IHE – Colombia: Standards and Interoperability in support of the Healthcare Continuum in Colombia.

Context data

Colombia 42 million inhabitants (2015)
Population growth rate 1.16%
State of Atlantico population: 2.125 million
Barranquilla, State's capital population: 1.115 million

1 Origin

Beginning 2013, the Simon Bolivar University, the Chamber of Commerce of Barranquilla, Atlantico, and the National Learning Service (SENA) came together to define and fund a project to strengthen the Regional Health Cluster. This was another initiative responding to the 'Triple Helix' national strategy, a innovative approach focused on the promotion of projects bringing together the public, private, and academic sectors.

The project counted with the academic support from the American College of Clinical Engineering, and the technical assistance of HelatITek.

Forty leaders from regional public and private organizations attended. The invited audience included senior managers of health care organizations, clinical laboratories, pharmaceutical manufacturing, health service providers, and academicians.

Two main conclusions were drawn from this experience:

1. The committed cooperation of the academy with the public and private sectors is a winning strategy to address social and policy issues. This cooperation becomes particularly productive when applied to areas already recognized as strategic for development. In the present case, three main actors: Simon Bolivar University, Chamber of Commerce and Health State Secretary had been working for some years to strengthen the Health Cluster in the region.

2. A technology-based approach to identify and develop projects and proposals within the Continuum of Health care model, proved to stimulate multiple actor participation, and to create conditions to collectively benefit from political, social and technological crossroads.

Additional to the identification and development of projects addressing multiple priorities, the gathering of diverse international and national players fostered the remarkably rapid creation of the IHE (Integrating the Healthcare Enterprise) Colombian National Deployment Committee.

The Simon Bolivar University, the Chamber of Commerce form Barranquilla and the BIOS Foundation were proposed and accepted as sponsors of the National Deployment Committee, on the October 13th, 2013 IHE International Board Meeting.

2 Initial Evolution

The creation of the new National Committee was intensely promoted at national and international events:

o   Second Global Forum on Medical Devices Nov. 22-24 2013 Geneva, Switzerland.
o   HIMSS 14 Conference. Feb 22-27 2014 Orlando, USA
o   First International Metrology Congress May 8, 9 2014 Medellin, Colombia.
o   AAMi Conference – HTM Seminar June 5 2015 Denver, USA.
o   World Congress on Medical Physics and Biomedical Engineering June 7-12 2015 Toronto, Canada.
o   International Congress of Clinic Engineering. Aug. 20-22 2015 Medellin, Colombia.

Several Hospitals and Software development Associations and Clusters (Fedesoft, CaribeTIC) accepted with enthusiasm the IHE proposal of Interoperability Profiles.

A technical team studied the evolution of all previous Connectathons (a Connectathon is an interoperability marathon, where vendors test their products to verify compliance with IHE interoperability profiles). We found that all of them started with the testing of basic profiles within the Patient Care Devices (PCD) domain. We even found that the Korean Connectathon -on its fourth version at the time- was organized by the Kyungpook National Univeristy, KNU, and held within the University facilities, using some of their Labs, exactly as we planned to do in our own Connectathon.

As a result, in the middle of all that positive environment, we started an intensive training strategy with the support from IHE-International, IHE-USA, IHE- Spain, the PCD Domain Committee and the National Institute of Standards and Technology NIST. We developed a series of teleconferences dealing with the basics of IHE PCD profiles, as well as the NIST developed testing tools. We submitted the proposal for the First Connectathon in Colombia to be held on June 2015. After six months of intense activity, we started to realize that things were not advancing as expected.

3 Findings

The planning process of our Connecthaton was a bumpy one, with an intense and steep learning curve. Along it, we made some discoveries that will probably be useful for future similar initiatives in other Latin American countries. One of those learned lessons, perhaps the more important, is that we cannot simply jump into the Connectathon wagon following the steps of any other country, no matter how similar the situation seems to be. One size does not fit all.

The ´most obvious and intuitive´ way of planning a Connecthaton (with the PCD profiles), that have been successfully tested on several contexts, was not so intuitive or obvious when we started to work with our vendors. The main reason is that the recipe is perfectly valid for a country with a significant portion of its vendors producing equipment or devices, which is not the case in most Latin American countries. As we came to realize, this ´vendors profile´ is the first step to be taken when planning a Connectathon, and in our case it is comprised of a significant proportion of companies dedicated to software development (EHR, Information Systems, etc.) and a small number of companies working on health devices.

So, we faced this new and bigger challenge to coach our vendors so they can participate in a Connectathon, which in turn, will offer more than the two profiles we had initially considered. We did not rule out PCD profiles, since we have to answer to that group of companies dealing with devices, but we need to include additional profiles to incorporate the main stream of vendors in our countries. This is a new game field with a completely new set of rules and actors, which will lead us to a larger Connectathon than we initially conceived. We are sure the intense work we have developed with the active support of all the PCD team won´t be lost, but at that moment, we entered a phase of resizing our objectives, and redefining our goals to continue with the preparation of the new and improved Connectathon.

This 'Vendor Profile' oriented Connectathon approach meets also another concept we found during the dynamic initial phase of IHE-Colombia. There is a changing Institutional Interoperability Ecosystem, characterized by the interaction of three groups of actors, dealing with three dimensions of that interoperability.

The Clinical engineers, generally acting as Chief Technology Officers, CTO, in a Health institution, are responsible for the management of Health Technology.

The Systems Engineers, acting as Chief Information Officers, CIO, deal with the management of Infrastructure and Institutional Information.

