To conclude Mr. Schaefer mentioned that even though projects depended on local contacts and laws regarding ownership of telecommunications, UNICEF's role is to help the government create structures that they need and strengthening ties with other sectors, as well as included user-centered design. Therefore, in order for mHealth solutions to be successful it will require for both private and public sectors to start working together and collaborate.

Panel 8: “Policy Issues in mHealth and eHealth.” (Moderator: Edén Galán (Peru))

Participants: Andres Fernandez (CEPAL- United Nations), Nancy Gertrudíz (CINVESTAV), Gloria Durán Arroyo (Junta Extrema)

This panel focused on the challenges and experiences at the intersection of politics and use of electronic health within existing health care structures. Andres Fernandez representative from the United Nations began with an assessment on the current state of pilot studies and the reality that these are no longer pilots but rather mini research projects and need to be treated as such. If treated as independent studies then ministries of health have more possibility for involvement and can take responsibility for not only the studies occurring but the dissemination of lessons learned to the general populations. Another main point of discussion was the importance of leadership when identifying and structural problems and the weakness in the existing systems. Dr. Fernandez concluded by asserting that technology is a crucial next step and we need to not only start implementing the strategies that we have learned but also effective use all the support resources from both private and public entities.

Similarly, Mrs. Nancy Gertrudiz discussed the immediate need for multi-disciplinary action. Gertrudiz referenced examples from Mexico with the spread of social networking use and how patients are now able to consult each other and the Internet on information that was previously only held by medical professionals. She suggested that Ministry of Health officials need to be trained in an interdisciplinary fashion to adjust for the next stage of informatics and its intersection with health. Additionally, she argued that having more discussion and buy-in by governmental entities could curb the fear of the poorly created technology usage.

Transitioning to argument that open-networks minimize discrepancies between politic and mobile health, Gloria Duran Arroyo representative from the Junta de Extremadura in Spain proceeded by describing political involvement particular to her working case. Within Arroyo’s setting the government was involved from the ground level and initially developed the strategy plan for the prevention systems with community members as well as the technology companies. The lesson they learned was that this was a crucial first step based in awareness and courtship, it is important to indentify from the onset to know where the project is going and how to develop a lasting relationship. Panelist and symposium participants commented expressing that there is no magic formula for excellent governmental and institutional relations, rather, we are all responsible- not just the government, it is our duty as informed citizens to push legislation and innovation solutions.

Panel 9: “What is the Future of Mobile Health in Latin America?”

(Moderator: Nancy Gertrudiz, Mexico)

Panelists: Fabiano Cruz (BID), John Zoltner (Datadyne), Joaquin Blaya (Chile), Nicolas de Tada (InSTEDD), Artura Urrutigoity (Telefónica)

The last panel of the day before the conference came to a closure discussed the future of mHealth for Latin America. The panelists were asked what they thought the future of mHealth would be. It was discussed that mHealth has great potential because cell phones all across Latin America are affordable, and are getting smarter, hence the name smartphones.

The panelists shared similar ideas. In the future they see: better standards, scalability of projects, replicate projects that are working thus moving forward from pilots to continuity of projects. More connectivity in rural areas and involvement of the community, we must work together to come up with better solutions. Communications means should also be bilateral, that is physicians should not only be able to send information to patients but patients being able to send information back.

In regards to the technical aspects of mHealth, panelists envisioned mHealth to use both open and closed platforms. More tablets and smartphones using the Android platform. The future will also have transparency of process and data. There will be better user interface design, which will involve the users and their needs thus these solutions will consider the human factors aspect.

Although all these propositions give us the opportunities to dream and envision the future, right now is the time to start working towards that, it is our mission for the future which will require involvement and contribution from all us to create changes and opportunities using the tools that mHealth has to offer.

Final Conclusions

The conference offered innovative strategies for people to be connected and actively involved throughout the conference. For those that could not attend the conference, the presentations were streamed live through Elluminate. In addition, those wanting to actively participate in the conference had a chance to do so by using Twitter. **#mHealthla** was the official hashtag of the conference and that is how people were able to engage in the discussion of mHealth across Latin America. The tweets were broadcasted on a white board in front of the conference room while the speakers were presenting. Interesting tweets broadcasted throughout the conference are listed as followed:

- Dr. Frenk: mHealth empowers us to innovate in health care [#mhealthla](#)
- eHealth mantra: evaluation, evaluation, evaluation!!! [#mhealthmla](#)
- Nicolas di Tada, InSTEDD, highlights the importance of user-centered designs and involve end users all along [#mhealthla](#) more intelligent phones + powerful networks + lower costs for services = greater opportunities for [#mhealthmla](#)
- Mobile Citizen: An initiative of the IDB: empowering people through mobile services; We invite you to join us! [#mhealthmla](#)
- The future of mHealth will only be good if it is designed with humble user centric design. Nicolas di Tada [#mhealthla](#)
- Walter Curioso: [#mhealthla](#) ends as a health IT conference should, "mHealth is about people, not technology"
- mHealth research needs: government, university and community cooperation [#mhealthla](#)
- Patricia Garcia, QUIPU, touched on a really important topic: e/m-Health Literacy [#mhealthla](#)
- @waltercurioso wrapping up the [#mhealthla](#) summit 2011. What a great event!
- long life to [#mhealthla](#) hashtag | @waltercurioso highlights that the discussion continues online, next events and meetings
- Concluding an awesome meeting in Lima. Congrats to everyone at Cayetano Heredia. [#mhealthla](#)
- Thanks to everybody who made mHealth Latin American Symposium a success! [#mhealthla](#)

Throughout the two-day event, there were approximately 800 tweets broadcasted and 79 tweeters, additionally the number of tweets for [#mHealthla](#) now sits at 952 and is being used for future events and discussions. Twitter allowed for people to actively participate, share ideas and discuss additional information regarding the conference and mHealth in general. In conclusion, Twitter is currently being used to promote future mHealth events and discussions. In addition recordings of the symposium are available at <http://vimeo.com/album/1575803>.

