The objective of mLearning at PSI is to develop platforms, course content and digital learning approaches to remotely reach frontline health workers utilizing the technology they already use to build and sustain their capacity and transform behaviors to effectively deliver high quality care to the communities they serve.

BACKGROUND

Moving toward Universal Health care (UHC) requires the delivery of health services by adequate and competent health workers. In a world of social distancing, ensuring training and capacity building for frontline health care workers to deliver high quality services and improve health outcomes is a challenge. Before the COVID-19 pandemic, PSI used to conduct in-person training and capacity building activities in nearly all 50+ countries where we work to support health providers acquiring new skills and knowledge. PSI is committed to continuing this work, through adapting our training and capacity building activities to fit the growing role that technology plays in enhancing the learning and capacity-building environments of frontline health workers. The use of technology allows us to deliver remote training and capacity building content using digital channels that best fit many of PSI's target healthcare worker audiences.

REACHING FRONTLINE HEALTH WORKERS

We offer digital approaches that remotely reach target audiences utilizing the technology they already use, to successfully assimilate new knowledge, acquire skills, and integrate the knowledge and skills in their current practice to effectively deliver high quality services.

Users of mLearning approaches access learning content from platforms that fit their learning needs based on their preferred device:

- Users of **basic handsets** access mLearning content offline on their mobile phones through Unstructured Supplementary Service Data (USSD) or Interactive Voice Responses (IVR) solutions.
- Users of **tablets and smartphones** access online and offline courses on Learning Management Software (LMS) like Moodle, or applications or messaging platforms such as WhatsApp, Facebook Messenger, Zalo, etc.
- **Laptop** users access online content on Learning Management Software (LMS) like Moodle.
PRINCIPLES OF mLEARNING AT PSI

PSI’s approach to mLearning is based on three principles:

- **Engagement**: usage of interactive digital solutions is fundamental to provide a good user experience and achieve the desired learning objective. mLearning journeys and content are designed to address specific learner needs through a user-centred approach. Emojis, videos, pictures, quizzes and gamification options are interactive elements that users engage more with and improve course comprehension and retention.

- **Scalability**: our mLearning platform allows us to grow in a modular way in terms of content, accommodate a wide variety of users, like Ministry of Health officers, PSI employees and partner organizations, etc.

- **Integration**: integration with other services is key to offer project managers a holistic view of program performance and support their decision-making process. Our mLearning solution is always able to connect with other systems like MoHs’ DHIS2 instances, PowerBI, etc.

PSI’S mLEARNING BUILDING BLOCKS

- **User experience**: users are at the center of mLearning at PSI. We design the delivery of mLearning courses with the users themselves and we make sure the content is interactive enough to keep users engaged and interested. mLearning courses are organized in sections for users to take a phased approach and follow their learning pace. Content of mLearning courses is adapted from curricula approved by the Ministry of Health or other institutions like WHO and CDC. mLearning content is made available on users’ preferred learning channel, from messaging platforms like WhatsApp and Facebook Messenger to IVR solutions or LMS as Moodle.

- **User management**: access to mLearning courses is granted to authenticated users only, with the ability to access mLearning courses from different platforms. A fine-tuned user management approach allows project managers to validate users to enroll in mLearning courses, develop tailored mLearning paths by activating/deactivating mLearning courses based on users’ profile, and issue certificates upon completion of mLearning curriculum.

- **Analytics**: key performance indicators on mLearning include engagement rate, completion rate by module and by course, an average of pre-and post-test scores, knowledge improvement rate, and others. These KPIs are made available on mLearning dashboards accessible in Moodle or other BI software with the possibility to overlay additional datasets, like health providers’ quality of care scores, and others.

IMPLEMENTATION PROCESS

Implementation of mLearning activities is based on the Keystone approach:

**DIAGNOSE**
Evaluate the programmatic challenge and viability to leverage digital technology to change behavior and drive impact.

**DECIDE**
Determine where digital technology will have the greatest impact and identify digital solution.

**DESIGN**
Develop user-centered digital interventions and ensure content is relevant to the target audience.

**DELIVER**
**USE CASES**

**ANGOLA**

A MOODLE-BASED mLEARNING PLATFORM FOR FRONTLINE HEALTH WORKERS AT PUBLIC HEALTH FACILITY LEVEL

The Moodle-based platform ‘Kassai: The Stream of Knowledge’ offers interactive courses on malaria, COVID-19 and sexual and reproductive health tailored to providers’ needs and digital literacy skills. The Kassai mLearning courses feature videos, case studies, quizzes, and pre- and post-training evaluations to assess knowledge and progress. Kassai deploys gamification, blended learning, user forums, chats and additional job aids for download, and it also overlays mLearning data with other data sets, i.e. quality of health service provision, patient volumes and availability of health commodities.

Launched in March 2020, **Kassai has reached over 1,816 unique users as of September 2021.** 99.4% of Kassai users have completed mLearning courses and the percentage of providers who met benchmark has increased from 23% to 67% between pre- and post-test. Being declared by the Angolan Ministry of Health the nation-wide learning platform for health workers, Kassai aims to enroll 250 additional health workers per month.

**KENYA**

A WHATSAPP CHATBOT FOR KENyan FRONTLINE HEALTH WORKERS AND AN IVR SOLUTION FOR COMMUNITY HEALTH VOLUNTEERS TO DEEPEN THEIR UNDERSTANDING OF COVID-19

In April 2020, Population Services Kenya launched an mLearning curriculum approved by the Ministry of Health to improve providers’ knowledge and skills on COVID-19. The curriculum has been made available on WhatsApp and is composed of text-based conversations complemented with videos, emojis, pictures, and quizzes to make it more interactive and user-friendly.

