Living Labs

Accelerate the pace of your health innovation

Applying human-centered design services
health solutions for all

PATH
Contents

Introduction .......................................................................................................................... 4
Health solutions developed with end users ................................................................. 5
  Our approach to human-centered design ................................................................. 5
Why PATH .......................................................................................................................... 7
  Building our design expertise in our countries of operation ................................. 7
Collaborate with us .......................................................................................................... 8
  Service offerings overview ....................................................................................... 8
  Designing solutions ................................................................................................. 9
  Exploring concepts ................................................................................................. 10
  Testing prototypes ................................................................................................. 11
  Sample costs ........................................................................................................... 12
Appendix 1: Human-centered design in action ....................................................... 13
  Finding solutions to improve motivation of immunization workers ..................... 13
  Obtaining feedback on a vaccine packaging prototype .......................................... 13
Appendix 2: Common human-centered design terms and definitions .................. 15
Introduction

PATH's Living Labs Initiative uses human-centered design (HCD) to co-create sustainable health solutions in partnership with the intended users. Organizations that are interested in deeply engaging with health workers, communities, and other public health stakeholders to design and test innovations that increase health system capacity and advance health equity will find information below on how to partner with Living Labs to accelerate and creatively address their priorities. We offer a range of services, and this document summarizes each service, the estimated cost, and how we might address your organization's needs.

Questions? Ready to collaborate? The Living Labs team is ready to partner with you to connect individuals, ideas, and innovations. If you have questions or are interested in integrating HCD into your projects or strategic priorities, please contact livinglabs@path.org.
Health solutions developed with end users

PATH’s Livings Labs Initiative was established in 2019 as a central hub for PATH’s human-centered design (HCD) expertise. Now composed of over 25 HCD designers, analysts, and experts, the Living Labs draw on PATH’s 40+ year history of inclusive health innovation and the expertise of a global team to co-create solutions that are tailored to meet users’ needs.

We create respectful partnerships across sectors and borders, with philanthropists, governments, nonprofits, and the private sector. By bridging the gaps across key stakeholders in health innovation, frontline care, and communities, the Living Labs Initiative accelerates the development of solutions and the chances of success for critical health interventions and products. Our design experts in PATH country offices are engaging with individuals, health care workers, and decision-makers to rapidly design, test, and scale solutions to their health priorities.

Our approach to human-centered design

HCD is a process that starts with engaging individuals from a place of deep empathy. We do this by connecting with users to investigate and understand individuals’ needs, generating many ideas that address their challenges (not our own challenges or our perceptions of others’ challenges), creating an inexpensive or simple prototype, and circling back with these individuals to share the prototype and hear their feedback.

Our long history of listening to users sets PATH’s Living Labs apart

The Living Labs Initiative accelerates health impact by never losing sight of who is at the center of everything we do: the user. Our local teams work closely with public health partners to improve access, use, and uptake of high-impact health solutions.

Our deep commitment to raising up the voices of end users is combined with our unmatched technical excellence, which is characterized by:

- More than 40 years of experience working across geographical contexts to design and scale health interventions and products in over 70 countries.
- Long-standing relationships with governments and communities, which enables rapid start-up and smooth execution.
- Deep understanding of the country, health system, and users developed through our trusted partnerships with a wide range of health system stakeholders.
PATH uses a 4D approach (Discover, Define, Dream, Design) to human-centered design (see Figure 1). One “cycle” through the 4D process is considered one “sprint.” Depending on the need, PATH may conduct multiple sprints (i.e., repeat the 4D process several times) in order to gain new learnings or until a satisfactory solution is developed. Based on your priorities, we primarily engage three types of users: individuals, health care workers, and/or decision-makers.

By leveraging a systematic HCD process like the 4D approach, the Living Labs will help clarify local problems and obtain feedback on product or system solutions; incorporate positive deviations and innovations to solve these problems; iterate with feedback from users in each step of the journey, including highlighting user-related risks; and share insights through various local and global networks.

Connecting individuals, ideas, and innovations for impact

Our current partners trust the Living Labs and have invested in HCD because our approach:

- Aligns stakeholders in a way that enables faster ideation and implementation.
- Reduces design and development time or supports rapid start-up and evaluation scenarios.
- Accelerates the process for bringing new products, concepts, or solutions into emerging markets instead of waiting years to know if something is desirable.
- Minimizes the risks of public health investments by improving acceptability and feasibility for the most relevant contexts.
- Increases the likelihood of sustainable success in expanding access, driving uptake, improving quality of care, and/or strengthening systems.

