



# Health Informatics in Africa

Evidence based informatics for eHealth in Africa

Proceedings of the 8<sup>th</sup> International Conference, HELINA 2013  
Eldoret, Kenya, October 7-8, 2013  
Revised Selected Papers

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# HELINA 2013

Proceedings of the 8<sup>th</sup> International Conference Health Informatics in Africa

Full and Short Papers

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## Editorial to HELINA 2013 Proceedings

HELINA (**HEaLth INformatics in Africa**) is a pan-African association that represents the Africa region of the International Medical Informatics Association (IMIA). It arose out of the First International Working Conference on Health Informatics in Africa, held in 1993. In the closing session of HELINA93, it was proposed that this successful conference should be periodically organised and along the same lines. So far, HELINA has been hosted as follows:

HELINA 93: Ile-Ife, Nigeria  
 HELINA 96: Midrand, Johannesburg, South Africa  
 HELINA 99: Harare, Zimbabwe  
 HELINA 2003: Sandton, Johannesburg, South Africa  
 HELINA 2007: Bamako, Mali  
 HELINA 2009: Grand-Bassam, Abidjan, Côte d'Ivoire  
 HELINA 2011: Yaoundé, Cameroon

HELINA aspires to get African countries to develop their National Health Informatics Societies so that they can qualify to join the world of Health Informatics by becoming a member of IMIA. This step will make them automatic members of HELINA.

The aims of HELINA are:

- Promoting the development of an African eHealth strategy as well as the development of eHealth policies in each African country;
- Showcasing best practices in Health Informatics and its application in Africa;
- Highlighting the role of Health Informatics applications for the millennium development goals in Africa;
- 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; and
- Fostering the development of Health Informatics research and education in Africa.

The 8th Health Informatics in Africa Conference – HELINA 2013 – took place in Eldoret, Kenya from 7 - 8 October 2013, hosted by the Kenyan Health Informatics Association (KeHIA). KeHIA is the national platform for health informatics activities in Kenya with membership drawn from corporate bodies, professionals and researchers involved in Health, Medical Informatics and Computer Science in Kenya from within and outside the country. The organization is a member of both HELINA and IMIA.

## HELINA 2013 Conference Focus

HELINA 2013 solicited submission of original scientific research on all aspects of health informatics and e-health in Africa. The conference theme “Evidence Based Informatics for e-Health in Africa” encouraged submissions based on empirical evidence of the use of information management and information and communication technologies to provide better health care for people in Africa. Theoretical, methodological and practical papers within the following (non-exhaustive) list of sub-themes were solicited:

- National e-health strategies, policies and architectures
- Local, regional and national level of healthcare management
- Management within a health facility (hospital, health centre)
- Patient care in home, primary healthcare and hospital settings
- Health programmes and specialised care (maternal and child health, mental health, HIV/AIDS, etc.)
- Empowering communities, community health information systems, community participation

- Electronic and paper-based health records, information architectures, terminologies, data set standards
- Information systems analysis, development, implementation and assessment
- Software systems development, software architectures, interoperability and standards
- Health informatics education
- Research methods, research capacity development

## HELINA 2013 Review Process

The decision on holding HELINA 2013 in Kenya was made in late May 2013 and the first announcement was published on 5 June 2013. The Chair and Co-Chair of the Scientific Programme Committee (SPC) were appointed by the General Conference Chair at the same time and they started to invite SPC members from a list of international experts with prior experience in Health Informatics in Africa. Altogether 40 experts were enrolled before the deadline for submissions.

The First Call for Papers and Abstracts was published on 16 June 2013 in English and French. The deadline for submissions was set at 31 July, to be able to complete the reviewing before 26 August and get the final revised submissions by 16 September. Because of several requests, the deadline for submissions was extended to 11 August.

Altogether 59 submissions to HELINA 2013 were received in time. All submissions underwent double-blind peer review by at least three reviewers. Anonymized submissions were allocated to SPC members according to their areas of expertise. Because of the unexpectedly high number of submissions despite the tight schedule, 4 more SPC members were invited from among the authors. Author submissions could be accepted (either as full research-based paper or research-in-progress / practical presentation), rejected, or invited to expand to a full paper and submit for re-review.

