

Editorial to the HELINA 2014 proceedings

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The HELINA 2014 conference

The 9th HELINA (**HEaLth INformatics in Africa**) conference was organized from 7 to 11 March 2015 in Accra, Ghana. HELINA is the pan-African health informatics organization which has a tradition of organizing this event that goes back to 1993. The conference is focusing on health informatics needs, development, education and strategy on the African continent. Previous editions have been hosted in Nigeria (1993), South Africa (1996 & 2003), Zimbabwe (1999), Mali (2007), Ivory Coast (2009), Cameroon (2011) and Kenya (2013). The 2014 edition was originally scheduled for October 2014, but due to a Ghanaian government ban on international gatherings in the light of the West African Ebola crisis, the conference had to be postponed to March 2015. The event has been organized by the Ghana Health Informatics Association (GHIA) which provides a national scientific platform for health informatics activities in Ghana and is a registered member of the International Medical Informatics Association (IMIA) and HELINA. GHIA's members are professionals, researchers, companies and organizations involved in (public) health, health informatics, health insurance and computer science in Ghana.

Conference themes

The call for submissions for HELINA 2014 covered a broad range of health informatics topics with relevance for Africa under the title “**Informatics for Universal Health Coverage in Africa: From Point of Care Systems to National Strategies**”. **Academic research papers, work-in-progress papers and practical presentations were solicited within the following themes:**

- Highlighting the role of Health Informatics applications for the Universal Health Coverage in Africa
- Promoting the development and implementation of an African e-Health strategy as well as the development of e-Health strategies, policies, and architectures in each African country
- Showcasing best practices in Health Informatics –incl. e-Health and telemedicine- and its application in Africa: implemented health data standards and interoperable solutions, hospital information system, electronic health/medical/patient records, clinical decision support systems, monitoring and evaluation systems, registers, data mining, big data analytics and reporting platforms, health insurance and electronic claims processing among others
- Translating research and innovations into improved healthcare delivery system
- Fostering the creation of networks between African Countries as well as e-Health initiatives in Africa
- Fostering the development of Health Informatics research and education in Africa.

Submissions of papers that fell outside any of these themes were also acceptable as long as they demonstrated any relevance for the health informatics domain in Africa.

Review process

The conference being initially planned from 11 to 15 October 2014, a first call for papers was published in English and in French on 11 April 2014 with a deadline for submissions on 16 June 2014. After postponing the conference to 7-11 March 2015, the deadline for submissions was also extended to 16 November 2014.

The General Conference Chair appointed the Scientific Programme Committee (SPC) chair and co-chairs who started in April 2014 to invite international experts (n=20) with prior experience in Health Informatics in Africa to become members of the SPC. The same SPC remained also in place after the paper submission deadline extension.

A total of 59 submissions have been received in due time for the HELINA 2014 conference. A double blind peer review process was used for evaluating each paper in a first round. All received submissions

were anonymized before being submitted to at least 2 reviewers according to their expertise. The reviewers had the option to accept submissions either as full research papers, work-in-progress papers or practical presentations. The SPC chairs based their final decision on the acceptance of each submission on the recommendations and comments from reviewers. Accepted full research papers and abstracts were then sent back to the authors for revision according to the reviewers' comments. The final reviewed paper versions submitted by the authors were checked by the SPC chairs on technical criteria. This review process resulted in the following acceptance rates:

- Full research papers: 17% (n=10)
- Work-in-progress and practical presentation papers: 61% (n=36)
- Rejected or retracted papers: 22% (n=13)

In order to be included in the conference proceedings, an accepted paper had to be presented in the conference.

HELINA 2014 conference content

Conference papers have been organized in a number of thematic tracks. The most popular topics were *National e-Health strategies, policies and architectures* (7 papers), *Health information systems analysis, development, implementation and assessment* (6 papers) and *Health informatics education, research methods and capacity development* (4 papers). Other tracks included:

- Point of care health information systems
- Data mining, big data analytics and national health data reporting platforms
- Integrated healthcare and universal health coverage
- Informatics in the implementation of monitoring and evaluation systems
- Health information systems an integration of vertical health programmes and specialized care
- Empowering communities and community participation
- Software architectures interoperability, health data standards and controlled vocabularies

For practical reasons, 3 papers written in French related to e-health strategies and universal health coverage were organized in a separate track.

The HELINA 2014 conference brought together on 9 and 10 March 2015 contributions from 14 developing countries: Burundi, DR Congo, Ethiopia, Ghana, Haiti, India, Ivory Coast, Kenya, Malawi, Nigeria, Rwanda, South-Africa, South-Soudan and Tanzania. Other contributors came from Belgium, Canada, Finland, Germany, Norway, The Netherlands and the United States. The papers presented showed that standardization and (semantic) interoperability as well as health informatics education and capacity development have become the dominant themes for the health informatics domain in Africa. These two themes clearly received more attention in HELINA 2014 compared to other global or regional conferences such as MEDINFO and MIE. This was picked up by the HELINA organization through the creation and strengthening of working groups on education and interoperability. It was also decided to create a separate taskforce within the working group on education for the development of health informatics curricula in French.

Preconference tutorials, meetings and workshops have been organized on 7 and 8 March 2015 and received a lot of attention:

- Tutorial on big data analytics and data mining followed by a meeting of the HELINA working group and big data analytics
- Tutorial on health information systems and interoperability with practical examples based on the OpenClinic GA open source health facility information system
- Tutorial on SNOMED CT as an example of a framework for HIS semantic interoperability
- A HELINA and INDEHELA event on the development of health informatics education and training with the creation of the HELINA working group on education
- The HELINA general assembly with the election of a new board for the next 2 years

On 11 March a post-conference session was finally organized on National e-Health Strategies in Africa and the development of a HELINA strategy.

The HELINA 2014 conference demonstrated that health informatics activities and implementations gradually come to maturity in Africa. Many initiatives are underway in different fields ranging from point of care user centric solutions to national monitoring and evaluation systems based on aggregate data. Universal health coverage plans are giving a new boost to developments in this area. Important challenges remain in the sphere of user acceptance and data quality improvement. Massive investments in health informatics training and education, implementation of a better return on investment for health workers and regional (semantic) standardization will be necessary in order to cope with these issues in Africa. Progress is being made every year and therefore Africa is on the right track to achieve better healthcare through better information management for its citizens.

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