

Pan African Health Informatics Association (HELINA)

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The HEaLth INformatics in Africa (HELINA) 2020-2021 Conference

The conference whose theme “Leveraging Digital Health Interventions to Enhance Prevention, Response and Control of Public Health Emergencies in Low and Middle Income Countries” was inspired by the COVID-19 pandemic and the role that digital health technologies play in such public health emergencies and particularly, their increasing adoption and use during the current pandemic. The conference also focused on digital solutions in routine care and the role of digital health in supporting continuity of care in a pandemic such as COVID-19. It was aimed at taking lessons learnt from various countries and organizations in implementing and operationalizing digital health solutions to respond to public health emergencies mainly in low and middle resource countries.

Initially to be held in October 2020, the 2020-2021 edition of the annual HELINA (HEaLth INformatics in Africa) conference was rescheduled a number of times as the pandemic unfolded across the globe. From an in-person to be hosted in Kampala, Uganda to a hybrid (both physical and virtual) and eventually, entirely virtual. The conference was held from October, 18th-20th, 2021, hosted by the Uganda Health Informatics Association (UgHIA) in partnership with the Makerere University, School of Public Health, the Ministry of Health of Uganda (MoH), and HELINA.

The three day conference had the privilege of having opening remarks from the Permanent Secretary of the Ministry of Health Uganda, HELINA President, guest speakers from the Program manager of the Monitoring and Evaluation Technical Support Program of Makerere University

School of Public Health, Interim Head of the Division for Surveillance and Disease Intelligence, Africa CDC, Global Head of Digital Health Partnerships, Living Goods and a representative from the United Nations Capital Development Fund (UNCDF) Uganda. The three days included panel presentations, pre-workshops, presentation of case studies among others.

The presentations were focused on the sub-themes listed below:

1. Digital health initiatives and implementations for public health emergencies, clinical care and surveillance;
2. Maturity models, approaches and assessment tools for digital health evaluation;
3. Community level digital health solutions in public health emergencies;
4. Health information exchange: Open standards, interoperability, data privacy and security, ethical considerations, policy & governance issues including legal and regulatory frameworks;
5. Open Source Software in healthcare delivery, surveillance and public health emergencies;
6. eLearning and digital health training for capacity building;
7. Innovations for remote patient monitoring and care (Telemedicine);
8. Data science: big data and analytics in healthcare, surveillance and public health emergencies.

The virtual conference which ran for 13 hours (6.5 hours on day one and two, and 4.5 hours on day three) was attended by over 80 participants at any one time from across the globe among which were presenters of abstracts, students, digital health implementers and investors.

The conference concluded with remarks from the President, Dr. Tom Oluoch and a

call to the HELINA General Assembly which is slated for January 23rd 2022. Certificates of participation have been awarded to the participants and awards of appreciation to a few speakers.

Scientific Program

The Chair of the scientific program of the conference invited original submissions in the following categories: full research papers; work in progress papers; or case study/experience presentations. A total of 44 submissions in these categories were received. A double-blind peer review process was used for evaluating each full research and work in progress paper. These submissions were anonymised before being submitted to reviewers according to their area of expertise. The Scientific Program Committee based their final decision on the acceptance of each submission on the recommendations and comments from reviewers. Accepted submissions were then sent back to the authors for revision according to the reviewers' comments. This review process resulted in the following acceptance rates:

- Full research papers: 43% acceptance rate (14 received, 6 accepted);
- Work in progress papers: 80% acceptance rate (5 received, 4 accepted);
- Case studies and experience papers: 88% acceptance rate (25 received, 22 accepted).

Accepted and presented full research papers will be published in a special edition of the Journal of Health Informatics in Africa (JHIA) – <http://www.jhia-online.org> – and the accepted work-in-progress papers, case studies/experience papers will be electronically published in the conference Proceedings with ISBN by Koegni-eHealth and made available on the conference website.

Resource Mobilization

HELINA is currently finalizing a technical and financial partnership with GIZ, modeled after an existing collaboration between GIZ and the Asian eHealth Information Network (AeHIN).

HELINA has partnered with the Transform Health coalition¹, a global coalition of organizations, individuals and institutions committed to achieving Universal Health Coverage (UHC) through the use of digital technologies and data. The partnership will focus on documenting case studies across four regions in Africa; Eastern, Central, West and Southern as part of the strategies and efforts towards advocating for increased investment and use of digital health for achievement of UHC.

Collaboration with Africa-CDC (African Union)

HELINA collaborated with Africa-CDC on the development of the Policy and Standards for Health Information Exchange (HIE) in Africa. HELINA representatives, Dr. Tom Oluoch and Mr. Steve Wanyee co-chaired the Policy and Standards sections. The policy framework outlines data governance, legal aspects, data exchange architecture, ownership and use agreements, data privacy and security. The HIE standards section includes standards for data exchange, messaging, vocabulary, privacy and security. The section also includes communication protocols, data integration profiles, and protocols and services for interoperability. The final section is an HIE implementation framework which is illustrated through an electronic disease surveillance use case (COVID-19 and HIV). The document has undergone validation in various African countries and will be formally adopted by Africa Union member states early 2022.

In future, this work will be supported through HELINA's Standards and Interoperability Working Group.

