



PAHO ICD-11 API REST Course Concept Note

Requester | PAHO

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Expiration Date | 90 days following Submission

Organization | TechChange

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1.0 Introduction

TechChange proposes an **innovative and comprehensive online course** to address the essential need for practical skills in **utilizing the ICD API and integrating ICD-11 into health information systems**. This project, in collaboration with PAHO's digital health, education, knowledge management, and ICD-11 integration teams, will focus on equipping health professionals, IT practitioners, and global health decision-makers with the expertise required to manage API keys, build effective API queries, and implement the Embedded Classification Tool. The **five week blended course** will feature interactive content, engaging tutorials, and practical examples to ensure robust learning and real-world application. The project will **kick off no later than November 1, 2024** with an **end date of March 24, 2025**. The course will be delivered on the TechChange platform with **all assets delivered to PAHO for use asynchronously on its Virtual Campus**. This initiative supports PAHO's strategic digital health objectives and aims to enhance the efficiency and effectiveness of global health systems. **PAHO will retain ownership of all course content and assets.**

2.0 Problem Statement

The integration of ICD-11 into health information systems is a critical but challenging endeavor for health system leaders, data managers, system administrators, and developers. These stakeholders often lack practical skills in leveraging the ICD API, which is essential for automating health data classification and integration. This gap in expertise hinders the effective implementation of PAHO's digital health initiatives, leading to inefficiencies in health data management and utilization.

While comprehensive documentation exists, the absence of a standardized, user-friendly training resource does not. Health professionals and IT practitioners need structured guidance on accessing, managing, and updating ICD-11 classifications via the ICD API. Without this, they are unable to fully utilize the potential of the ICD-11 system, resulting in suboptimal health data integration and analysis. This inadequacy directly affects the accuracy and efficiency of health information systems, which are crucial for informed decision-making and effective health interventions.

The complexity of the content (i.e. configuring API keys, making RESTful requests, and implementing the Embedded Classification Tool) further complicates the issue. These technical aspects require a deep understanding and hands-on experience, which many health professionals currently lack. As a result, there is a significant delay in the adoption and integration of ICD-11, adversely impacting health informatics and data management processes. This not only affects data accuracy but also impairs the ability of health systems to respond promptly and effectively to public health needs.

Addressing this problem is critical for enhancing the operational capabilities of health information systems globally. By developing a comprehensive online course tailored to the needs of health system leaders, data managers, system administrators, and developers, we can bridge the existing skill gap. This course will provide practical, hands-on training on using

the ICD API, managing API keys, and implementing the Embedded Classification Tool, thereby facilitating the seamless integration of ICD-11 into health information systems.

The proposed course will directly align with PAHO's strategic digital health objectives, supporting their mission to promote the effective use of ICD-11 in health systems. By equipping stakeholders with the necessary skills and knowledge, the course will enhance the efficiency and effectiveness of global health data management. This will lead to improved

health outcomes through better data classification, integration, and utilization.

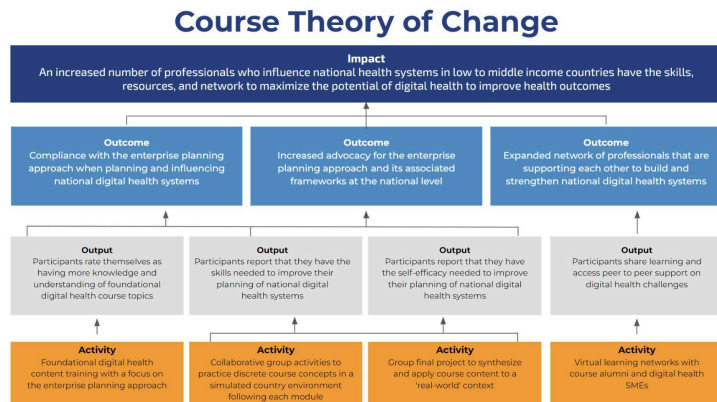
Moreover, the course's interactive content, interactive tutorials, and practical exercises will ensure robust learning and real-world application, addressing the critical need for practical skills among health professionals. By providing up-to-date documentation, step-by-step instructions, and real-world use case

scenarios, the course will empower participants to build effective API queries, manage API keys securely, and implement the Embedded Classification Tool efficiently.

The project's impact extends beyond individual learners to the broader health system, promoting a culture of continuous learning and improvement. By fostering collaboration and knowledge sharing among professionals, the course will amplify its reach and effectiveness. This comprehensive approach will ultimately support PAHO's goal of enhancing global health systems through the effective integration of ICD-11, ensuring that health professionals have the tools and skills needed to make a significant impact on public health.