Figure 1. PATH’s 4D approach to human-centered design.

---

1. Individuals include patients, clients, community/family members, and caretakers who live or seek services within a given country and are impacted by the focus health area. Vulnerable populations (specifically, pregnant women, children/individuals under the age of 18 years, prisoners, individuals with impaired decision-making capacity, and fetuses) will only be included in special circumstances when absolutely necessary and will require specific and separate research ethics approvals.

2. Health care workers include those engaged in direct service delivery of patient care, laboratory staff, administrative staff (as relevant), and community health workers or their equivalent. They may also include health care personnel in public, private, or nongovernment sectors and across levels of the continuum of care.

3. Decision-makers include, but are not limited to, national/subnational, provincial/county, district/subcounty, or health facility stakeholders as well as procurement/finance, monitoring and evaluation, and supply chain stakeholders (including distributors); key opinion leaders; policymakers; advocates/civil society; regulatory agencies; and relevant private-sector actors.
Why PATH

For over 40 years, PATH has worked with a diverse range of stakeholders to advance health equity through innovation and partnerships. PATH has a long history of conducting HCD and gathering user feedback across many projects, products, and geographies. The Living Labs Initiative builds on these successes by expanding this expertise in our global offices, alongside the users.

Building our design expertise in our countries of operation

In recent years, donors and partners have increasingly expressed their interest in capacity-building to ensure health innovation is designed with, rather than for, our country partners. In line with our HCD approach, the Living Labs Initiative has prioritized the need to base our staff closest to end users, thus building our design expertise within PATH’s country offices.

Over 85 percent of Living Labs team members are based in the geographies where we implement projects. Our team members have diverse backgrounds, including as product engineers, behavioral experts, health systems design professionals, material designers, and market access specialists.

Distinct benefits of our partnerships

For philanthropists, family foundations, and donors:

The Living Labs break the traditional process of “expert driven” solutions created with little or no user input. We define the problem, ideate, and build prototypes jointly with end users immersed in their real-world environment.

Our rapid prototyping cycle allows us to move through dozens of ideas in a short period of time to find what works, and we are creating channels that will embed continuous user input into your investments. We won’t waste time or money on a solution that is not the right one.

For implementing partners:

Our HCD expertise is located within four African countries and we are building a presence in other regions, eliminating the need to rely on expensive consultants traveling long distances. Through our long-standing relationships with governments and communities, we have built a reputation as a trusted partner and can help your team rapidly engage with key stakeholders and users.

For private-sector organizations:

Working with the Living Labs lowers your risk of entering a new market by providing the opportunity for rapid, early-stage user feedback and positioning for your product. We match your company’s resources with our credibility, understanding of the local health system and community context, and deep technical and business expertise to help your company develop accessible, appropriate solutions that are poised for successful uptake and scale.
Collaborate with us

When you collaborate with PATH’s Living Labs, our team will work with you to create a plan for reaching your intended users and getting the input you need to design, refine, or launch your health innovation. We execute HCD activities that respond to your strategic priorities whether designing a new product, investigating sustainability, or evaluating scalability of an intervention.

Service offerings overview

The Living Labs Initiative offers three primary services: designing solutions, exploring concepts, and testing prototypes or potential solutions. While the overarching aim for each approach or service remains the same—understanding the needs of the end user and analyzing the challenges and opportunities of the context or use case scenario—the specific objectives and outputs slightly vary.

Operationally, Living Labs are deeply familiar with local regulations and international standards around human subjects research. We have secured research approvals for our work in select PATH countries and continue to secure approvals in additional geographies. These approvals enable rapid start-up of new activities and a more agile model overall.