All full paper and abstract submissions that were accepted during the first round were revised by the authors and the final versions inspected by the SPC Chairs for meeting the technical criteria. The submissions expanded to a full paper were re-reviewed by at least two reviewers, and either accepted as a full paper or retained as a research-in-progress / practical presentation. If two reviewers did not agree, a third review was obtained.

The acceptance rate of the conference expressed as a percentage of total submissions (n=59) is:

- Full research-based papers: 25% (n=15)
- Practical cases or research-in-progress: 46% (n=27)
- Rejected or retracted: 29% (n=17)

Only papers presented in the conference were to be included in the proceedings. The Editorial Committee decided to make a few exceptions due to *force majeure* reasons: the non-issuance of visas to Malian citizens, the closure of the U.S. government, and a family funeral.

## Observations on HELINA 2013 Scientific Programme

The most popular thematic areas arising from the accepted submissions can be grouped into (1) *Global, national and district-level health management*; (2) *Health care personnel and processes, Health records, and Diagnosis and treatment*; as well as (3) *Community health and m-Health*. While the first one has been a “hot topic” in all HELINA conferences, the second one (use of information in clinical settings) has been becoming more prominent over years, and the third one (use of health information outside of healthcare facilities and management) received significantly more attention than in previous HELINA conferences (cf. Korpela M. Two Decades of HELINA Conferences: A Historical Review of Health Informatics in Africa. *Yearb Med Inform* 2013:197-205).

Other submissions were grouped into the themes *Research capacity building, Education, Technology*, as well as *Strategies and policies*.

All in all, it can be concluded that the scientific contents of HELINA 2013 reflects well the current areas of the use of information and ICT in Africa, and focuses on key challenges. Compared with global conferences like MEDINFO, there is a greater emphasis on health management, community health, and mobile health in HELINA 2013.

At least the following African countries are represented by an author of a submission, according to their affiliations: Burundi, Cameroon, Democratic Republic of Cameroon, Egypt, Ghana, Kenya, Mali, Mozambique, Nigeria, Rwanda, South Africa, Tanzania, Zimbabwe (altogether 13 countries). Other countries represented by authors include Belgium, Finland, Israel, Netherlands, Norway, Spain, Switzerland, United Kingdom, United States of America (9 countries). Although the number of African countries did not yet reach that of the first HELINA (speakers from 17 countries), it is fairly representative. The number of Francophone African submissions was significantly lower, however, than in the three previous HELINA conferences.

HELINA 2013 is the first HELINA conference since HELINA 93 that produces a book of proceedings of full papers; only a book of abstracts has been available in other HELINA conferences, with a small number of full papers published afterwards in journals. This is a very significant step forward for the Health Informatics community in Africa. Even more, the proceedings is also the first issue of the *Journal of Health Informatics in Africa*. The conferences and the journal are emerging as the rallying forum for the scientific community.

## HELINA 2013 Conference Programme

The HELINA 2013 conference programme was scheduled over two days from 7 to 8 October. The programme was expanded to include a number of pre-conference and parallel meetings and workshops:

### **Saturday 05 October 2013**

Meeting/Workshop:

*Standardization of health extraction indicators and interoperability of open- source/free health information systems used in Africa*

### **Sunday 06 October 2013**

HELINA Strategic Plan – Task force Workshop

### **Tuesday 08 – Friday 11 October 2013**

Africa Build Consortium: Symposium on Capacity Building in Africa

*Gathering experts, professionals, students and people interested in using Information and Communication Technologies to improve health research and learning in Africa*

### **Sunday 06 – Friday 11 October 2013**

Annual OpenMRS Implementers Meeting

We would like to thank all for their contributions in making the conference possible. We look forward to continuing discussions on health informatics in Africa at HELINA 2013, with old and new friends alike.

Mikko Korpela and Dalenca Pottas  
Chair and Co-Chair, HELINA 2013 SPC