3.0 Project Objectives

The primary objective of this project is to develop an online course that builds the capacity of health professionals in utilizing the ICD API for integrating ICD-11 into health information systems, in alignment with PAHO's strategic digital health initiatives. This objective directly addresses the identified need for enhancing practical skills among health professionals, IT practitioners, and global health decision-makers. To achieve this objective, we will focus on several key areas. First, the course will **provide detailed, practical instruction on accessing and utilizing the ICD API**. This includes retrieving and updating ICD-11 classifications programmatically, a critical skill identified as lacking among the target audience. The training will also cover managing API keys and implementing the Embedded



Example of a course Theory of Change (i.e. TechChange's flagship Digital Health: National Planning Systems course)

Classification Tool, ensuring participants can handle real-world data management and workflow integration.

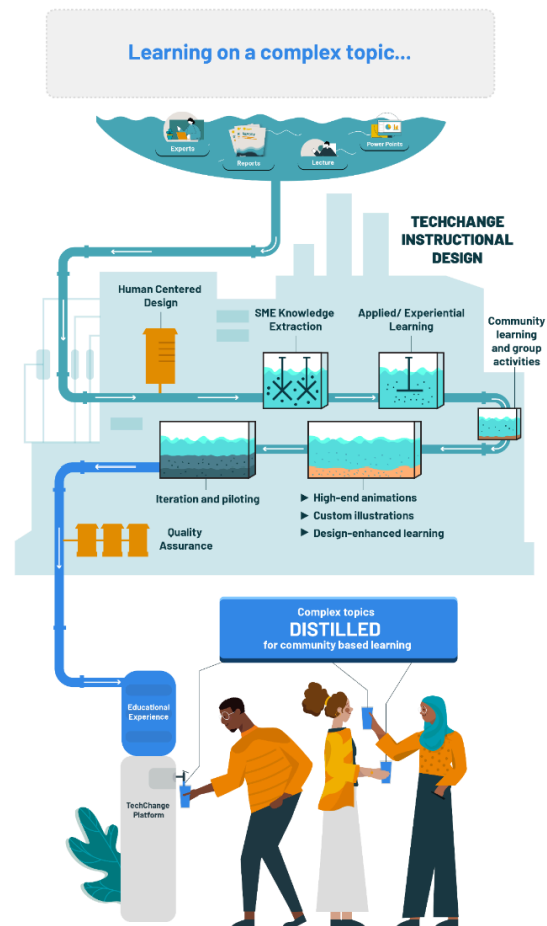
A significant component of this objective is the **creation of interactive content, including live sessions (that convert into video assets), interactive tutorials, and downloadable guides**. These resources will facilitate a comprehensive learning experience, making complex technical content accessible and engaging. Embedding quizzes and assessments throughout the course will further ensure that participants can measure their progress and solidify their understanding of key concepts.

Additionally, the course will be designed to **provide hands-on examples and practical exercises**. These components will emphasize real-world applications and integration of the ICD API and Embedded Classification Tool, addressing the need for practical skills that can be directly applied in professional settings. By doing so, we aim to bridge the gap between theoretical knowledge and practical implementation, which is essential for effective use of ICD-11 in health systems.

We will also **ensure that the asynchronous content will be developed to be fully accessible on PAHO's learning campus**, compatible with both mobile and desktop access. This aligns with PAHO's digital health initiatives and ensures that the training is available to a broad audience, regardless of their location or technical constraints. Integration with WHO ICD API resources will provide additional support and context for participants.

Regular updates and close collaboration with PAHO's digital health, education, knowledge management, and ICD-11 integration teams will be maintained throughout the project. This will ensure that the course content remains aligned with PAHO's strategic objectives and can be adjusted based on ongoing feedback and emerging needs.

Core competencies will be evaluated through the embedded quizzes, practical exercises, and feedback mechanisms integrated into the course.



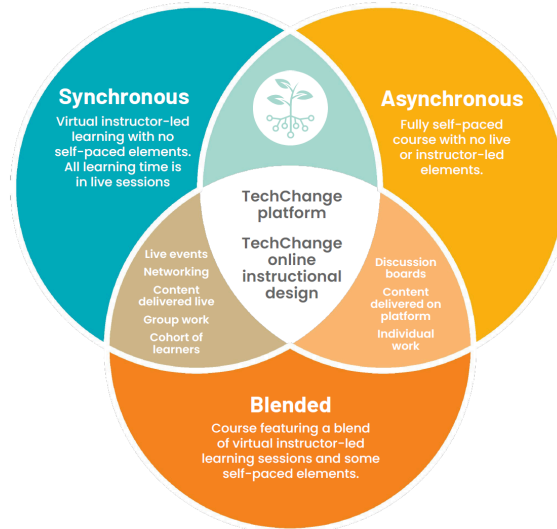
4.0 Proposed Solution

TechChange is proud to propose a comprehensive, phased approach to address the capacity-building needs identified in the TOR, leveraging our deep expertise in digital learning and global health initiatives. Our solution begins with a **blended, five week course** designed to equip health professionals, data managers, system administrators, and developers with the essential skills to effectively utilize the ICD-11 API. The course will

enhance the ability of participants to integrate ICD-11 into their health information systems, thereby supporting PAHO's strategic goals in digital health.

