**HL7 Professional Credentialing Program**

**Business Plan**

**2017**

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# Executive Summary

To be completed as final step.

# Introduction – Hans

HL7 currently offers certification opportunities in the areas of V2, V3 RIM, and CDA. While well received and popular, these opportunities result in limited interactions with HL7 and do not provide the marketplace with a broader understanding of an individual’s qualifications as an HL7 implementer in general with specific focus in one or more areas. More recently we have started to see a decline in the V2, V3 RIM and CDA certifications, while interest in a FHIR certification is growing.

The goal of the HL7 Professional Credentialing Program is to establish a curriculum, process, and infrastructure to enable individuals to become an HL7 Credentialed Professional with specialization in one or more areas (e.g., V2, CDA, Public Health, FHIR, etc.) that entitles them to use a formal, recognized title, while creating a lasting membership relationship of those individuals with HL7 as members to create a stronger HL7 community.

The HL7 Professional Credentialing Program is built on the certification programs available today, but substantially extends on it by requiring ongoing commitment of the participant to maintain currency and proficiency, while the current certification program only requires a one-time test to be certified on a particular topic.

## This program is different from the HL7’s Fellow program, which is a peer recognition program that recognizes the contributors of long-term HL7 members to the organization and the industry.

## Landscape

HL7 currently offers [three exams](http://www.hl7.org/implement/certification.cfm?ref=nav) focused on certification of knowledge:

* [Clinical Document Architecture (CDA®)](http://www.hl7.org/implement/courseList.cfm#CDA)
* [HL7 Version 2 (V2) 2.7](http://www.hl7.org/implement/courseList.cfm#Version2)
* [HL7 Version 3 (V3) RIM 2.36](http://www.hl7.org/implement/courseList.cfm#Version3)

Efforts are in progress on two more:

* Arden
* FHIR

To date, 4,743 certifications of knowledge have been issued:

* V2 3,581
* CDA 808
* V3 354

### Summary/Analysis of survey.

To determine whether there is an opportunity to expand this program, the HL7 Board approved funding of a survey to gauge interest and value of an expanded program.

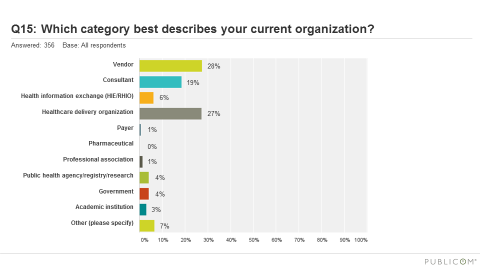
Publicom conducted a survey during March-April 2016 with the following goals:

* To identify the relative level of interest in a professional certification program.
* To understand what respondents perceive are the benefits of professional certification.
* To understand respondents’ views on key components of the program.
* To help identify key marketing messages in the event that there is a positive response to developing a professional certification program.

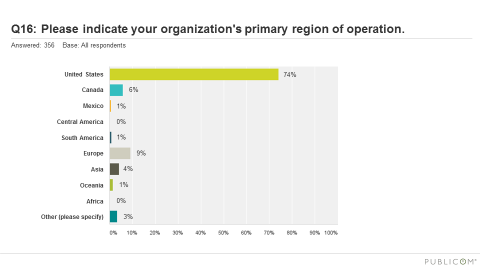
The survey received 470 responses, of whom 63% were HL7 members already, 26% were not, while the remaining 11% did not know.

Of the 470, varying number of respondents answered the subsequent 17 questions. Questions addressed both those who would potentially employ HL7 Certified Professionals, as well as those who would be themselves HL7 Certified Professionals.

Respondents were mostly representative of software developers, consultants, and providers, those we expect to be mostly involved in the implementation of our standards.



While most of the responders were located in the US considering the available mailing lists, it was valuable to also receive input from outside the US as well. This area needs to be further explored with the International Council to determine how much the program can be extended beyond the US.



Based on the responses, the following key findings could be summarized:

* 95% of respondents are very or somewhat interested in learning more about HL7 professional certification
* 92% of respondents believe HL7 professional certification would be beneficial to employers seeking to hire HL7 implementers
* 92% of respondents believe HL7 professional certification would be beneficial to individuals who are HL7 implementers
* 85% of respondents say HL7 should offer a professional certification program

While there was overwhelming support to introduce an HL7 Professional Certification Program that establishes an HL7 Certified Professional, we did receive a number of cautionary comments, including skepticism on the value of this program. These considerations have been carefully reviewed and included as appropriate as requirements that the program must address to be successful.

Based on these survey outcomes, the HL7 Board agreed to proceed with the development of this business plan.

