Forum Report:
Student Readiness for
Clinical and Systems Transformation

December 12, 2014

Prepared by:
Student Readiness Working Group
CST Transformative Learning Advisory Group

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In December 2014, the Clinical and Systems Transformation (CST) Student Readiness Working Group hosted a forum with academic institutions about how to prepare students for eHealth clinical environments. Sixty two people attended, representing 10 academic institutions and three health authorities in the BC lower mainland.

The forum's recommendations to improve student readiness for eHealth are summarized below:

- ➢ Educational institutions should take a lead role in accelerating action on the following:
  - o Changing curricula to incorporate health informatics using an inter-professional approach.
  - o Providing professional development programs that prepare faculty for eHealth environments.

- ➢ Education institutions and health authorities should co-develop strategies to ensure that students have eHealth practice prior to placements:
  - o Leverage existing expertise and resources to facilitate student practice in simulation labs.
  - o Simulation learning should model clinical workflows and devices in a Cerner supported environment.

- ➢ Health authorities should develop appropriate strategies to involve faculty and students in CST so that both can support the transition to eHealth and be informed and ready for Cerner "Go Live" periods.

Evaluation indicated that the forum was well received by academic and health authority leaders and the objectives were achieved. There was strong consensus on the need to continue academic/practice collaborations to improve student readiness for CST.

The Student Readiness Working Group has scheduled two teleconferences with academic partners in February and March 2015 for action planning in follow-up to the forum. Lessons learned from the forum will be presented at the BC eHITS Conference: eHealth and Innovative Technology Showcase 2015, May 9, 2015, UBC Life Sciences Centre.
http://ehealth.med.ubc.ca/2014/10/23/ehits-2015/

INTRODUCTION -- WHY HOST A FORUM?

In 2013, the Clinical and Systems Transformation (CST) Project was jointly launched by Vancouver Coastal Health Authority (VCH), Providence Health Care (PHC) and Provincial Health Services Authority (PHSA). CST is a five year project that will complete a significant transformation of clinical practices and systems to benefit patients, care providers and health care organizations.

In 2014, the CST Transformational Learning team established a Student Readiness Working Group (see Appendix A). The group's mandate is to make sure the 7000+ students on placements in our health organizations every year are ready for learning and practice in a Cerner supported electronic health record environment.

To start the discussion about student readiness with academic partners, the working group hosted an invitational half day forum in December 2014. The purpose was to explore with academic deans, directors and department heads the implications of CST for health professionals' education. The focus was on what needs to happen to prepare students and onsite faculty for technology-enabled clinical environments.

This report summarizes the key themes and questions emerging from forum discussions. It will be shared with academic partners and used by the Student Readiness Working Group to inform further planning and next steps.

PARTICIPANTS -- WHO ATTENDED?

Sixty-two participants including facilitators and presenters attended the forum representing two broad categories (see Appendix B for participant list):
- 39 from 10 academic institutions (public and private) in the BC lower mainland
- 23 from health authorities in the BC lower mainland (includes 1 Deloitte consultant)