Descriptions of each service are provided below. Please note that:

- Approaches are not intended to be sequential and can be configured based on your organization’s needs.
- An approach can involve a single engagement or multiple engagements with users. The Living Labs team can discuss different options with your organization to determine the right fit for your priorities.
- To carry out these services, Living Labs team members or our “Ambassadors” can travel domestically or internationally to engage with users in urban, peri-urban, rural, or humanitarian settings, or our team can engage users within the Living Labs design studios.
Designing solutions

Too often in global health, solutions to critical low- and middle-income country health challenges are prescribed by donors or others without consulting the intended users or deeply investigating the unique challenges and opportunities in the country or region of implementation. The Living Labs seeks to eliminate barriers to involving the user’s voice and leverages HCD to co-create solutions that are appropriate to the context of use and more likely to achieve their intended impact. This approach is typically leveraged very early—when there is a general idea of what the problem is, but your team is trying to deeply understand the challenges and come up with potential ideas for addressing the need. Interventions or solutions are identified through this process.

Description

The Living Labs team will engage any relevant user groups using a human-centered design approach. Generally speaking, data collected will be qualitative in nature and multiple hypotheses will be tested. The human-centered design approach entails engaging in rapid design “sprints” or cycles of gathering ideas from users and building rapid prototypes to test.

Activities for key users

- Interviews (informal and structured) and focus groups.
- Participatory methods, such as observations, role-playing, first-hand experience (experience the event as the user—walking in their shoes), photo or video documentation, show and tell (user-guided tours allow users to show their environment and share experiences with the Living Labs team members), card sorting (a hands-on way to engage users to share their perspective nonverbally).

Sample outputs

- User identified needs and potential solutions
- Personas
- User journey maps
- Concept sheets
- Low-fidelity prototypes

4. A journey map is a visualization of a process that a user goes through to achieve an outcome. This tool allows creative designers to understand and empathize with the user’s experience.
5. A concept sheet is a one-page summary of a potential solution resulting from a brainstorm. While basic, concept sheets enable rapid testing and assessment of concepts based on potential impact and feasibility.
Exploring concepts

The Living Labs team engages target end users to obtain their feedback on initial concepts before the prototyping stage, exploring what resonates with them as part of identifying high-priority features and requirements before further development. This approach is typically deployed when there is already a firm understanding of the problem and potential concepts to solve the problem. This process lowers the risk of entering a new market by providing an opportunity for rapid, initial user feedback and positioning for the concept, while simultaneously avoiding an expensive and time-consuming pilot of a concept that is not appropriate, scalable, or sustainable.

Description

Engaging users allows a donor, partner, or other stakeholder to obtain early feedback on concepts and ideas. It enables groups to investigate initial ideas that could be relevant and appropriate for a given context. By soliciting insights at preliminary stages, Living Labs can help gather crucial user intelligence to help identify whether these preliminary ideas resonate with users and other stakeholders prior to engaging in more-complex research and development activities.

Activities for key users

- Interviews (informal and structured) and focus groups.

Sample outputs

- In-depth needs assessment
- Product requirement specifications
- Human factors evaluation
- Informing target product profile(s)

---

6. Human factors evaluation or analysis is common within the product development realm. This evaluation is very systematic and generally intends to capture how humans interact with a product and process information. A common example is observing how a potential user follows instructions for interacting with a product.

7. A target product profile is a document, often used in early stages of developing new products, that captures the desired characteristics of a potential product. It may capture criteria such as use case scenarios, safety, price, etc.
The Living Labs, in collaboration with PATH’s Center for Vaccine Innovation and Access and Medical Devices and Health Technologies team, worked with a private-sector partner to conduct a rapid assessment of a vaccine packaging technology that could support delivery of a COVID-19 vaccine by supplying the vaccine in a multidose pouch. These prototypes may have been developed in another setting, and the developers are looking to adapt or replicate them to a new context, so local users may not have been part of the co-creation process. This process may be repeated/iterated multiple times. This type of work is typically undertaken well after user challenges are well understood (i.e., after “designing solutions”) and after the concept has been deemed appropriate (i.e., after “exploring concepts”).

Description

Living Labs can work with an array of users to obtain feedback on prototypes and potential solutions. This process may be repeated multiple times with the same user or conducted once with multiple users.

Activities for key users

- Interviews (informal and structured) and focus groups.
- Observations, photo or video documentation.
- 1:1 usability testing (i.e., observing and recording how a user perceives, recognizes, and physically handles a prototype or alpha/beta version of a product).