A third group, which is growing not only in number, but also in their influence in the decision making processes, is composed by the Chief Medical and Nursing Information Officers, CMIO, CNIO, as well as by Hospital Directors. They deal with the management and use of Health Information, and they are growingly defining the way (profiles) in which the interoperability is understood and implemented at the Institution.

These three groups should be interacting in a shared environment where each one's strength is amplified by the others'. However, this is not happening, and both Clinical and Systems Engineers are facing a real risk of being displaced from that zone of influence, due to their lack of preparation in interoperability themes.
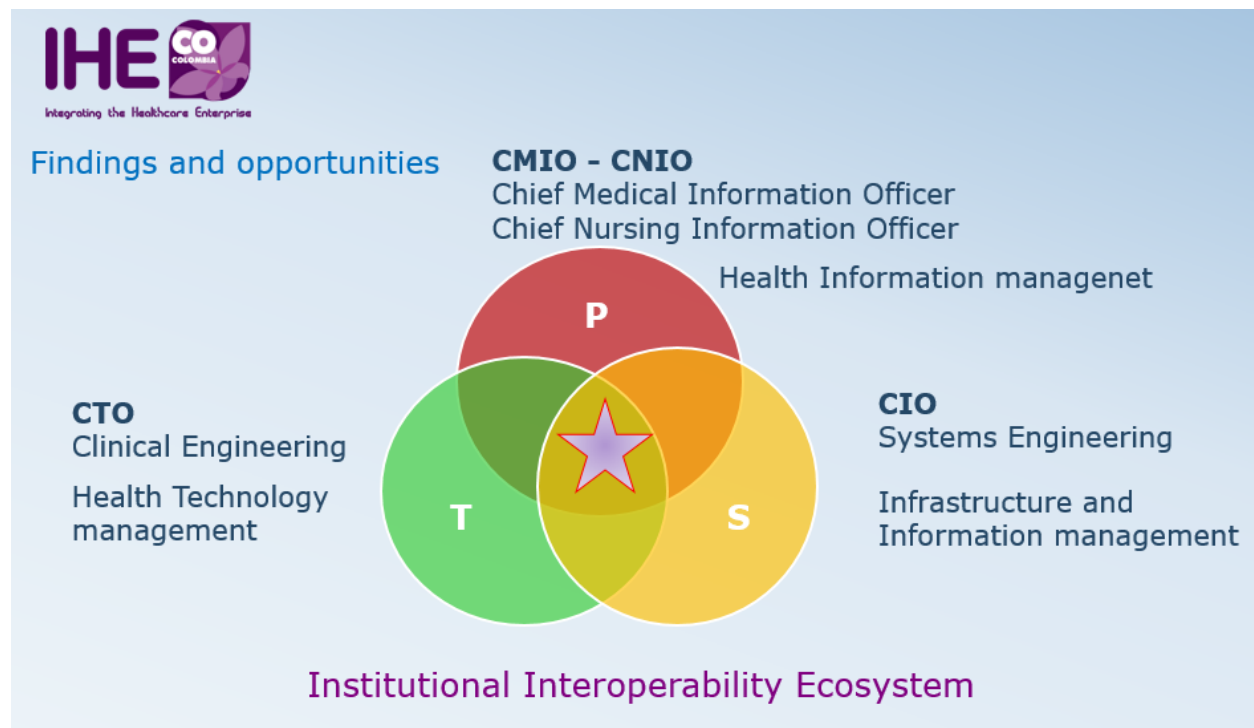
4 Strategy

The problem with standards is not that there are so many to choose from, but that we have not deployed those we have and that there has been no one with the power to make deployment happen. Standards that are not deployed, are a waste of time and effort.

IHE-Colombia is tackling this challenge with a three-prong strategy:

o Promote the discussion of health information standards and policy. To do this, we are participating in technology discussion groups from the Ministries of Health and ICT. From the University, we are leading the creation of the National Think Tank for ICT policy, where the issue of information standards is a priority. Finally, we are widening the interoperability scope through Master and Doctoral thesis. At the international level, we contacted Fraunhofer MOEZ center, in order to explore the feasibility of joining their efforts to promote international discussions of Health Information issues.
o Promote training on health information standards. From the University, we are promoting the adoption of a government funded training project for System and Clinical Engineers. We are negotiating with the Mohawk College of Ontario the use of a distance learning course they developed for IHE profiles training.
o Translate into Spanish significant publications dealing with Interoperability, Health Information and technology. Currently IHE-CO translated the 'Interoperability for Dummies' and started the translation of the IFMBE book 'Human Factor for Health Technology Safety'.

5 Conclusions

These are the main conclusions after almost two years and a half of work and analysis:

o This is a Regional development initiative that has scaled to the National level and has potential to permeate Spanish Speaking countries in Latin America.
o Health interoperability is fundamental for the implementation of the new model of health in the country.
o Interoperability can be both, a national and local development strategy.
o Interoperability should be supported on a State Policy.
o Interoperability goals should be long term (10 years and more).
o It is not easy, or cheap, to reach an adequate level of national interoperability.
o Interoperability will be obtained through a collective effort (public-private).
o Interoperability opens the opportunity for cooperative work between Hospital Directors, Administrators and Nurses, and Clinical and System Engineers.
o Interoperability can be reached incrementally, and through leapfrogging.
o Positive results of interoperability are immediate.
o Interoperability pose great challenges and great opportunities
o It is possible and convenient to promote hemispheric discussion on interoperability.

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