

# DHIS2 Community of Practice

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**Proposal Status: Awarded--Partially Funded**

## DHIS2 Community of Practice Proposal

University of Oslo, PSI, and HISP Consortium

### Executive Summary

The University of Oslo (UiO), Population Services International (PSI), and Health Information Systems Program (HISP) consortium requests funding for development, launch, and maintenance costs for the first two years for a web-based DHIS2 community of practice (CoP). DHIS2's massive global implementation scale and scope has propagated a huge pool of DHIS2 expertise around the world. The CoP will serve as (i) the primary source of all DHIS2 resources, communication, and connecting point for all DHIS2 implementers, and (ii) the central hub for all DHIS2 users to connect and crowd-source issues with the global DHIS2 implementation and development communities and core expert teams.

Expected outcomes are (i) the development and establishment of a web-based platform that facilitates mutual engagement, sharing learning, as well as dissemination of and access to useful resources, (ii) the promotion and sustained use of the web-based hub among DHIS2 implementers and users for crowd-sourcing issues, learning portal and networking opportunities. The primary goal is to establish a curated and moderated one-stop virtual space for engagement, knowledge sharing and learning amongst DHIS2 implementers and users .

UiO, PSI, and HISP propose a two-year period to (i) select a platform, (ii) compile initial content, (iii) launch and promote uptake of the CoP, (iv) evaluate, and (v) continually enhance the CoP.

### Consortium Team

UiO will lead a consortium team composed of:

- University of Oslo (UiO) hosts the core DHIS2 software development team, contributes to in-country capacity building and implementation support and promotes DHIS2 as a global public good. UiO brings the technical know-how of DHIS2 as well as the steering direction of enhancements of DHIS2 to better serve the needs of DHIS2 implementers and users. See <http://www.dhis2.org> for further information.
- Health Information Systems Program (HISP) agencies are organizations located in different countries that offer technical support in configuration, development, use and promotion of health management information systems (HMIS) in DHIS2. HISP agencies bring DHIS2 technical expertise on a variety of topics, from setting up large HMIS for Ministries of Health, to data quality, capacity building and system maintenance. HISP agencies bring implementation experience and technical expertise to the CoP that will be beneficial to other DHIS2 implementers and users.
- Population Services International (PSI) is a global non-profit public health organization based in Washington, DC and is active in promoting healthier lives in the 50 countries where they have offices. PSI utilizes DHIS2 as the global management information system, with approximately 3,000 users across over 30 countries. Since 2013, PSI has worked closely with UiO to design and introduce system enhancements. PSI brings skills in DHIS2 implementation, strengthening use of data and staff capacity building. As a nonprofit DHIS2 implementer, PSI brings to the table a wealth of expertise from a system user perspective. See [www.psi.org](http://www.psi.org) for further information.

UiO is the organizational management lead and point of contact for the proposal.



## Project description

### Background

Today DHIS2 is fortunate to have a massive number of implementations which have experienced nearly exponential growth in terms of both scale and scope. Currently, DHIS2 is the national scale health management information system (HMIS) across 55 countries and Indian states, and scaling up in an additional 33. Beyond the principal application of DHIS2 as an HMIS, we see DHIS2 being applied as national WASH, logistics, agriculture, land tenure, community health, and education information systems. Additionally, DHIS2 is now being used as the central information system for several multinational donor databases and thousands of NGO projects.

### Goal

UiO aims to minimize the barriers to DHIS2 adoption and full utilization. This does not necessarily mean that UiO is the sole steward of DHIS2 implementation or expertise, but we do believe that UiO is uniquely positioned to serve as the central hub that enables DHIS2 implementers and developers to communicate and share resources and expertise. Many widely adopted open source platforms such as R, Linux, and ODK, benefit massively from vibrant CoPs, and we also believe that a web-based DHIS2 CoP could significantly benefit DHIS2 users by serving as a central hub connecting DHIS2 users globally.