Participants

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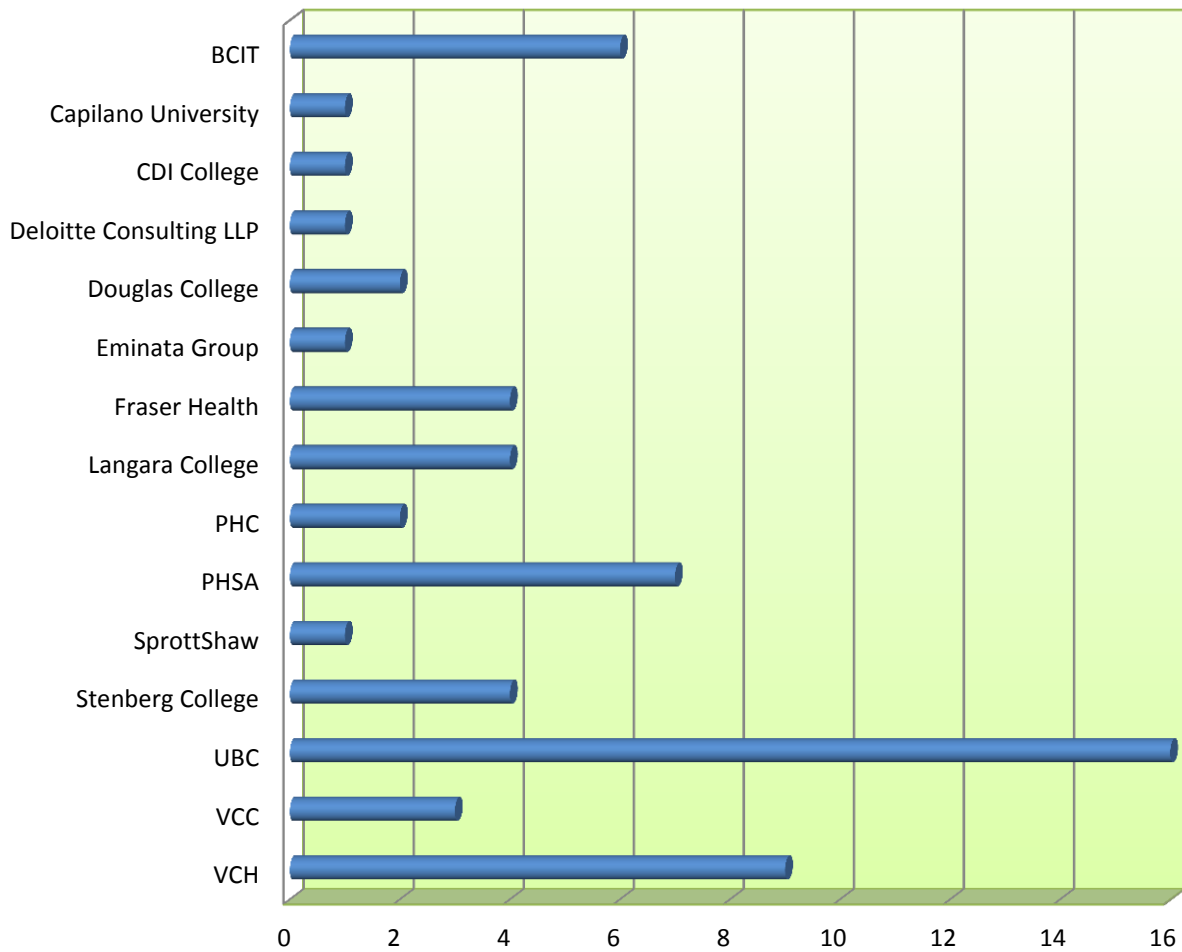
FORUM ACTIVITIES – WHAT HAPPENED?

Prior to the forum, participants were invited to visit the CST Project website www.cstproject.ca and received a document "eHealth for Educators: Selected Resources" (see Appendix C). About two thirds of participants visited the CST website indicating that it can serve as a 'go to' information source for academic partners.

At the forum, participants heard presentations from CST staff and a panel of eHealth experts (see Appendix D) on the following topics:

- CST project and implications for education programs, students and faculty.
- Health informatics competencies.
- Education strategies to support learning about health informatics.
- Academic/practice collaborations to increase student readiness for practice in a Cerner supported environment.

Participants joined small group discussions to explore three key topics.

Integrating Cerner into curricula: How can we prepare learners for a new clinical information system?

Faculty development: How can we prepare faculty for teaching in a new clinical information system.

Student placements during Cerner "Go-Live" periods: How can we avoid chaos and creating valuable learning experiences?

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COLLECTIVE WISDOM – WHAT DID WE LEARN?

Six themes emerged from presentations and participants' discussions. Each theme is summarized below including recommendations from participants and panelists.

Theme #1

Education programs are at various stages with integration of health informatics in curricula. Some programs are at the beginning stage, while others have embedded informatics competencies in existing curricula. A few programs have major curriculum revision initiatives underway. No program has an electronic health record embedded in the curriculum.

Recommendations:

- Take action to change curricula to incorporate health informatics. Educational institutions and programs should take a leadership role in these changes.

- Standardize curricula across health professions, for example, how we educate on the ethical use and practice of e-health records.

- Adopt interprofessional education approaches.

- Revise curricula to embed health informatics and electronic health record throughout programs.

- Emphasize the importance of quality data input by practitioners; this is critical to support use of data for evidence based practice and research.

- Adopt a 'digital approach' in curricula; move students and faculty to a paperless learning environment; Schools should provide laptops for students.

- Integrate components such as Tele-health in curricula.

- Leverage curriculum resources available through Canada Health Infoway.

Theme #2:

Faculty need preparation for the transition to eHealth. Faculty development programs must take up the challenge of learning how to teach in eHealth environments.

Recommendations:

- Make faculty development for eHealth a priority.

- Establish a 'technology' person who brings new tech to the forefront of faculty attention.

- Develop a list of competencies for faculty needs assessment and then use this as a resource to support development of faculty education tools.

- Assess faculty desire to teach eHealth theory versus specific system function.

- Provide faculty with advanced warning, competencies, and an orientation package to training resources.

- Use a train-the-trainer model for faculty development.

- Recognize that 'one size fits all' won't work with the diversity of populations, communities, resources, geography, etc.; different models of clinical instructors/preceptors in different programs/disciplines need to be taken into account.

- Leverage faculty development resources available through Canada Health Infoway.

Theme #3:

Students and faculty need access to a Cerner training environment that is suitable for student learning. This should occur prior to placements.