¹ <https://transformhealthcoalition.org/>

HELINA Data Mining and Big Data Analytics Working Group

Activities

The Group was actively involved in the scientific committee during the organization of HELINA 2021 Conference virtually held in Kampala, Uganda from October, 18th – 20th, 2021. More precisely the Group reviewed scientific papers related to the topic “*Data science: big data and analytics in healthcare, surveillance and public health emergencies*”. In addition, Prof. Georges Nguéfack-Tsague; coordinator of this Working Group is now a co-Principal Investigator of an NIH project (DS-I Africa) “*Harnessing Data Science to Promote Equity in Injury and Surgery for Africa*”, a project to investigate how, through big data, to decrease the burden of injuries and surgical diseases, as well as improve access to quality surgical care across the continent (Cameroon, South Africa, and Uganda, <https://commonfund.nih.gov/africadata/fundedresearch>).

Within a partnership between the Cameroon Statistical Society and the HELINA's Working Group “*Data Mining and Big Data Analytics*”, as in 2020; the Group will chair a session on “*Statistical Learning and Big Data*”, during the second Cameroon Statistical Days (CSD 21), to be held on December, 8th-9th, 2021 in Yaoundé, Cameroon.

The LinkedIn platform (<https://www.linkedin.com/groups/8481534>) of the Group is properly functioning for web discussions and has 40 members.

Perspectives for 2021

1. Effectively create a web page for the WG within the new HELINA website – helina.africa;
2. Studies should be conducted to assess the extent to which Africa universities integrate curricula on data mining,
3. Other planned activities should be implemented the coming year; these include:
 - a. Locating a major big database on health in Africa, and

- b. Situational analysis of education on data mining and big data analytics in Africa.

HELINA Education Working Group (EWG)

The Education Working Group (EWG) has remained highly active during the last year. To increase member engagement with the WG, and to better disseminate information relevant to the WG, we developed a Google Groups that shares relevant materials to the more than 70 members in the group. Over the year, EWG developed and distributed five informational newsletters, which disseminated health informatics content, job opportunities, groundbreaking research, and news offerings, among others. The WG continues to actively recruit members through a member form within the HELINA EWG website (www.helinanet.org). Access to this website has continued to increase, with the October 2021 snapshot of the website's use showing 230 users across 320 sessions. A paper by the EWG members on development and implementation of this website was presented at the 2021 HELINA conference in Uganda, and will be published in the *Journal of Health Informatics in Africa* [1].

The EWG has continued to support the HELINA annual conference. For the 2021 HELINA conference, Prof. Graham Wright served again on the Scientific Program Committee, with Prof. Frank Verbeke serving as a reviewer, along with other IAHSI fellows. EWG member, Job Nyangena, conducted a workshop on ‘Technology Transfer’ during the HELINA conference. The EWG also gave a lightning talk on the WG activities at the HELINA conference and was able to recruit several new individuals into the WG. Other activities in 2021 by the EWG included collaboration, under the leadership of the South African Health Informatics Association (SAHIA) along with the GNU Health team, to host and implement a series of online seminars. The presentations, slides,

and edited recordings are available under a GNU license at: <https://hagenbichler.at/onlineSeminar.html>.

The EWG continues to take leadership in improving the quality of degree-level health informatics education in the African region. Our team evaluated and published a comparative analysis of competencies covered by existing Master's in Health Informatics programs in East Africa [2]. This work informed development of 'Benchmarks for the Masters of Science in Health Informatics Programmes in East Africa'. The benchmarks were developed in close collaboration by the EWG with the Inter-University Council of East Africa (IUCEA). A paper describing the developed benchmarks was presented at the MedInfo 2021 conference [3]. In addition, the EWG, under the leadership of Prof. Frank Verbeke, continued its support of health informatics capacity-building in several Francophone African countries. One of the key areas has been continued progress towards a common curriculum for an MSc Public Health Informatics program for 13 francophone African universities.

HELINA EWG members continue to play active roles in supporting IMIA activities. Dr. Graham Wright and Martin Were currently serve as the EWG Members on the IMIA Task-Force revising the education competency Recommendations (2nd Revision). Dr. Graham was also elected as the treasurer of the International Academy of Health Informatics (IAHI). The HELINA EWG is also currently engaging with IAHI to explore and support mentorship opportunities targeting individuals within LMICs.

HELINA Governance

The Governance of HELINA will change at the General Assembly January 23rd 2022. The following members are still serving their terms in the following roles which will expire at the General Assembly:

- President: Tom Oluoch, PhD, FIAHSI, Health Scientist (Informatics) at the US Centers for Disease Control and Prevention;
- President elect: Frances Baaba Da-Costa Vroom, PhD, Lecturer at University of Ghana, Department of Biostatistics, Incoming;
- Secretary: Steven Wanyee, MSc, Biomedical and Health Informatics Specialist, IntelliSOFT Consulting Limited;
- Treasurer: Innocent Nanann, PhD, Dental Surgeon, Abidjan, Côte d'Ivoire;
- Past President (IMIA Vice President for HELINA Region): Ghislain Kouematchoua Tchuitcheu, PhD, FIAHSI, Executive Director Infrastructure and Chief Information Officer at the Hamburg Association of Statutory Health Insurance Physicians, Germany.

Communication Strategy

The HELINA Secretariat launched a new and modern website which can be found on <https://helina.africa/>. This has now replaced the older website, www.helina-online.org. The official public launch will be announced at the upcoming General Assembly scheduled for the 23rd January 2022. HELINA is grateful to IntelliSOFT Consul-

ting Limited, a digital health solutions development and implementing organisation based in Nairobi, Kenya that developed the website from scratch and has committed to provide support and maintenance pro bono for at least one calendar year. The HELINA Secretariat has officially taken full custody of the website.

References

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3. Nyangena J, Some K, Kuria M, Nangulu A, Kasasa S, da Costa Vroom F, et al. Developing Harmonized Benchmarks for the Master of Science in Health Informatics for the East African Region. *Stud Health Technol Inform (MedInfo 2021)*. In Press.

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