Blended Learning Approach: We propose starting with a five week blended course model **hosted on our platform initially but made available on the PAHO Campus**, combining live and asynchronous elements to foster interactive and flexible learning. Participants will engage in:

- **Asynchronous Learning:** One to two hours of self-paced content each week, including video tutorials, interactive guides, downloadable resources, and assessments. All asynchronous content will be common amongst all learner personas/roles. This content will be packaged as is (text and graphics) and transferred to PAHO campus for hosting.
- **Live Sessions:** One to two hours of live, instructor-led sessions per week, allowing real-time interaction, Q&A, and collaborative exercises. In order to differentiate the content for the specific roles of those taking the course, we plan to offer **two versions of each live session**: one for technical roles and another for national planners. This allows the course to effectively serve two distinct audiences while ensuring a common core of material that will foster shared vocabulary and concepts among them.



This blended format featuring two types of activities during live sessions not only accommodates different learner personas but also different learning styles. It ensures comprehensive engagement for the breadth of stakeholders PAHO is keen to upskill.

Course Assets to PAHO Learning Campus: As part of this engagement, TechChange will package the content (text, graphics, exercises, and other learning assets) from the blended course delivery for hosting on the PAHO Learning Campus. **Content will be designed to be fully compatible with the virtual campus needs.** TechChange will not develop new content specific to the PAHO Learning Campus as part of this engagement. However, we will work closely with the PAHO Learning Campus team to **ensure the smooth delivery and handoff of the course content**, enabling it to be taken asynchronously by participants after the blended course has been completed. Should PAHO wish to optimize the asynchronous experience further, TechChange is open to exploring additional enhancements after April. TechChange has experience with this process per a previous project. **PAHO will retain ownership of the course content and assets throughout the process.**

Course Content: The course will cover the following key components, delivered through engaging interactive formats:

- **ICD-11 API Overview:** Understanding the API architecture, retrieving and updating ICD-11 classifications, and managing API keys for secure access.

- **Practical Applications:** Use-case scenarios demonstrating real-world applications of the API in health systems, including the integration of the Embedded Classification Tool.
- **Interactive Learning:** Practical exercises, quizzes, and assessments to reinforce learning and ensure skill acquisition.



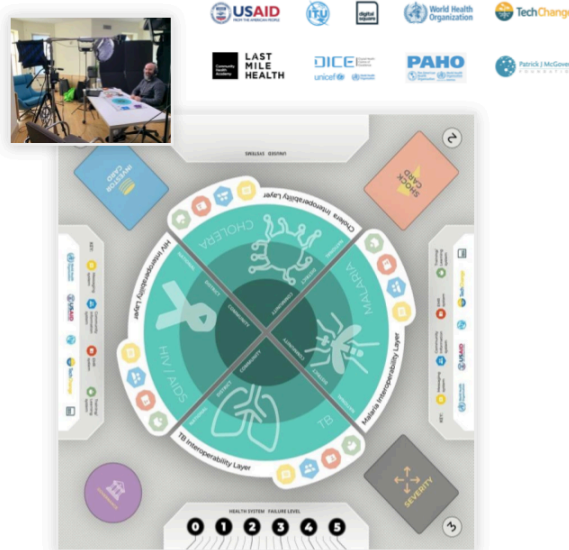
Case Study: Digital Health 101

Purpose

A flagship 5-Year Digital Health training program.

TechChange Role

- Trained 600 Ministry of Health officials in 30+ countries.
- Trained 10,000 more officials via 50 asynchronous and synchronous virtual courses.
- Multiformat, multimodality, and multilingual program (Spanish, Portuguese, French).
- Executed dozens of university partnerships and Regional Train-the-Trainer programs to increase reach.
- Developed Board Game to reinforce learnings: Architects of Digital Health.



Collaboration with PAHO: In close collaboration with PAHO's digital health, knowledge management, and ICD-11 integration teams and with experts from WHO and elsewhere, TechChange will ensure that all course content is aligned with PAHO's strategic objectives. The **course assets will be hosted on PAHO's e-learning campus**, ensuring mobile and desktop accessibility.