This proliferation of use of DHIS2 has resulted in a tremendous degree of global DHIS2 implementation and development expertise. There now exists dozens of companies, NGOs, and consultants that specialize in the implementation and/or customization of DHIS2 to meet the increasing demand from countries, donors, and NGOs. In addition, the pool of DHIS2 users has significantly increased across Ministries of Health and nonprofit agencies.

Yet, despite the increasing global proficiency in DHIS2 use, there is still a paucity of web-based resources and support for both DHIS2 implementers and system users. What web resources exist are a patchwork of many websites, platforms, and discussion threads. UiO, as the central purveyor of DHIS2, regularly receives feedback from DHIS2 implementers on the struggle to find relevant resources, information, example use-cases, or even have basic DHIS2 questions answered. Ultimately, this results in a high degree of redundancy in which many countries and projects continuously reinvent the proverbial wheel in implementing DHIS2. This is largely due to the fact that implementers are not able to find relevant information online that is needed to avoid having to address issues that have already been addressed elsewhere in the world. In fact, with many countries at different stages of development and implementation, much of the issues related to DHIS2 implementation have already been addressed, and what is needed is to connect implementers with issues to those who have already tackled the issues they face.

### Objective and Outputs

A successful DHIS2 CoP is defined as a group of DHIS2 users who share a concern or a passion for using DHIS2 and learn how to use DHIS2 better as they interact regularly thanks to the platform. The DHIS2 CoP is a safe space for DHIS2 passionates to connect, share and learn from each other, stay up to date on evolution of DHIS2 and inform system enhancement.

The primary benefits of the CoP to the members are easy access to resources and expertise to support day to day implementation and use of DHIS2. The primary benefit to UiO and other consortium members is an avenue to drive operational excellence with regards to DHIS2 implementation and use.

The web-based DHIS2 CoP will deliver on the following core capabilities:

- **Share:**
  - Updates and announcements on DHIS2 development and new features,



- Monthly DHIS2 newsletters,
- Success stories and failures
- **Learn:**
  - Webinars on DHIS2 use-cases, new features and implementation best practices,
  - Links to DHIS2 development roadmap,
  - Resource library: DHIS2 implementation guidelines, academy material, use cases, etc.,
- **Support:**
  - Developer and Expert implementer Q&A,
  - Community help desk to facilitate peer to peer support,
- **Connect:**
  - Sub-community message boards and discussion threads. Potential sub-communities include Community Health Information Systems (CHIS), Data Use and Quality, Disease Surveillance, Backend/Server Support, Security, eRegistry, Android Apps, etc.,
  - Community voting and feedback on new features.

## Specific gaps to be filled by community of practice (Use case, user stories and activities)

### Building on current community engagement

As of today the main channels for the community members to communicate and share knowledge is via the users list and the devs lists. These list are actively used both by newcomers and by very active and skillful members of the HISP network. A key success factor of the implementation of the new tool will lie in its adoption by the latter. Indeed this core group of contributors are the main value/asset of the current DHIS2 community. One way to prove to these community members that the new tool is worth being used is to import the legacy emails to fasten knowledge sharing. Another way is to include some of the members as ambassadors both to give us their feedback/requirement while implementing and to facilitate the transition towards the rest of the community.

### Crowdsource solutions to complex implementation problems

The CoP will help bring together and document solutions to implementation issues, so people can share what has worked and not worked. This will avoid people reinventing the wheel when they are setting up a similar DHIS2 instance or project, and can facilitate knowledge sharing. The CoP will also be a place where DHIS2 experts can put their heads together and advice on complex issues that might not have been solved yet.

### Connect sector specific implementers

We foresee this platform as a tool to establish sub-communities for specific sectors, for example Case-based Surveillance, Community Health Information Systems, LMIS etc. The purpose of the sub-communities would be to share implementation experiences, best practices and lessons learned around these sector-specific implementations and, discuss technical solutions and configurations. This will enable CoP members to engage in detailed, knowledgeable and “deep (the idea of drilling down)” discussions as well as to nurture collaboration across sectors and



topics in the broader CoP. The idea here is that it is both horizontal (cross-functional) and vertical (drilling down).