Users are taken through a conversation flow where they can select the modules they want to learn about and take quizzes to test their knowledge. A pre- and post- satisfaction survey have also been included to evaluate users’ experience. **As of September 2021, 3,203 unique users have engaged with the platform and 59.5% of them completed all 12 modules.** The percentage of providers who met benchmark has increased from 16% to 46% between pre- and post-test.

An IVR-based solution of the COVID-19 mLearning curriculum has been deployed to 4,011 Community Health Volunteers who use basic handsets and have no internet connectivity. **1,913 of them (47.7%) completed all modules,** and the percentage of Community Health Volunteers who met benchmark at post-test has been 48%.

**VIETNAM**

A FACEBOOK MESSENGER CHATBOT FOR HEALTH WORKERS TO LEARN ABOUT COVID-19

Being one of the preferred communication channels in Vietnam, PSI has deployed an mLearning course on COVID-19 running on Facebook Messenger. The chatbot is highly interactive and easy to follow. **As of September 2021, 196 unique users have interacted with the platform (79% of them being women) and 93% of them have completed at least one module out of the 5 modules available.** The percentage of providers who met benchmark has increased from 48% to 80% between pre- and post-test.
RESULTS

Since the beginning of mLearning activities at PSI in March 2020, a total of 9,226 unique users have been enrolled in mLearning courses as of August 2021. Out of these, 5,804 initiated at least one mLearning course (62.9%). Overall, the percentage of users who meet benchmarks has improved from 29% to 61% from pre-test and post-test. Figures 1 and 2 report PSI’s mLearning metrics.

**Figure 1:** Number of unique users initiating mLearning and completing at least one mLearning course, overall and by mLearning platform

<table>
<thead>
<tr>
<th>Platform</th>
<th>Unique users who initiated mLearning</th>
<th>Unique users who completed at least one mLearning course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>9,226</td>
<td>5,804</td>
</tr>
<tr>
<td>WhatsApp</td>
<td>3,203</td>
<td>1,906</td>
</tr>
<tr>
<td>IVR</td>
<td>4,011</td>
<td>1,913</td>
</tr>
<tr>
<td>Facebook</td>
<td>196</td>
<td>180</td>
</tr>
<tr>
<td>Moodle</td>
<td>1,816</td>
<td>1,805</td>
</tr>
</tbody>
</table>

**Figure 2:** Percentage of users meeting knowledge benchmark at pre- and post-test, overall and by mLearning platform

<table>
<thead>
<tr>
<th>Platform</th>
<th>% users meeting benchmark in pre-test</th>
<th>% users meeting benchmark in post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>29%</td>
<td>61%</td>
</tr>
<tr>
<td>WhatsApp</td>
<td>16%</td>
<td>47%</td>
</tr>
<tr>
<td>IVR</td>
<td>48%</td>
<td>48%</td>
</tr>
<tr>
<td>Facebook</td>
<td>48%</td>
<td>80%</td>
</tr>
<tr>
<td>Moodle</td>
<td>23%</td>
<td>67%</td>
</tr>
</tbody>
</table>
SUSTAINING EFFORTS
ON mLEARNING

Tapping into previous investments in the Nairobi Global Services Hub, PSI has utilized the skills of PSI employees at the Hub to serve PSI’s needs on mLearning. Experts in the areas of instructional design, chatbot development, data science, DHIS2, and public health have applied their skills to mLearning, and they have quickly adapted to serve mLearning needs raised when the COVID-19 pandemic started. Building on this initial effort, PSI is now intentionally sustaining mLearning solutions for frontline health workers by building the Moodle-based Kiira platform which allows access to mLearning courses from communication channels like WhatsApp, Facebook Messenger, and others, thanks to an integrated chatbot solution.

The Kiira platform is expected to go live in October 2021 and reach 3,000 frontline health workers in Kenya and Nigeria and sustain their learning efforts on COVID-19 and sexual and reproductive health.

PSI is now looking for partnerships with Ministries of Health, international organizations and implementing partners to expand the user base of our mLearning solutions and respond to frontline health workers’ common needs.

VOICES FROM THE FIELDS

In my opinion, Kassai is going to change the way we operate at health facility level, and it’s a very welcome experience.
– Nurse from Luanda, Angola

The program helped me understand the issues related to COVID-19 and how to apply correctly preventive measures. Thank you very much.
– Health professional from Hà Nam, Vietnam

Before the WhatsApp training I had lots of fear and was about to stop working but after this training I overcame my fears and now I can handle COVID-19 positive patients.
– Lab Technician from Kwale County, Kenya

PiLEARNING ROADMAP

<table>
<thead>
<tr>
<th>PILOT ON MOODLE</th>
<th>CONCEPT NOTE</th>
<th>STRATEGIC PARTNERSHIPS</th>
<th>DEVELPOMENT WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Launch of Kassai in Angola</td>
<td>• mLearning solutions for frontline health workers</td>
<td>• Engagement with MoHs and stakeholders</td>
<td>• Development of a Moodle-based platform for mLearning courses to render on communications channels (Kiira)</td>
</tr>
<tr>
<td>• Adoption of Kassai as the institutional learning platform from the MoH</td>
<td></td>
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</tbody>
</table>

2020 2022
ABOUT PSI

PSI delivers health programs through a network of member organizations in over 40 countries that learn from one another and uphold common operating standards. Our focus is on building in-country institutions with devolved decision-making, accountability and fundraising responsibility. Our global support offices are based in Washington, Nairobi, and Amsterdam.

This approach has created diverse national institutions that maintain significant local decision-making power. We currently have 64 network members comprised of 33 branch offices, 19 local NGOs, 4 social enterprises and 8 independent network members.