Expected Outcomes: By the end of the course, participants will:

- Gain proficiency in using the ICD-11 API, including building queries and filtering ICD-11 data.
- Demonstrate the ability to integrate the Embedded Classification Tool into health information systems.
- Understand how to manage and secure API keys and troubleshoot common API issues.
- Receive a shareable certificate of completion, adding value to their professional credentials.

Timeline and Milestones: The project will be delivered over five months, adhering to the timeline in section 6 (Implementation Plan).

Conclusion: By implementing a phased approach that starts with a **blended learning model**, TechChange aims to provide PAHO with a dynamic, user-centered solution that meets the needs of various stakeholders. This initiative will support the adoption of ICD-11

across health systems, contributing to the advancement of global health objectives in line with PAHO's digital health strategy.

A year after participating, Dilip achieved the goal he set out to accomplish when enrolling in the course:

"Participating in *Digital Health: Planning National Systems* gave me the skills and knowledge I needed to strategically supporting the development and finalization of Lao PDR's five-year digital health national strategy using an enterprise planning approach."

Dilip
WHO Regional Officer



5.0 Beneficiaries

The primary beneficiaries of our proposed project are health professionals, including data managers, system administrators, and developers. These individuals will gain the skills necessary to leverage the ICD-11 API for automating health data classification and integration. This aligns with PAHO's strategic digital health initiatives to improve health information systems globally.

In more detail, health data analysts and informaticians will benefit by gaining the ability to access, retrieve, and update ICD-11 classifications efficiently, enhancing their data management capabilities. System administrators and developers will acquire practical skills in configuring API keys, making RESTful requests, building API queries, and implementing the Embedded Classification Tool. These skills are crucial for the seamless integration of ICD-11 into health information systems, ensuring accurate and timely data classification, which is vital for effective healthcare delivery and management. Geographically, our project serves a global audience, ensuring inclusivity and broad impact. The course will be accessible on PAHO's e-learning platform, compatible with both mobile and desktop devices, **allowing participants from various regions to engage with the content flexibly.**

The course's practical components, such as interactive instructional materials, interactive tutorials, quizzes, assessments, and downloadable resources, will provide hands-on learning experiences. This ensures that participants not only understand the theoretical aspects of the ICD-11 API but also gain the ability to apply this knowledge in real-world scenarios.

Target Audience



Primary: mid-level ministry officials who serve as national planners of digital health
(e.g. Ministry of Health, Ministry of ICT, Ministry of Finance)



Secondary: other national planners of and investors and implementers in global digital health systems
(e.g. funders, multilateral organizations, etc.)

Example: Target Audience for the DH:PNS course - Our materials are catered to the primary audience group, but also benefit the secondary audience.

By addressing the specific needs of health professionals for practical, user-friendly training on the ICD-11 API, the project supports PAHO's objectives of advancing digital health capabilities. The end goal is to improve the efficiency and accuracy of health data management, ultimately contributing to better health outcomes globally.

6.0 Implementation Plan

To meet PAHO's objective of launching the ICD-11 integration course by the end of March, TechChange will employ a streamlined and efficient approach, condensing the original timeline while ensuring the quality and alignment of the course with PAHO's strategic goals. The project will follow a phased structure, but each phase will be shortened to expedite delivery without sacrificing thoroughness.

Phase 1: Course Ideation and Design (November 1 - December 15)

TechChange will collaborate closely with PAHO's digital health, education, knowledge management, and ICD-11 integration teams to establish the course framework. This phase will focus on defining clear objectives and developing the course outline. Activities will include:

- **Needs Assessment and Stakeholder Consultation:** Rapid consultations with key stakeholders to prepare for course development
- **Ideation Workshop:** Ideation session with key stakeholders to define course goals, learner personas, and requirements
- **Interactivity Requirements:** Identify the types of content needed, including tutorials, interactive guides, and assessments.

Deliverables:

- Style guide
- Detailed module outlines
- List of interactive content needs

Phase 2: Outline, Storyboarding and Course Development (December 15 - February 15)

This phase will focus on fast-tracking the development of course content. Given the condensed timeline, storyboarding, content creation and internal testing will run simultaneously for the blended version to allow for rapid deployment:

- **Course Outline & Syllabus Development:** Finalize the course syllabus and module outlines, emphasizing the blended option while keeping an eye toward the asynchronous version.
- **Storyboarding and Course Production Preparation:** Develop exercises, interactive tutorials, and outlines for downloadable guides on the ICD API, with a focus on real-world scenarios and practical applications.

- **Instructional Design & Materials Development:** Create step-by-step guides, quizzes, and use-case scenarios for API integration as well as materials and Miro boards for the live instructor-led sessions. This includes materials for the differentiated live sessions by persona.