Sample outputs

- Design recommendations to enhance usability and acceptability
- Identification of user errors
- Improved instructions for use
- Feedback on feasibility to implement
- Utility compared to standard of care
- Value proposition of prototype

8. In addition to the prototype definition on pg. 15, the prototypes for this set of activities may also include medical devices, diagnostics, combination products, digital technologies, or other health-related products. The prototype products used during this set of activities would not be used for clinical decision-making and would not be considered invasive.
Sample costs

The table below captures mock budgets for each service offering described above, varied by size. These sample budgets are intended to provide an indication or guide on potential costs and are not intended to be exact figures. Estimates would be updated during the proposal budgeting process to reflect a more defined scope of work, timelines, countries, and other factors. For longer-term engagements, the budgets would be revisited over time to ensure forecasts reflect actual activities and spending. Please contact livinglabs@path.org for additional information or to revise your assumptions.

<table>
<thead>
<tr>
<th></th>
<th>Designing solutions</th>
<th>Exploring concepts</th>
<th>Testing prototypes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• One country</td>
<td>$39,443</td>
<td>$20,181</td>
<td>$43,430</td>
</tr>
<tr>
<td>• Local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Physical Living Labs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extended</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• One country</td>
<td>$43,721</td>
<td>$43,721</td>
<td>$43,721</td>
</tr>
<tr>
<td>• Intra-country travel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Premium</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Two countries</td>
<td>$71,562</td>
<td>$71,562</td>
<td>$71,562</td>
</tr>
<tr>
<td>• Two teams</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 1: Human-centered design in action

Finding solutions to improve motivation of Immunization workers

Effective solutions for health challenges do not need to be complex or high-tech. PATH’s Living Labs staff are working with frontline immunization workers in Kenya and Zambia to understand factors that leave them feeling overworked and under motivated. Through deeply engaging with individuals, we uncovered that immunization workers felt that small solutions, such as integrating tea breaks into their day or receiving a signed appreciation letter from a county official during an awards event, would increase their motivation and job satisfaction. Simple changes like these that can increase health worker productivity and retention cannot be identified without gaining the trust of and deeply engaging with health workers themselves. Through this project, we will uncover additional low-cost or no-cost solutions.

Obtaining feedback on a vaccine packaging prototype

The Living Labs, in collaboration with PATH’s Center for Vaccine Innovation and Access and the Medical Devices and Health Technology program’s Packaging and Delivery team, worked with a private-sector partner to conduct a rapid assessment of a vaccine packaging technology that could support delivery of a COVID-19 vaccine by supplying the vaccine in a multidose pouch. Now that a COVID-19 vaccine is available, rapid global distribution is required. However, a limited supply of critical materials (i.e., glass vials) could hinder production and the ability to meet global need. The vaccine packaging product has potential to expand capacity for an injectable COVID-19 vaccine by reducing the needs for these supplies.
In Kenya and Zambia, we conducted interviews in 11 health facilities to gather feedback on different designs. In Zambia, the Living Labs team is conducting usability and human factors evaluation of two pouches and gathering feedback on user experience, acceptability, and potential programmatic fit. Results shared with developers can support product development, testing, and introduction planning.

Want to learn more about our successes?
Additional information, case studies, photos of prototypes, and product and solution examples are available on our website: [www.path.org/livinglabs](http://www.path.org/livinglabs).
Appendix 2: Common human-centered design terms and definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-creation</td>
<td>The process of creating with the intended users rather than creating something for them without their input or feedback.</td>
</tr>
<tr>
<td>Concept</td>
<td>An initial idea (not a product, prototype, or fully formed solution) that has not been piloted or developed. The idea is the result of some kind of brainstorming or research process that needs further feedback before development.</td>
</tr>
<tr>
<td>Ideation</td>
<td>A creative process where designers generate many ideas in brainstorming sessions. The goal is to generate as many ideas as possible—without constraints.</td>
</tr>
<tr>
<td>Iteration</td>
<td>Repeating a sequence of events several times. In human-centered design, the design cycle could be iterated multiple times before the right solution emerges.</td>
</tr>
<tr>
<td>Prototype</td>
<td>A very basic design of a potential idea, concept, or solution. A low-fidelity prototype can be made from paper, plastic, wood, or metal, or it can be as simple as a sketch or storyboard of an idea or process. It is intended to be rapidly developed and inexpensive.</td>
</tr>
<tr>
<td>Sprint</td>
<td>One round or cycle through the 4D approach (Discover, Define, Dream, Design). During the human-centered design process, typically several sprints are conducted.</td>
</tr>
</tbody>
</table>