Recommendations:

- Provide access to a 'sandbox' as part of needs assessment and ongoing training.

- Get access to tools to facilitate high fidelity practice that best models actual clinical workflows.

- Rent systems to use with specific software.

- Pick a platform for education and get it up and running by mid-2015. Let schools manipulate their own data/setup.

Theme #4:

There was strong interest in collaborative approaches to transform curricula and create faculty development programs that support eHealth.

Recommendations:

- Collaborate with other education stakeholders; it is critical to make the most of CST.

- Look to collaborate and share resources between schools, programs and disciplines for professional development.

- Use schools' SIM labs/classrooms as a resource for training health authority staff.

- Work together on device purchases; get it in the budget for next fiscal year.

Theme #5:

Academic institutions want to be involved with CST so faculty and students are informed and ready for "Go-Live" periods.

Recommendations:

- Create a mechanism to continue discussions and produce tangible outcomes.

- Make CST a standing item on agendas of relevant committees such as Nursing Education Council of BC and Interschool Committee of the Lower Mainland.

- Give academic institutions adequate notice so they can prepare prior to "go live"

- Address ongoing/current issues of students' and faculty access to systems.

Theme #6:

Students are a tremendous 'tech-savvy' resource to support transition to eHealth.

Recommendations:

- Use senior students in change projects to develop eHealth learning modules for both students and staff.

- Get students ready to the point that they are able to assist with supporting staff as they 'go live'.

- Offer paid student internships in the summer months when they are not completing academic course work.

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QUESTIONS -- WHAT DO PARTICIPANTS WANT TO KNOW MORE ABOUT?

"How will CST affect our school of Nursing? Will there be new costs associated with teaching CST?"

"Will faculty and preceptors who are supervising students in clinical sites be able to 'edit' a student's charting in Cerner?"

"What are the legal implications of students using e-charting?"

"What will faculty development look like? How many of our faculty need to be trained or have intimate knowledge of eHealth systems?"

"Will Cerner allow access to Community Health records (e.g. PARIS) and integration with other systems (e.g. MediTech)?

"How will academic and HO's divide up the responsibility?

"How do we educate preceptors and students in rural settings?"

EVALUATION

Approximately one week after the forum, an evaluation survey was emailed to participants. Overall, the forum was well received and appreciated by academic leaders. There was strong consensus on the need to continue academic/practice collaborations to improve student readiness for CST.

Over a third of participants provided feedback on the forum. Responses showed that while attendees felt they gained understanding on the CST project and the impact it will make on student readiness for clinical practice, a majority were still uncertain as to what impact CST will have on the faculty and staff at their institution. In the qualitative portion of the survey, attendees indicated that access to a Cerner practice site and online education materials would be valuable in preparing students before they arrive at a health authority.

This feedback will continue to guide our next steps together in supporting student readiness for eHealth.

APPENDIX A – STUDENT READINESS WORKING GROUP MEMBERSHIP

Heather Straight   *Chair,* Director, Clinical Education, Vancouver Coastal Health (VCH)

Diana Trifonova   Transformational Learning Lead, CST

Stephanie Boll   Director, Clinical Education, VCH

Lisa Bower   Clinical Education Lead, VCH

Tom Grady   Regional Manager, Distributed Learning, Learning Technologies, VCH

Cathy Petry   Student Practice Education Analyst, Clinical Education, VCH

Shelley Fraser   Practice Consultant, Professional Practice, Providence Health Care

Elizabeth Kinney   Manager, Research Policy, PHSA

Sandra Harris   Senior Leader, Clinical Education, PHSA

Grace Mickelson   Corporate Director, Academic Development, PHSA

APPENDIX B – LIST OF FORUM PARTICIPANTS

Esther Aguilar, SprottShaw

Anne Andrew, BCIT

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Geoff Collier, Stenberg College

Leanne Currie, UBC

Lisa Dyck, UBC

Deb Filleul, Langara College

Kathy Fukuyama, VCC

Moreah Hamend, VCC

Margaret Heldman, Langara College

Kendall Ho, UBC

Cheryl Isaak, BCIT

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APPENDIX C -- eHEALTH FOR EDUCATORS: SELECTED RESOURCES

eHealth Websites

Clinical and Systems Transformation Project - www.cstproject.ca

BC eHITS Conference: eHealth and Innovative Technology Showcase 2015
May 9, 2015, UBC Life Sciences Centre, http://ehealth.med.ubc.ca/2014/10/23/ehits-2015/

BC Health Information Management Professionals Society, www.bchimps.org

Canada Health Infoway – Faculty Peer Leader Network

Teaching and Learning Resources

eHealth Competencies for Undergraduate Medical Education - Association of Faculties of
Medicine of Canada in partnership with Canada Health Infoway, May 2014

Nursing Informatics Entry-to-Practice Competencies for Registered Nurses – Canadian
Association of Schools of Nursing in partnership with Canada Health Infoway, 2012

Pharmacy Informatics Entry-to-Practice Competencies for Pharmacists – Association of Faculties
of Pharmacy of Canada in partnership with Canada Health Infoway, 2013

Nelson R. & Staggers N. (eds) (2014) Health informatics: An interprofessional approach, 1st ed.,
Mosby.