## Contributions to the roadmap and place to discuss and prioritize improvements

UiO wants to be open and transparent, and make the community feel heard, in terms of requirements, needs and experiences. The CoP will be a place to publish the DHIS2 roadmap, and get comments and feedback from the community. In addition, it will be a place where users can put forward their requirements and help the core development team get more input into what the community see as the current gaps in DHIS2 and set prioritizations around features and functionality.

Often, the DHIS2 core development team at UiO develops features that are built around use-case requirements. Every possible effort is made to develop features generically so that they can be utilized by the maximum number of use-cases. It is, however, currently very difficult to get feedback on new features from a broader group of potential users because there does not exist the means to communicate. The CoP will serve to fill this gap and give us the platform to get much more feedback on feature development and beta-test new features.

UiO also enables public voting on feature development on the JIRA platform. This too, is poorly utilized by the community, but is taken very seriously by the developers and product managers when planning the development roadmap. We aim to use the CoP to send requests to users to explore and utilize JIRA for voting on development priorities.

## Bridging developers from UiO and DHIS2 users from the field

There are not many opportunities for developers from UiO to interact with the end-users of DHIS2 in remote areas of the world and learn about what they like most about DHIS2, what are their frustrations and challenges in using DHIS2. The CoP Technical Experts are a group of people from the Consortium Team and qualified DHIS2 super users from ministries of health (MoH) and implementing partners who are experts in some DHIS2 related topics. The CoP Technical Experts will facilitate thread discussions with DHIS2 users within the platform on topics like disease surveillance, analytics, geospatial analysis, individual tracking, interoperability, data quality, and others. DHIS2 users can express burning needs, frustrations and challenges, as well as comment on current features and suggest improvements to the system. The CoP Technical Experts will translate this valuable knowledge from the field into technical inputs to developers from UiO: this way, the CoP Technical Experts will act as a bridge between developers from UiO and DHIS2 users, and DHIS2 will evolve according to the needs of the public health global community.

By facilitating thread discussions, the CoP Technical Experts will also facilitate cross use-case implementers interactions. Most DHIS2 users

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are concerned with specific use-case such as disease surveillance or HMIS. However, many of the DHIS2 related solutions and best practices are generic and could be applied to many DHIS2 implementations across use-cases. It is our intent that the CoP can serve to communicate emerging solutions and best practices broadly.

## Community Feedback

When preparing this proposal, we reached out to the wider DHIS2 community for feedback and suggestions. We received an overwhelming positive response and there is a clear need for a DHIS2 community of practice.



A few examples of the feedback are provided below:

"Absolutely, we are happy to make reference to the DHIS2 CoP (and are very glad to see the proposal for a CoP as well!) and to be listed as a content contributor." - Lakshmi Balachandran, Clinton Health Access Initiative

"The development of web-based DHIS2 community under the leadership of [dhis2.org](http://dhis2.org) is very important thing and hope to establish soon and the Myanmar Ministry of Health and Sports would like to be participant of web-based DHIS2 community." - Dr. Ohnmar Kyi, Myanmar Ministry of Health

"Would be happy to support this initiative, and talk about other ways we can collaborate" - Sarah Gaudon, Logical Outcomes

"We are really excited to see this happening as we were struggling with many of the issue you are trying to address." - Lyn Pennington, HISP South Africa

We have already several established supporters and partners who we can count on to collaborate with us to build this community and spread the word. Below is the current list. This is not exhaustive and we envision this to grow as the DHIS2 community grows.

- World Health Organisation - University of Oslo is a WHO Collaborating Center for Innovation and Implementation Research for the strengthening of health information systems.
- UNICEF
- Centers for Disease Control
- Clinton Health Access Initiative
- Bill and Melinda Gates Foundation
- John Snow, Inc
- Norwegian Institute of Public Health
- University of Oslo
- Norwegian Agency for Development Cooperation (Norad)
- Global Fund to Fight AIDS, Tuberculosis and Malaria
- U.S. President's Emergency Plan for AIDS Relief (PEPFAR)
- GAVI
- HISP nodes: Uganda, Tanzania, Rwanda, Kenya, Nigeria, The Gambia, India, West Africa, Mozambique (Saudigitus), South Africa, Vietnam, Latin America
- Nonprofit Organisations Knowledge Initiative (NPOKI) - Opportunities to e.g. collaborate on webinars
- eHealth for Africa - Opportunities to e.g. collaborate on webinars collaborate with webinars
- Akros
- Logical Outcomes
- University of Dar es Salaam

- AidWorks
- AEDES
- Zalongwa
- BAO Systems

Concerted efforts are made to engage with the ministries of health in countries using DHIS2. This includes bilateral missions and regional trainings and other DHIS2 events.

