

Building Networks for eHealth Research

PAN Asian Collaboration for Evidence-based e-Health Adoption and Application (PANACeA), a success story in the Asian context.



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EHealth can be defined simply as the use of Information and Communication Technology (ICT) in healthcare. eHealth solutions can be applied in many domains including surveillance, prevention, administration, clinical settings, education and health research. The main uses of eHealth in developing countries have been to improve access to healthcare services, and enhance the quality of care by making patient data and other relevant information available to the healthcare providers at the point of care. In the context of developing countries there are specific challenges such as difficulties in communication between healthcare providers working in remote areas and those working in tertiary care hospitals, information transfers at different levels of care, and professional isolation of healthcare providers working in rural areas. eHealth can provide a medium to address these challenges by providing economically and socio-culturally appropriate technology solutions available at different points of care. But the problem at this point remains to be lack of scientific evidence to convince the decision-makers at the institutional and government levels about the benefits of eHealth in the local context, and to prove one technology is better than the other to address the same problem. The issue gets more complex with the lack of capacity of health researchers and the support available to design innovative eHealth solutions, which

can be evaluated for their impact in the conditions of developing countries. These problems can be summarised in the following four points:

- Lack of demonstrated evidence of beneficial outcomes on health of individuals, communities and improvement of health systems.
- Lack of evidence to ensure benefits reach populations without adequate access to health services.
- Lack of demonstrated potential of new pervasive technologies (i.e. mobile phones/PDA) as tools for delivery of health services and/or information to positively impact health.
- Lack of expertise and information on technologies/applications that are best suited to help prepare for or mitigate the effects of disasters, pandemics, and emerging and re-emerging diseases.

In response to the above limitations, some key research institutions in Asia, such as Aga Khan University (AKU) Pakistan, Molave Development Foundation Philippines, Primary care Doctors Association, Malaysia, and Angeles University, Philippines with the support of International Development Research Centre (IDRC) and University of Calgary, Canada, planned a network of institutions, researchers, and experts in the developing countries of Asia. The

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initiative was named PAN Asian Collaboration for Evidence-based e-Health Adoption and Application (PANACeA), and was started in February 2007 with the goal of generating evidence in the field of eHealth within the Asian context. Key benefits sought from the network approach were as follows:

A. Broaden sharing of knowledge: Since understanding of opportunities and implications of eHealth is still growing, it is important to learn from each other's knowledge and experience. The networks can emphasise on knowledge, rather than information, to reflect the process of translating data into thoughtful, relevant and meaningful parcels. These parcels of knowledge can then be shared among network members, other partners, and also a broader audience. Networks should help ensure greater knowledge sharing through its distributed nature, which allows its members to access a wide pool of knowledge to share at various levels within their immediate and extended programs.

B. Increase scope for research activities: The network-approach realises that each research partner is limited in its own way. Therefore, programming through a network can enhance the scope for partnerships and resources. For example: i) the stable network structure can absorb funds to allow for more money to support new activities; ii) the distributed and fluid nature of a network is conducive to a diverse group of individuals whose collective knowledge and experience can lead to new programs; iii) the global nature of the network can increase the scope of eHealth activities to include additional partners, for whom the programs would be relevant and iv) the network can lead to spin off activities and projects that can be funded by other donors.

C. Greater capacity building: It is generally agreed that capacity building is particularly strengthened through a broad network structure. This model is more self-sufficient in capacity building since the differential capacities in the network give rise to the potential



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for resourcing each other. The different network members through communication and knowledge management, training and peer support, as well as mentoring arrangements can draw on these skills. Moreover, when certain issues are identified as areas where several members of the network could benefit from increasing their capacity, broad-based workshops or webinars can be arranged.

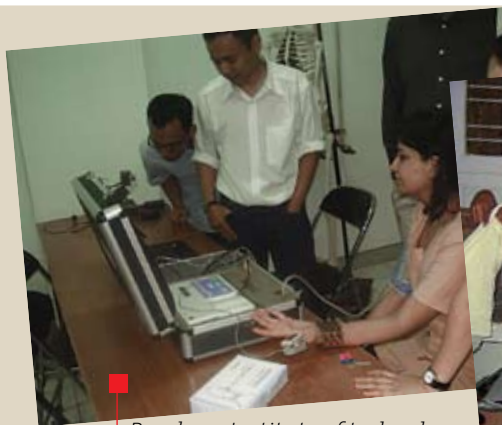
D. Administrative Resilience: eHealth Networks should be built on the principle of 'Partnership', and should involve members from a variety of institutions and backgrounds from all levels. Such an approach would strengthen administrative resilience within the network since it allows the team to be flexible and agile with respect to adding new components to the network and also freeing up the administrative and financial management role in-house. In addition, the network as a whole will likely have stronger capacity to raise funds and adapt to different scenarios and changes in the network membership and activities.

It was decided that AKU will lead the network. Using the network approach, an initial meeting of eHealth researchers from 12 Asian countries was held to arrive at a consensus over the design strategy for the network. All the participants agreed to the concept and approach to developing PANACEA. The specific objectives agreed were:

- To support a set of multi-country research activities to address the four core research questions (given below);
- To create a theoretical model for evaluating good practice in eHealth programs in Asia;
- To build research capacity amongst Asian researchers to evaluate and adopt appropriate eHealth technologies and practices and influence policy and decision-makers;
- To disseminate research findings widely in the regional and international research communities.

PANACEA agreed to find answers to the following four core research questions:

1. Which eHealth applications and



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practices have had the most beneficial outcomes on the health of individuals, communities and the improvement of health systems?

2. What are the best ways for ensuring that beneficial outcomes can reach the segment of the population that still doesn't have adequate access to health services?
3. What is the potential of using new pervasive technologies such as mobile phones / PDAs as tools to make the delivery of health services or information more effective?
4. What types of technologies / applications are best suited to help prepare for, or mitigate the effects of disasters, pandemics and emerging and re-emerging diseases?

Achievements

Partners were identified from countries in Central, South, and South East Asia, who worked together to identify eight projects to generate evidence for the adoption of technologically, economically and socio-culturally sound eHealth applications in multiple countries. These projects conducted a detailed needs and situation analysis in the first six months (Phase I), which will be followed by two years of project implementation and research (Phase II). Three workshops will be conducted during the course of the project to discuss project related issues and plans. Projects will be supervised and mentored by the Advisory and Monitoring team (AMT) comprising of a Project Manager from Aga Khan University (AKU), and three other eHealth

experts from Asia.

Regular communication, reporting and mentoring of the projects is done through online-discussion forums and visits by the network lead and project managers from AKU, and the members of AMT. Another important aspect of this project is the crosscutting issues, named PANACEA Common Thematic Activities (PCTAs), which are being investigated in the Asian context, to support the eHealth initiatives. The PCTAs will not only impact the implementation of the research projects, but also influence the development of eHealth in the participating countries. The PCTAs are communication; change management/readiness; systematic review of telehealth in Asia; systematic review of health informatics in Asia; open source standards; outcomes; and policy.

Evidence generated from these projects will be disseminated to policy makers and decision makers at the institutional and government levels in all Asian countries.

Conclusion

PANACEA offers a unique way of developing evidence in a local context, yet involving a large number of countries and developing new partnerships that may last beyond the duration of this project and would generate communities of practice within Asia.

The knowledge generated from these projects and PCTAs will also be disseminated widely so that it benefits healthcare providers, managers of healthcare institutions, researchers and policy-makers in advancement of eHealth in the region. ■