Cerner Academic Electronic Health Record:
http://www.cerner.com/solutions/Education_and_Training/Academic_Education_Solution/

UCern https://www.ucern.com/

Embedding Informatics in Clinical Education:
 http://www.eiceresources.org/about-eice/about-eice

Nursing Informatics Inventory: Existing Teaching and Learning Resources - Canadian Association
of Schools of Nursing, 2012

Nursing Informatics Teaching Toolkit: Supporting the Integration of the CASN Nursing Informatics Competencies in Nursing Curricula, 2013

Accelerating Change in Medical Education - http://www.ama-assn.org/sub/accelerating-change/grant-projects.shtml

Journal Articles

Hersh W, Gorman P, Biagoli F, Mohan V, Gold J, Mejicano G. (2014). Beyond information retrieval and EHR use: Competencies in clinical informatics for medical education. *Advances in Medical Education and Practice.* July 1, 5:205-12.

Milano C, Hardman J, Plesiu A, Rdesinski R, Biagoli F. (2014). Simulated electronic health record (Sim-EHR) curriculum: Teaching EHR skills and use of the EHR for disease management and prevention. *Academic Medicine,* 89(3), 399-403.

Found J. (2012). Developing competency in baccalaureate nursing education: Preparing Canadian nurses to enter today's practice environment. *Canadian Journal of Nursing Informatics*, 7(2) August 2012. http://cjni.net/journal/?p=2277 (includes Informatics Competencies for Baccalaureate Nurse Educators)

Gardner C. & Jones S. (June 2012). Utilization of academic electronic medical records in undergraduate nursing education. *Online Journal of Nursing Informatics* (OJNI), vol. 16(2), Available at: http://ojni.org/issues/?p=1702

Bowers A, Kavanagh J, Gregorich T, Shumway J, Campbell Y & Stafford S. (2011). Student nurses and the electronic medical record: A partnership of academia and healthcare. *Computers, Informatics, Nursing,* 29(12), 692-697.

APPENDIX D – PANEL PRESENTERS' BIOGRAPHIES

Leanne Currie, RN, PhD is an Associate Professor at the UBC School of Nursing where she conducts research in the field of nursing, biomedical and health informatics. Her program of research focuses on i) computerized clinical decision support systems, ii) measurement of informatics competencies, iii) user-centred design methods, and iv) digital literacy and access in low resource settings. Her students are working in areas such as global health informatics, patient safety informatics, clinical informatics and usability evaluation, informatics leadership, informatics competencies, and visual analytics.

Elodie Portales-Casamar is a Clinical Informatics Specialist with the Clinical Research Support Unit at the Child and Family Research Institute. Prior to joining CFRI, she was the manager of the Neuroinformatics Core for NeuroDevNet, a Canadian Network of Centres of Excellence in brain development. In this role based at UBC, she implemented a national framework for standardized data collection, extraction and analysis for researchers across Canada. Dr. Portales-Casamar has a PhD in neuroscience and post-doctoral training in bioinformatics and genomics.

Kendall Ho - Director, eHealth Strategy Office and Professor, Department of Emergency Medicine, UBC Faculty of Medicine. He is involved in developing an integrated 4 year eHealth curriculum in medical school curriculum renewal taking place now.
Kendall serves in leadership roles on committees advancing eHealth:
- He has been Chair of the provincial eHealth Innovations and Technology Showcase (eHITS) conference since 2014.
- He is a member of the B.C. Ministry of Health Patients as Partners Program Provincial Committee and Executive Committee, and chairs the eHealth working group.
- He is Chair of the national Royal College of Physicians and Surgeons of Canada eHealth expert working group
- He is a Member of the eHealth education committee of the Association of Faculties of Medicine of Canada (AFMC)
- He is a Collaborator with the World Health Organization Global eHealth Observatory

Judith Soon, BSc Pharm, RPh, ACPR, PhD, FCSHP is an Assistant Professor in the Faculty of Pharmaceutical Sciences at the University of British Columbia, and an Associate Member in the UBC School of Population and Public Health and in the UBC Department of Family Practice. Dr. Soon is a pharmacy educator and researcher who has developed and coordinated innovative clinical pharmacy services in both hospital and community pharmacy settings. She has facilitated the incorporation of e-health informatics materials into the UBC pharmacy curriculum at the 1st, 2nd and 4th year level, as well as an introductory presentation to pharmacy faculty members.