Deliverables:

- Completed course storyboard
- Preliminary versions of assessments and quizzes
- Initial testing feedback incorporated into the materials

Phase 3: Blended Course Live Delivery (mid-Feb to mid March)

TechChange will finalize the course and prepare for the official launch:

- **Platform Setup:** Setup and migrate course outline (storyboard to be migrated once more finalized / reviewed)
- **Internal Testing & Revisions:** TechChange will recruit a small group of target participants to test the course. Complete internal reviews with PAHO and test key components as they are developed to ensure accuracy, followed by rapid revision based on feedback.
- **Blended Course Recruitment:** Select blended course participants from health professionals, developers, and data managers.
- **Blended Course Execution Preparation:** Conduct pilot sessions, capturing detailed feedback on content, engagement, and technical delivery.
- **Blended Course Live Delivery:** Launch and technical facilitation of live delivery of blended learning course on TechChange platform

Deliverables:

- Course enrollment plan
- Tested & revised course ready for launch on TechChange platform
- Technical support for course launch
- Course Report

Phase 4: Async Course Asset Delivery (by March 24)

TechChange will deliver assets to ensure course can be fully integrated with PAHO's e-learning platform and accessible to participants:

- **Final Async Course Delivery:** Deliver the asynchronous reverse storyboard with links to all course assets so PAHO may load the course onto PAHO Virtual Campus for a fully self-paced version.

- **Feedback Mechanism:** Implement a system for gathering ongoing participant feedback to inform future course improvements.

Deliverables:

- Reverse storyboard with links to all course assets (async course)
- Integrated feedback system for post-launch improvements

Ongoing Collaboration and Reporting: Throughout the implementation period, TechChange will maintain open communication with PAHO's teams, providing biweekly progress updates to ensure the project stays on track. By using a condensed but structured approach, we ensure that TechChange's blended learning model effectively prepares participants to utilize the ICD-11 API, with an official launch by the end of March.

7.0 Stakeholders

The primary stakeholders for this project include PAHO's digital health and education teams, knowledge management team, ICD-11 integration team, and TechChange as the collaborating partner. Additionally, the target audience encompasses global health decision-makers, IT and digital health practitioners, health data analysts, informaticians, system administrators, system integrators, and developers.

PAHO's digital health and education teams will play a pivotal role in aligning the course content with PAHO's strategic digital health initiatives. Their expertise will ensure that the course materials are relevant and up-to-date with current digital health trends and practices. The knowledge management team will contribute their insights to ensure that the course fosters effective knowledge sharing and management practices, essential for the adoption of ICD-11.

The ICD-11 integration team will provide critical input on the technical aspects of the course, ensuring that the content accurately reflects the functionalities and integration processes of the ICD API and Embedded Classification Tool. TechChange will lead the course development, leveraging its experience in creating impactful and scalable learning experiences.

Engaging stakeholders in the project ensures that their perspectives and expertise are integrated into the planning and implementation phases. Regular consultations will be conducted to gather input from PAHO's teams, ensuring the content aligns with their expectations and objectives. Collaborative decision-making processes will be established to incorporate feedback and make necessary adjustments to the course materials. Mechanisms for ongoing feedback, such as surveys and focus group discussions, will be implemented to continuously improve the course based on stakeholder input.

8.0 Monitoring and Evaluation



Digital Health: Planning National Systems **Monitoring & Evaluation Sources to Measure Impact**

Monitoring

- **Attendance tracking + platform completion** metrics (n=1050)
- **Pre & Post-course survey*** with 2020-2023 course participants (n=696)
- **A post-6 month survey** with 2021

TechChange is committed to a robust Monitoring and

Evaluation (M&E) framework to ensure the effectiveness and impact of the proposed online course on ICD-11 API integration. The M&E framework will be designed to assess the achievement of project objectives, identify areas for improvement, and support continuous learning and adaptation.

The primary objectives of the M&E framework are to evaluate the capacity building of health professionals in integrating ICD-11 into health information systems and to measure the practical application of skills acquired through the course. Success indicators will include:

1. Participant Proficiency: Assessing the understanding and practical use of the ICD-11 API, Embedded Classification Tool, and management of API keys. Metrics will include pre- and post-course assessments to measure knowledge gains, and practical exercises to evaluate skill application.

2. Course Engagement: Monitoring course completion rates, participant engagement with interactive content, and interactions during tutorials and practical exercises.

Data collection methodologies will be systematic and adaptable, incorporating both quantitative and qualitative approaches. Quantitative data will be gathered through **online assessments, quizzes, and surveys** to measure knowledge acquisition and skill proficiency. Qualitative data will be collected via **participant feedback, interviews, and focus groups** to capture experiences and insights regarding the practical application of the course content.