# Credentialing Program Description - Hans

The proposed HL7 Credentialing Program would provide for the following:

* Accredited HL7 Credentialing Professional credentials (e.g., CHL7)
* Valid for 3 years

This requires the following commitments from the individual:

* Active HL7 member through their organization (see note in Financial Plan)
* Ongoing education and practical experience to qualify for re-certification

The program must meet the following requirements to be successful:

* Establish a core set of capabilities the individual must demonstrate
  + Knowledge of standards (tests using current/new certification tests)
    - Assessed periodically based on changes in the standards, guidance, and landscape
  + Practical implementation experience (e.g., peer references)
* Apply to integration developers across software developers, consultants, providers, government, etc.
* Be affordable globally, but may have stratified fee schedule
* Qualified staff to manage and maintain the program
  + Education
  + Certification Process
  + Marketing
* Enable further tailoring to specific:
  + Mandatory: Areas of focus / specialization (product family and/or setting)
  + Optional: Geographic area / realm
* Include recognized implementers to develop and validate the program content
* Provide continuous feedback loop on the value and quality of the program
* Provide a registry of current HL7 Certified Professionals to enable validation of credentials
* Accredited program and credentials through ICE (International Certification ??).

We addressed the question whether this is a credentialing or a certification program. To avoid confusion with certifications issued to date for individual tests and to be consistent with terminology used in the industry, e.g., [NEHA’s terminology](http://neha.org/professional-development/education-and-training/differences-between-credentials-certifications), we opted to consider the program and the credentials received the credentialing program, while individual tests that validate the participant’s knowledge a certification test.

## Eligibility Criteria – Ginny / Calvin

Organize based on what is needed for the first step, vs. a maintenance step.

Candidate Preparation:

To sit for the exam, the applicant must have prior formal education and HL7 implementation experience:

□ Bachelor’s degree or higher plus 2 or more years full time experience implementing HL7

standards.

□ Bachelor’s degree or higher plus 4 years part-time experience as an HL7 standards

Implementer.

□ Associate’s degree (2 years) plus 3 or more years full-time experience as an HL7 standards

Implementer.

□ Associate’ degree (2 years) plus 5 years part-time experience as an HL7 standards

Implementer.

- Post-baccelareate training (masters, certificate, certification MD, pHD, etc) in informatics or Health IT and 1 year full time experience implementing HL7 standards.

□ No degree plus 4 or more years full time experience as an HL7 standards Implementer.

□ No degree plus 6 years part time experience as an HL7 standards Implementer.

They need 50 points of the following:

Training and participation: At least 10 points

1. HL7 training (HL7 or other organization) within the last 3 years – 1 point for 1 hours of training with HL7 .5 points for one hour of HL7 training outside of HL7. Full day of WGM tutorials = 6 pts. This can also count if you are the trainer.
2. Standards development – 10 points for each year of active involvement (attending WGMs, WG conference calls, balloting, connectathons, list servers or other HL7 communities.

Implementation experience: at least 20 points.

1. Implementation experience: Developed, supported, configured, analyzed, managed, or tested HL7 CDA implementations – 1-25 pts:10 pts per personyear of full time experience.
2. Implementation experience: Developed, supported, configured, analyzed or tested or managed HL7 V2 implementations. – 1-25 pts:10 pts per personyear of full time experience.
3. Implementation experience: Developed, supported, configured, analyzed, managed, or tested HL7 FHIR implementations. – 1-25 pts:10 pts per personyear of full time experience.
4. Implementation experience: Developed, supported, configured, analyzed, managed, or tested an HL7 standard implementations using an HL7 standard that is not V3/CDA/FHIR/V2. – 1-15 pts:10 pts per personyear of full time experience. (examples, EHR, SOA, Arden Syntax, CCOW, others)

Certification: at least 10 points

1. Successfully passed an HL7 V2/V3/CDA/FHIR/other certification test (at least one required) 10 pts per certification.

They need to submit their resume or CV and provide a reference who can attest that they have at least a year of implementation experience with any HL7 standard.

Candidates fill out the application on the website, pay fee, upload resume or CV, and provide a reference.

We can grandfather in existing HL7 members who meet certain criteria (TBD). These members would also have re-certify periodically. Need to capture the implementation experience of existing members as part of that.

## Certification Process & Maintenance – Ginny/Austin

Need a description of the overall process, not just the candidate entry criteria.

Application for Certified HL7 Professional Implementer Examination.

Applications are reviewed automatically by a tool to determine if acceptable and then are able to choose a test date/time.

Applicants sit for test. If applicant passes the test, they are informed they are certified.

They are sent digital badge, and directions for certification maintenance and use of the certification.