We make every effort to be present at conferences, symposiums, seminars and other events to promote DHIS2. We will use these events as a forum to promote the CoP and suggest to have panel discussions at these events to talk about the DHIS2 CoP. Examples of events include:

- DHIS2 Experts Academy
- DHIS2 Academies, Level 1 and Level 2
- ICT4D Conference
- Global Digital Health Forum
- DHIS2 Symposium
- Norad conference
- Lectures organized by the University of Oslo

Social media (Facebook, Twitter, LinkedIn) provides channels to promote the CoP. When possible, television and radio appearances also provide the opportunity to promote the CoP.

## Self Assessment of Global Goods Maturity Model

### [DHIS2 - Digital Health Software: Global Good Maturity Model - v1.1](#)

We anticipate that the CoP will contribute to improve the “Community” Indicator in the Global Good Maturity Model. In terms of the “Developer, Contributor and Implementer Community Engagement” sub-indicator, where DHIS2 is currently assessed as Medium, we foresee that the CoP will bring together a much larger part (30+%) of the DHIS2 implementer community and the CoP Technical Experts will include qualified DHIS2 super users from MoH who are experts in some DHIS2 related topics. We also see the CoP formalizing community structures and leadership around DHIS2 further and will therefore contribute to the Community Governance sub-indicator. The sub-indicators Software Roadmap and User Documentation will also be strengthened even further as the CoP will lead to more transparent discussions around features, prioritization and roadmaps, as well as contributing to more training manuals, tutorials, webinars and so on.

## Technical Requirements

Some of the important technical needs we see for a DHIS2 CoP that is currently not being met include:

- Intelligent searches: We are migrating years of user and dev list email history, so will need intelligent search to be able to sift through all the material and find the information/answer one needs.



- Google searches: We want people to be able to search for “DHIS2” and their question, and that one of the top hits will always be a thread related to this topic in the DHIS2 CoP.
- Open and transparent: People should be able to view threads in the CoP without needing to register.
- Rich HTML and images: The CoP threads should be able to handle rich text, HTML and images in their archive.
- Email notifications and reply: Even if the CoP will be web-based, participants should be able to receive daily/weekly digests or email notifications of posts, and this should be customizable, for example to be able to notify for keyword or topic of interest. In addition, they should be able to reply to a thread by sending an email.
- Calendar integration: A calendar of relevant DHIS2 events that people can comment on, join, or export to their own calendar.

## Human Resource Requirements

The core team responsible for the community of practice will consist of a CoP Lead (75% LoE), two CoP Coordinators (100% LoE) and three CoP Advisors (5% LoE). This team will be responsible for ensuring that the CoP is active and useful to its members.

The expectations of the core team will include:

- Promoting the CoP in order to increase the pool of members
  - Undertaking outreach presentations
  - Participating in outreach events
  - Marketing the CoP via web and social media channels
- Managing content within the CoP in order to ensure it is relevant and up-to-date
  - Developing and identifying content to share with CoP
  - Curating content that is uploaded by CoP members
  - Managing the taxonomy of content to make it easier for users to find what their looking for (e.g. through effective tagging of key words)
  - Signposting CoP members to available content
- Facilitating the engagement within the CoP to connect members and encourage participation
  - Maintaining a CoP members list
  - Identifying pools of experts within the CoP and subsequently signposting members of CoP in need of support towards them
  - Triggering discussions relevant to the CoP within the community forum
  - Capturing and packaging learning with the CoP
  - Gathering member feedback using polls/surveys, for example, regarding future system enhancements
  - Support facilitation of webinars/presentations through the CoP

- Sending out reminders to the community for contribution
- Maintaining the CoP platform
  - General platform administration
  - Troubleshooting issues associated with the use of the CoP web platform

## Workplan and Budget

### Detailed workplan

A preliminary version of the GANTT chart for developing, launching and maintaining the DHIS2 CoP is available [here](#) .