Regular assessments will be conducted to gauge the effectiveness of the interventions. These will include: **mid-course evaluations** to identify and address any immediate issues or challenges faced by participants; and **post-course evaluations** to assess overall course impact, including the readiness to apply skills in professional settings.

To support accountability and active stakeholder engagement, a **final course report** will be shared with PAHO, **detailing key findings, lessons learned, and recommendations** for course enhancement.

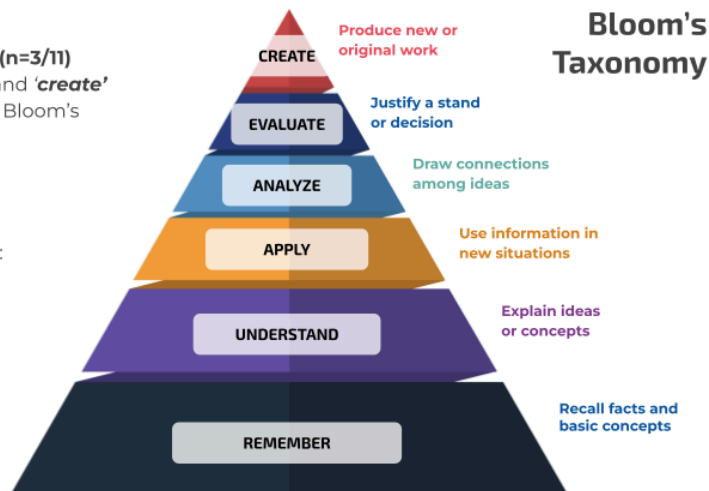
Should PAHO wish to engage with TechChange following the end of this engagement, the M&E system can be enhanced with adaptive strategies. If desired, continuous feedback loops for future course deliveries can be established with participants and key stakeholders, including PAHO's digital health, education, knowledge management, and ICD-11 integration teams. This would ensure that the course content remains relevant and responsive to evolving needs and challenges.

How can we *interpret* the success of our outputs and outcomes?

Post-6 months, a few interviewed (n=3/11) were able to '*analyze*', '*evaluate*' and '*create*' – the top three levels of learning in Bloom's Taxonomy.

Post-6 months, all surveyed (n=48/48) have successfully achieved the third level of learning: '*apply*'.

Post-course (n=390/420) and **post-6 months** (n=48/48), vast majority of participants '*remember*' and '*understand*' core course concepts.



9.0 Budget

The budget for this project comprising all 4 phases of implementation is **\$115,066**.

This is based on a **five week eight hour blended course**, with approximately half of course content being delivered live by a virtual instructor and half being delivered asynchronously. It also assumes **one live blended delivery** supported by TechChange staff and on the TechChange platform during spring 2025. It also assumes provision of a **reverse storyboard of asynchronous assets** to PAHO for upload to its Virtual Campus.

Detailed Budget

	#	LOE	Rate	Total
Project Management and Planning Meetings		9.00	\$840	\$7,560
Project Kick off and Project Charter				
Platform Setup (Fixed)			\$5,000	\$5,000
Kickoff and Project Charter		2.00	\$840	\$1,680
Project Style Guide		2.00	\$840	\$1,680
Ideation				
Participant Needs Assessment and Survey		2.00	\$840	---
HCD and ideation		7.00	\$840	\$5,880

Course objective setting	0.00	\$840	\$0
Outline			
Course Outline	3.30	\$840	\$2,772
Live session agenda	8.25	\$840	\$6,930
Content Creation			
Custom Course Graphic Assets	3.00	\$840	\$2,520
Creation of Course Forms, Surveys, and Assessments	2.00	\$840	\$1,680
Self-paced content			
Course Storyboard Development	11.00	\$840	\$9,240
Creation of Course Asynchronous Activities	8.80	\$800	\$7,040
Course Framing (sync only)	0.00	\$800	\$0
Instructor-led / synchronous content			
Speaker List Curation, Speaker Recruitment	2.00	\$840	---
Didactic Content development	16.50	\$840	\$13,860
Creation of live-session activities	19.80	\$840	\$16,632
Preparation for Light-learning sessions	0.00	\$840	\$0
Presentation Styling Refinement and Design Support	6.00	\$840	\$5,040
Facilitator's guide	5.00	\$840	---
Delivery preparation			
Speaker Management	3.00	\$840	\$2,520
Speaker Orientation and Technical Testing	4.00	\$840	\$3,360
Speaker Honorariums	4.00	\$200	---
Run of Show Documentation	1.50	\$840	\$1,260
Platform Development and Maintenance	2.00	\$840	\$1,680
Data & Reporting Dashboard	2.00	\$840	\$1,680