Certifications are added to the HL7 site and announced publicly. Test is developed and maintained using a formal certification test development process to ensure fair relevant and legally defensible criteria.

Applications are picked randomly for audit. Auditing is manual by an established audit team and consists of reviewing application and CV and making contacts with references, etc. as needed.

Renewal requirements?

Either keep with continued education/webinars/efforts (verifiable), or re-do as if new.

## Program Development and Maintenance Strategy - Sharon

To have a viable professional certification program it is essential that is kept up-to-date and fresh. The proposed strategy is to:

* Create new exams
* Keep exams current
* Validate/surveillance of references and practical experiences
* Maintaining a registry of credentialed professionals

Tie back to the risks in the Risk Management topics that are applicable to this topic.

This involves the following steps and efforts:

* Exams
  + New Exam Development
  + Exam Maintenance
* References
  + ??
* Accreditation
  + ??
* Auditing
  + Certified Professionals
  + Program

### New Exam Development

* ***Conduct Job Task Analysis***Purpose: To describe what the individual holding the certification should know and be able to do (job description).
  + Select Subject Matter Experts (SME) who can define the job description/tasks.
  + Create survey instrument based on analysis to validate the job description.
* **Develop Test Blueprint**Purpose: To define attributes of the exam.
  + Includes competencies based on Job Task Analysis survey results (2 days)
  + Blueprint reviewed for completeness, redundancies and identification of gaps (3 days)
  + Blueprint reviewed by SMEs and/or Certification committee (4 hours)
* ***Develop Test Items***Purpose: To create a pool of items (questions) developed and based on the Blueprint.
  + Item Writing for exam
    - Select Item Writers (Sharon and committee)
    - Train Item Writers (2-4 hours)
    - Assemble Reference Materials for question verification (2 weeks)
    - Write multiple choice questions (5-7 8-hour working days)
* ***Assemble Expert Technical Review Panel***Purpose: To review items for validity, reliability, difficulty, references, *Certification* committee (2-3 days depending on the length of the exam)
* ***Create Beta Exam***Purpose: Enter questions into exam form through Webassessor
  + Invite volunteers to beta test the exam
  + Offer an incentive
  + Market the opportunity
  + Beta testing: 3-6 months
* ***Analyze Beta Exam Results***Purpose: To select the best performing items for the final exam
  + Review item performance and have committee members review problematic items. (Webassessor provides statistics for statistical review) (8 hours)
  + Select items for exam and place others in item bank for use with Sample tests and Qsteam “Ed to Go” mobile test preparation app.
* ***Develop Cut Score***Purpose: To determine a fair and reasonable passing score
  + Select method: generally the Modified Angoff or Extended Angoff method for our purposes
  + *psychometrician recommends to committee* (2 hours)
  + Committee agrees and approves
* ***Launch Final Version of Exam***Purpose: To deploy valid, reliable and legally defensible exam
  + Determine qualifications to take the exam
  + Establish review board to vet applications
  + Set pricing
  + Create Training Resources
  + Market availability of exam
  + Determine interval between unsuccessful attempt and next attempt to pass the exam.

More in-depth descriptions of these processes can be found here: [Althouse, L. A. (2000). Test development: Ten steps to a valid and reliable certification exam. In *Proceedings of the Twenty-fifth Annual: SAS Users Group International Conference, April* (pp. 9-12)](http://www2.sas.com/proceedings/sugi25/25/po/25p244.pdf).

### Exam Maintenance Plan

Please see document below:

?? - Sharon

### Reference Maintenance Plan

?? - Sharon

### Accreditation

To ensure our program is reputable and recognized, we must obtain an accreditation of the program. We propose this to be done through IACET.. There is a 6-9 month process to get IACET accreditation and the cost to maintain the accreditation is ~$1000 per year (not including HL7 time to prep)

?? Austin – Are these numbers in the financial plan?

### Auditing

??

### Tracking Tools

What tracking tool capabilities do we need to track the development/maintenance of exams?

Develop and/or select tools that can:

* Provide program descriptions and qualification requirements.
* Enable registration of interested candidates
* Provide on-line exams
* Track what candidates have taken (exams) and their references.
* List certified individuals.

For more information see: <http://www.scdm.org/sitecore/content/be-bruga/scdm/Certification.aspx>. Also, see SCDM Handbook:



## Pricing & Member Discounts – Calvin/Hans

Use Austin’s spreadsheet as the starting point.

# Risk Assessment & Mitigation Plan - Austin

The survey identified a number of potential risks. The project team reviewed these risks and identified potential mitigations that have been reflected in the program definition. For further details on this analysis, see the spreadsheet attached.



# Program Plan

Initial Rollout – FHIR

Timelines/Roadmap/Implementation Plan

Phase 2 and beyond – V2, C-CDA, etc.