The symposium was considered very interesting and successful by a vast majority of the participants. The broad range of individual expertise raised interesting issues and highlighted the need for multidisciplinary crossover between the partners of the health informatics network in Latin America. This symposium was aimed at assembling combined knowledge about the current status of these mHealth projects, which was a unique opportunity. In order to maintain the momentum of sharing and integration begun here efforts are being made to facilitate and enhance the content (quality and format) of the health informatics network, collaboration between regional experts and to provide the users with powerful and transparent, optimized tools.

Annex 1: Agenda

Symposium on mHealth Strategy for Latin America

March 25-26, 2011

(Hotel Sol de Oro, Calle San Martín 305 Miraflores, Lima-Perú)

March 25.

8:00am Registration

8:30am Inauguration: Dr. Zarela Solís, Vice Minister of Health of Perú; Dra. Fabiola León Velarde, Rector - Universidad Peruana Cayetano Heredia.

9:00-9:30am Keynote Lecture: Dr. Julio Frenk (Dean, School of Public Health, Harvard)

9:30 - 10am Panel: Lessons learned across the globe on deploying mHealth applications

Moderator: Walter Curioso

Speakers: Robert Mayes, GHIP AMIA; Brendan Smith, Vital Wave Consulting; Patricia Mechael, Columbia University; John Zoltner, Datadyne

10:00-10:30am Discussion and questions

10:30-11:00am Break

11:00am-12:00pm Mobile Education Track: mLearning and Reproductive Health

- Introduction (Joanne Campell, Ecuador; Moderator)
- mLearning to improve training of health professionals in Peru (Katuska Castillo, IMT AvH, Perú)
- Wawared: Getting connected for a better maternal and child care (Peru)
- CycleTel y iCycleBeads: Opportunities for using family planning with mobile phones (Jeannette Cachan, Georgetown University, USA)
- Discussion and questions

12:00-1:00pm Chronic diseases Track

- Introduction (Daniel Capurro, Chile; Moderator)
- Mobile Telephony: a tool for diagnosis and self-care support in diabetes (Ilta Lange, Chile)
- Using cloud-computing for diabetes care in Honduras (John Piette, Umich)

- CareNet for diabetes (Ernesto Gozzer, Peru)
- Use of cell phones for primary prevention of pre-hypertension in 3 countries of Latin America (Jaime Miranda, CRONICAS, Perú)
- Discussion and questions

1:00pm-2:30pm Lunch

2:30pm- 3:30pm Surveillance and data collection Track

- Introduction (Moderator: Ernesto Gozzer, UPCH, Peru)
- Alerta (Ricardo Hora, NMRC, Peru)
- PDA-PREVEN: Pioneering PDA at the national level for data collection of sexual health in Peru (Antonio Bernabe, Peru)
- Experiences with the use of cell phones for data collection in rural areas (Isaac Alva, UPCH)
- Discussion and questions

3:30 - 4:30pm Infectious Diseases Track

- Introduction (Paula Otero, Moderator)
- Can mobile technologies facilitate the detection and follow up of patients with Chagas and Dengue disease? (Cecilia Cravero, Argentina)
- Use of mobile phones to improve tuberculosis diagnosis in developing countries (Mirko Zimic, Peru)
- Developing, Implementing, and Evaluating Tuberculosis Laboratory Information Systems for Resource-Poor Settings (Joaquin Blaya, Chile)
- Cell POS: Going beyond Adherence: A Combined Intervention using SMS to Support HIV/AIDS Care in Peru (Walter Curioso, Peru)
- Discussion and questions

4:30-5:00pm break

5:00 - 6:00 pm Panel: Strengthening Global Health Informatics Research and Training capacity

- Moderator: Fernan Quiros (Argentina)
- Panelists: Diana Huaman, OPS Peru; Diego Lopez, Colombia; Carol Hullin, IMIA-LAC Chile; Patricia Garcia, QUIPU, Peru; Sherrilynne Fuller, University of Washington, USA)
- Discussion and questions

6:00pm Patricia García. Walter Curioso
Rose M. Likins, US Ambassador to US

March 26

8:00am Registration

8:30am Introductory comments for day 2 (Patricia Garcia and Walter H. Curioso, QUIPU, UPCH)

8:45-9:45am Panel: Public-private partnerships

- Moderator: Alvaro Margolis (Uruguay)
- Panelists: Rita Aguilar, Movistar, Peru; Ricardo Zuñiga, Investment Project Office, Ministry of Health of Peru; Merrick Schaefer, UNICEF
- Discussion and questions

9:45-10:15 Break

10:15-11:15am Panel: Policy issues on mHealth and eHealth

- Moderator: Eden Galan (Colegio Médico del Perú)
- Panelists: Andres Fernandez, Representative from CEPAL - United Nations; Nancy Gertrudiz, CINESTAV, Mexico; Diego Lopez, Colombia; Gloria Durán Arroyo, Junta de Extremadura, España; Ann Marie Kimball, University of Washington, USA)
- Discussion and questions

11:15-12:15pm Panel: What's next on mobile health for Latin America?

- Moderator: Nancy Gertrudiz, Mexico
- Panelists: Fabiano Cruz, BID; John Zoltner, DataDyne; Joaquin Blaya; eHealth Systems, Nicolas di Tada, InSTEDD, Arturo Urrutigoity, Telefónica

12:15pm Closing Remarks (Patricia Garcia and Walter Curioso, QUIPU UPCH)



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