Platform Admin Orientation and Training		2.00	\$840	---
Quality Assurance and User Testing		1.00	\$840	\$840
Recruitment and promotional materials		2.00	\$840	---
Launch & Execution				
Course Enrollment Strategy and Activation		1.00	\$840	\$840
Registration Management	1.00	2.00	\$840	\$1,680
Email and Notification Nudges	1.00	1.20	\$840	\$1,008
Instructor Lead session Facilitation Support	6.00	1.60	\$840	\$8,064
Light Learning session Facilitation		0.00	\$840	\$0
Office Hours	1.00	0.25	\$840	\$210
Post-Course Report		4.00	\$840	\$3,360
AAR		1.25	\$840	\$1,050
SME				
SME support				\$0
TOTAL				\$115,066

Payment Schedule

	Milestone	Amount	Date
Phase 1	Kickoff & Project Charter	\$17,260	11/15/2024
	Ideation Workshop Delivered & Report	\$23,013	12/15/2024
Phase 2	Course Outline Completed	\$17,260	1/15/2025
	Course Storyboard Completed	\$17,260	2/1/2025
Phase 3	Blended Course Launched	\$23,013	2/15/2025
Phase 4	Reverse Storyboard Delivered (for Async course to be hosted by PAHO Virtual Campus)	\$11,507	3/24/2025
	Final Report	\$5,753	3/24/2025

	Total	\$115,066	
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10. Long-Term Sustainability and Scalability Options

Beyond the scope of this initial project, TechChange can support long-term the sustainability and scalability of this course by the following optional interventions, in a second project phase. Drawing from our past experience with the 'Digital Health: Planning National Systems' course, which was adapted into various modalities and delivered globally with over 600 graduates from 70 countries, we will apply the lessons learned in scalability and localization. Here are several options for PAHO to consider for future phases of this project:

- Blended-to-Asynchronous (Self-Paced) Conversion:** Initially, we will offer the course in a blended format, combining live sessions with asynchronous content. Creating more modalities for accessing the course is an ideal way of scaling. After the initial phase, the course will transition to a fully asynchronous model, enabling broader reach and accessibility. This phased approach allows us to gather feedback and refine the course based on real-world usage and participant input. The modular structure of the course content allows for easy adaptation and expansion to include more advanced topics or specific regional needs and ensures we capture several hours' worth of high-quality video content that will enliven the self-paced course. Integrating cost-effective, reusable multimedia content and interactive tutorials that can be updated as needed without significant additional investment is an effective way of ensuring economic sustainability.
- Community of Practice:** Social sustainability and ongoing learning can be achieved by fostering a Community of Practice that enables continuous collaboration, knowledge sharing, and mutual support among participants. This community-driven approach ensures that the benefits of the training extend beyond the course duration, promoting ongoing professional development and capacity building.
- Localization & Training of Trainers:** Incorporating a training-of-trainers model to ensure the course's long-term sustainability and regional relevance. By leveraging our Training of Trainers (ToT) model, we will equip select participants with the knowledge and skills to become future trainers. This localized training capacity ensures that the expertise needed to maintain and expand the course remains within the communities it serves, fostering self-reliance and reducing dependency on external resources. While this is not included at this phase of the project, it could be incorporated so blended learning deliveries are able to continue in the future with PAHO trainers leading each delivery.
- Course Enhancements:** To enhance the sustainability, scalability and relevance of the ICD-11 integration course, we can help PAHO develop a data-driven feedback mechanism during the implementation phase that systematically evaluates learning components and ensures iterative improvements based on real-world participant engagement and knowledge retention, aligning with the ongoing objectives of PAHO's strategic digital health initiatives. TechChange can work closely with PAHO's

digital health, knowledge management, and ICD-11 integration teams to ensure that the course materials remain aligned with evolving digital health strategies and technological advancements. Regular updates and ongoing collaboration can be maintained to keep the course content relevant and up-to-date. By integrating WHO ICD API resources, we can ensure that participants have access to the latest tools and documentation.

11. Assumptions

- Project will kick off no later than Nov. 1 2024
- Each deliverable will have 2 iterations, with 1 round of consolidated feedback
- Blended course will be delivered on TechChange platform
- TechChange will deliver all assets from blended course to PAHO by end of project such that PAHO may host the course on its Virtual Campus thereafter
- Core ICD-11 subject matter expertise will be provided by PAHO or WHO partners.
- TechChange will bring instructional designers, visual designers, technical facilitators and course reviewers.
- Videos will be created from the live sessions/delivery of the blended course

Annex: Sample Curriculum

Five Week Blended Course

Here's a rough outline for a **five week blended course for up to 1000 participants**, based on PAHO goals and the provided resources.

