

# The Advanced Immunization Management (AIM) e-Learning Project

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## Abstract

New tools to educate immunization managers in developing countries are needed to keep these health policy makers current on the latest vaccines and procedures, and to provide support in decision making. The goal of the AIM e-Learning Project is to deliver up-to-date and engaging web-delivered media, with solid instructional design, to an audience relatively new to web-based learning. Accuracy of information and accessibility drive our design. Our ultimate objective is to aid immunization managers in developing timely, effective and sustainable policy.

## Background

AIM e-Learning provides national immunization managers with the latest information and skills training via the web and CD-ROM. Our leading concern before development began was to assess our target users' access to, and knowledge of, the necessary technologies. We conducted multiple studies, both e-mail surveys and in-person interviews. We found that all immunization managers surveyed had Windows machines less than 3 years old, with CD drives, at their work sites. Over 50% reported accessing the Internet daily and the rest did one or more times a week. 71% accessed via modems (average speed 52K) – the rest via fast connections. All were interested in using technology-based learning tools in their work. We concluded that there is more than adequate access to technologies in our target users to make this a viable and usable project.

## Description

AIM e-Learning is a suite of teaching modules for advanced immunization managers covering high-priority learning areas. Modules currently under development include *Considerations for Introduction of New and Underutilized Vaccines* and *Immunization Financing*. Available now is the project pilot demonstrating intuitive navigation through content as well as a simulated walk-through of the "Build and Cost Your Plan" interactive decision making tool.

## Technical Specifications

One of the project's key requirements is that materials be offered in a variety of formats such as CD-ROM, low-bandwidth web, high-bandwidth web, and print. When one considers the abundance

of content that must exist in each of these formats, it becomes clear that a static HTML solution is not practical. To this end, we have chosen to author all content in XML (Extensible Markup Language). XML is a highly customizable standards and tag-based language. XML content is transformed to various formats using XSL (Extensible Stylesheet Language), a common, open standard for describing transformations of XML data. We perform these transformations using Apache Cocoon, a popular open-source XML publishing framework that uses SoC (Separation of Concerns) design to separate logic, content, presentation, and management. In combination, these three technologies result in a system that allows publication to web, CD-ROM, and print from a single set of XML content documents. This project is a meaningful application of new technologies that have only recently evolved from buzzword status to practical use.

## Future Directions

Content review, accessibility and usability studies have been completed with immunization managers in Africa and Thailand this year, and more will be conducted as immunization management training workshops are scheduled. We intend to continually revise our design and content based on feedback from our users. *Immunization Financing* will be available September 2003. *Considerations for Introduction of New and Underutilized Vaccines* will be available July 2004. Plans for feature enhancements include usage tracking and an indexed search function.

## Project Partners

PATH's Children's Vaccine Program (CVP/PATH), with support from the Bill and Melinda Gates Foundation, financed SUMMIT/LearningTech to develop a project pilot. Based on positive feedback, CVP provided additional funds, with matching support from the Lucile Packard Foundation for Children's Health (LPFCH). This is a collaborative effort between SUMMIT/LearningTech, CVP/PATH, LPFCH, the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC) and other partners of the Global Alliance for Vaccines and Immunizations (GAVI).

## More Information

<http://learningtech.stanford.edu/aim.html>