### Budget Narrative

The funding requested is for \$249,060 to support two year CoP development process:

- Year 1: develop and launch the CoP platform, knowledge management (curation of resources), promotion of the CoP, as well as relationship management and moderation of member engagement in order to build a strong and active community,
- Year 2: sustain the CoP while the team members look for additional core funding as part of the sustainability plan.

This budget includes the following costs:

- Personnel
  - UiO CoP Lead, Kjerstin Andreassen at 75% LOE for two years.
  - UiO CoP Advisor, Scott Russpatrick at 5% LOE for two years
  - Two PSI Cop Coordinators at 100% LOE for two years
  - Two PSI CoP Advisors, Martin Dale at 5% LOE and Cristina Lussiana at 2% LOW for two years.
- Equipment and Commodities - The following costs have been researched and confirmed with vendors. They include set up of the web-based CoP platform, platform service and hosting, importing legacy email threads, two laptops for CoP support staff, and office costs for CoP support staff.
- Travel - To promote the DHIS2 CoP at relevant conferences and network with possible donors and funders we propose the funding of six trips for CoP Lead over the course of the two years. These trips will include attendance of the DHIS2 Symposium, the ICT4D conference, and the Global Digital Health Forum.
- Promotional Material - To promote the CoP and push content into other platforms like YouTube we propose the development of a promotional video, design and printing of promotional flyers for conferences, and the development and printing of a CoP evaluation report for stakeholders.
- Consultants - We propose the inclusion of funding for five days for a graphic designer to advise on the development of the promotional materials and stakeholder report.

## Sustainability plan



## Step 1 - Demonstrating Value Add

The first step of the sustainability plan is to demonstrate a immense, tangible value-add to DHIS2 implementers and users of the community of practice. We believe that in addressing the current gaps that have been outlined and intensive content curation over the first two years of the project we will be able to establish the CoP as the go-to resource for all things DHIS2. This will result in user community significantly values the CoP to such an extent that it enables them to be tangibly more successful in their implementations.

We plan to collect bi-annually feedback polls to CoP users and through the DHIS2 newsletter to better appreciate what they feel the value add of the CoP is and where weaknesses are. This will help us expand the functionalities and features that are value adds and address weaknesses.

## Step 2 - Solicitation for core funding

We envision that the funding from this proposal will serve as catalytic funding for the launch and two years of development support from the core CoP staff and advisors. To provide long-term support we will seek core funding from donors and accept financial donations from community users. The consortium team will compile long term budget and a list of potential donors to the CoP and solicitation plan to these donors. Currently, we have already identified several potential funders that have already expressed interest in a DHIS2 CoP. These include USAID, PMI, Global Fund, and WHO.

## Step 3 - Identifying pathways for decentralization

While we envision this consortium remaining the central hub for curating CoP content, it is the explicit goal that over time content will become community driven. Community driven means that DHIS2 users and implementers will curate substantial content (use-case descriptions, webinars, news letters, etc) into the CoP in essence developing sub-communities of practice. The proliferation of these sub-communities will further drive the value-add of the broader CoP and allow more specialize or nuanced conversations while still feeding key takeaways back into the general community. If successful, the role of this consortium will shift from pushing out content to receiving content and organizing that content to be highlighted to the general, broader CoP. These decentralized sub-CoPs would preferably then be able to solicit for their own internal funding for curating content, holding events, etc.

We will from the onset of the CoP catalogue potential sub-CoP and identify over time leaders (persons, organizations, donors, etc.) that organically take on ownership in the sub-community. We will then work within sub-CoPs and their leadership to help them identify additional resources they may need to expand the community or respond to user requests such as workshops, events, research, etc.

Some of the sub-communities and the leaders for these sub-communities have been identified.