The structure follows a blended learning model, incorporating live sessions, asynchronous content, hands-on activities, and applied learning exercises.

It also draws inspiration from the BAO Systems course on DHIS2 APIs while differentiating in terms of focus, format, and engagement techniques.

Week 1: Introduction to ICD-11 and API Fundamentals

Learning Objectives:

- Understand the core principles of ICD-11 and its role in health information systems.
- Grasp the fundamentals of REST APIs and how they are used for health data integration.

Content:

- **Live Session:** Overview of ICD-11's importance in global health systems and introduction to REST API concepts (1 hour).
- **Asynchronous Modules:**
 - Overview of ICD-11 and its structure (video lecture, 20 minutes).
 - API Fundamentals: What is an API? How does a REST API work? (interactive tutorial, 30 minutes).
 - WHO ICD-API Documentation walkthrough, focusing on API authentication and setup.
 - Short quiz on ICD-11 basics and API concepts.

Engagement:

- Discussion board prompt: Share one real-world example of how ICD-11 integration could benefit health systems in your country/organization.

- Resources: ICD-11 Implementation Guide, API Documentation(Background on ICD-11).
-

Week 2: Retrieving and Using ICD-11 Data with API Queries

Learning Objectives:

- Learn to make basic and advanced API queries to retrieve ICD-11 data.
- Understand how to manipulate API requests and filter results.

Content:

- **Live Session:** Demonstration of API requests and data retrieval using ICD-11 APIs (1 hour).
- **Asynchronous Modules:**
 - Building queries in the ICD-11 API: A step-by-step guide (interactive demo, 30 minutes).
 - Filtering data in API responses (video tutorial, 15 minutes).
 - Hands-on exercise: Using Postman or another API tool to query the ICD-11 database (practical, 45 minutes).
 - Use case scenario: Retrieving specific disease codes and applying filters.

Engagement:

- Group project: In small groups, participants will create custom API queries and share the outputs.
 - Resources: Postman API Tool, WHO ICD API Developer's Guide(Background on ICD-11).
-

Week 3: API Integration and the Embedded Classification Tool (ECT)

Learning Objectives:

- Understand how to embed ICD-11 classifications into electronic health systems.

- Learn how to use the Embedded Classification Tool (ECT) to streamline workflows.

Content:

- **Live Session:** Best practices for integrating ICD-11 into electronic medical records using the ECT (1 hour).
- **Asynchronous Modules:**
 - Tutorial: Embedding the ICD-11 classification tool in a health system (interactive, 30 minutes).
 - Hands-on project: Embedding and testing the ECT in a simulated health information system (practical, 45 minutes).
 - Quiz: Identify the key steps in API integration and using the ECT.

Engagement:

- Hands-on assignment: Develop an integration plan for your organization's health system.
 - Peer reviews: Participants review each other's integration plans and provide feedback.
 - Resources: ICD-11 API Documentation, Embedded Classification Tool Documentation(Background on ICD-11).
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Week 4: Advanced API Operations and Data Management

Learning Objectives:

- Perform advanced operations with ICD-11 APIs, including data updating and filtering.
- Troubleshoot common API issues and optimize performance.

Content:

- **Live Session:** Advanced API operations and optimization techniques (1 hour).
- **Asynchronous Modules:**
 - Advanced API queries: How to update and manipulate ICD-11 data (interactive tutorial, 30 minutes).
 - Case study: Using ICD-11 APIs for mortality and morbidity statistics (video lecture, 20 minutes).

- Troubleshooting API performance: Common challenges and solutions (practical demo, 30 minutes).
- Assessment: Create an advanced API query and document the process.

Engagement:

- Real-world application: Submit a completed advanced API query and discuss potential improvements with peers.
 - Resources: ICD-11 Clinical Tables API Documentation(Background on ICD-11).
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Week 5: Applied Learning and Course Conclusion

Learning Objectives:

- Apply all learned concepts in a comprehensive real-world project.
- Finalize ICD-11 API integrations for your respective health systems or use cases.

Content:

- **Live Session:** Final Q&A and group presentations on applied projects (1 hour).
- **Asynchronous Modules:**
 - Capstone Project: Participants develop a detailed API integration plan, focusing on a specific ICD-11 application within a health system (hands-on project, 2 hours).
 - Peer feedback on capstone projects.
 - Course review and final quiz (30 minutes).

Engagement:

- Capstone project presentation: Participants present their integration plans during the live session, with peer and instructor feedback.
- Closing discussion: Reflect on the biggest challenges and successes in applying ICD-11 APIs.

Final Deliverables:

- Shareable course completion certificate.
 - Submission of capstone project documentation and API outputs.
 - Resources: GitHub repository for ICD-11 software(Background on ICD-11).
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