## Staffing Plan

Cover both HQ and volunteer staffing.

## Technology Plan

Based on the requirements defined to date we need to consider the following types of tools:

* ATutor Learning Management Tools: <http://www.atutor.ca/>

Moodle: <https://moodle.org/>

Diego may know about this platform

* iHRIS: <http://www.ihris.org/about/>

## Marketing & Advertising Plan

?? – HQ - Melanie

## Communication Plan

?? – HQ - Melanie

# Financial Plan



Sharon: Considering the FHIR **certification** efforts to date, how does that impact the $75,000 startup estimate of the **credentialing** program.

**FIVE YEAR PROJECTION OF INCOME AND EXPENSE**

**REVENUES Year 1 Year 2 Year 3 Year 4 Year 5**

Start-up Funding $75,000

Certification Revenue - $25,000 $37,500 $50,000 $62,500

Other Income (licensing fees)\* $20,000 $25,000 $30,000 $35,000

**TOTAL REVENUES $45,000 $62,500 $80,000 $97,500**

**EXPENSES**

General & Administrative

Expenses $25,000 $25,000 $10,000 $10,000 $20,000

Marketing -

Program Development $50,000 $25,000 - - $10,000

Program Delivery Expense - $10,500 $15,250 $20,000 $25,000

Infrastructure (license fees, maintenance, etc. of tools used)

**TOTAL EXPENSES $75,000 $60,500 $25,250 $30,000 $55.000**

**NET INCOME (LOSS) - ($24,500) $37,250 $50,000 $42,500**

We need to adjust for multiple modules. Was based on singular set of content.

**Assumptions for Projections**

**Revenues:**

Source(s) of start-up funding and support during development and initial operating phase are HL7 funds from reserves, and potentially contributions from member organizations as well as a “surcharge” on member dues.

Revenues are generated mainly by testing fees in the early years and are dependent upon potential candidates, and company support. Certification renewal fees and other ancillary income from certification-related products and services are not included, but these revenues would most likely occur after Year 3 of program operation.

Revenue estimates are based on volume estimates calculated from HL7 certification activity for current certification exams and an estimated certification fee of $250 which averages member ($199) and non-member fees ($350) and weights the number in favor of more member participation.

Model Discussed:

* + Initial Step
    - Prerequisites + test (FHIR, V2, or CDA) + administrivia gets CHL7 behind your name for 3 years.
    - $360 for members, TBD for non-members (should we offer to non-members? Most other organizations require membership)
  + Maintenance Step every 3 years
    - Choice of
      * re-doing the then most current test + pre-requisites + administrivia = $360
      * education credits (classes, volunteering, etc.) + pre-requisites + administrivia = $200 + whatever each education credit cost

To be discussed in other sections:

* What are valid education credits? How much do you need?
* How much does V2 and CDA need to be bolstered to be equivalent of FHIR?
* How do we support someone who wants to cover FHIR and V2 and CDA and be recognized to be a specialist in that?

**Expenses:**

* Program development costs include testing and software consultants, honoraria to volunteer subject matter experts, and so forth.
* Marketing and sales cost include development and distribution of marketing collateral materials, events, travel associated with marketing functions and social media outreach.
* Test delivery and administration costs include cost of registering, administering, tracking the examination results, and providing recognition on the HL7 website as well as pins and digital badges for successful candidates.
* General administration and overhead expenses include equipment, telecommunications, headquarters staff support.

**Financial Contingencies:**

* In Year 1 consider assessing members a one-time cost of $15 to be a partner in the development of the implementer certification program. These funds would support the next year of development.
* In Year 2 of development, consider a fund-raising campaign during which organizations contributing $500 or more would be considered “gold card partners” in the program and would be eligible for group discounts for their employees in the first year that Implementer certification is offered. The discount incentive could be based on the size of the company’s contribution and the number of candidates certified.

Consider that individual members in good standing who are not part of a larger organization can be a certified implementer. Discounts? Other?

Appendix A

Include full Publicom report.

FHIR

* Focus of FHIR is on the “instructor/consultant/advise” who can help/train those creating implementation guides, not the implementer community per se.
  + Initial focus on Certification
    - Submit resource (part of eligibility criteria first)
    - Questions
    - Don’t have test test yet.
  + Interested in Credentialing with STU 3.
    - Concerned charging too much. Reviewed equivalent, but no conclusion. Saw anything between $200 and $2000. Depends on how much it comes with.
* ?? Need to distinguish between “instructor” vs. “regular” implementer.??
  + How much is really different though? So far no indication that some of the “instructor” type questions are irrelevant to the “regular” implementer.