# Enhancing Canadian pharmacy education and interprofessional collaboration by using a simulated electronic health record

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## Introduction

Although electronic health records are critical for team-based care, most healthcare professional (HCP) programs continue to use "paper-based" patient cases. HCP programs also face challenges in integrating interprofessional education (IPE) into the curriculum. To address this, the Association of Faculties of Pharmacy of Canada (AFPC), working with Canadian pharmacy schools, developed an academic electronic health record (aEHR) to simulate electronic charts use.

#### Aim

To design an agile, web-based, high-fidelity simulated chart that has clinical rigor, team-based structure, and ease of use for instructors.

### Methods

The aEHR is a Canadian and bilingual (EN/FR) platform developed with funding from the government and input from pharmacy and other HCPs across the country. Development balanced the realities of current practice with idealistic features that best support patient care and pedagogical innovation. Rigorous pilot and evaluative work included usability, comparisons to paper-based assessments, and interprofessional use were conducted. Asynchronous and synchronous teaching methods were tested, including in lecture, tutorials, and simulation labs. Instructor tools facilitated management of assignments, tracking student progress and mapping of learning outcomes and competencies. Both inpatient and outpatient cases were used. Evaluation was mixed methods grounded theory using surveys, interviews, and workshop-based focus groups. Pragmatic and agile incorporation of findings were prioritized to enhance user experience and adoption of the aEHR.

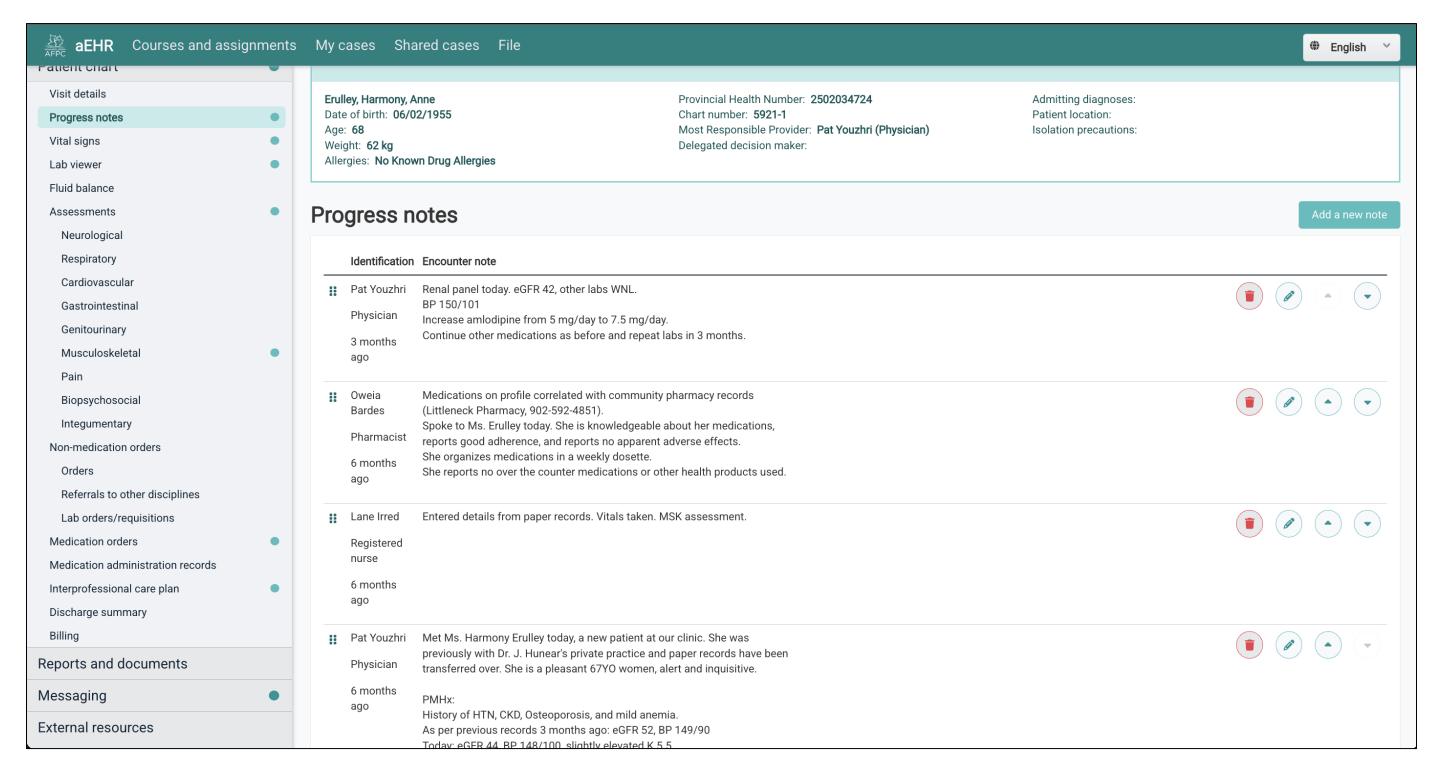


Figure 1: Interprofessional communication in the progress note section

Table 1: Descriptions for two aEHR IPE cases

Case Name	Description
Sharing is caring	In this activity, the learner searches the aEHR for the two medical errors and addresses them within their scope. They will also document their actions within the EHR.
If only you were here	Learners will have the opportunity to understand the scope and priorities of other health professionals in a complex situation. They are asked to identify their priorities and compare with their team members. This case is further complicated by a patient/client that is often unavailable for follow-up.

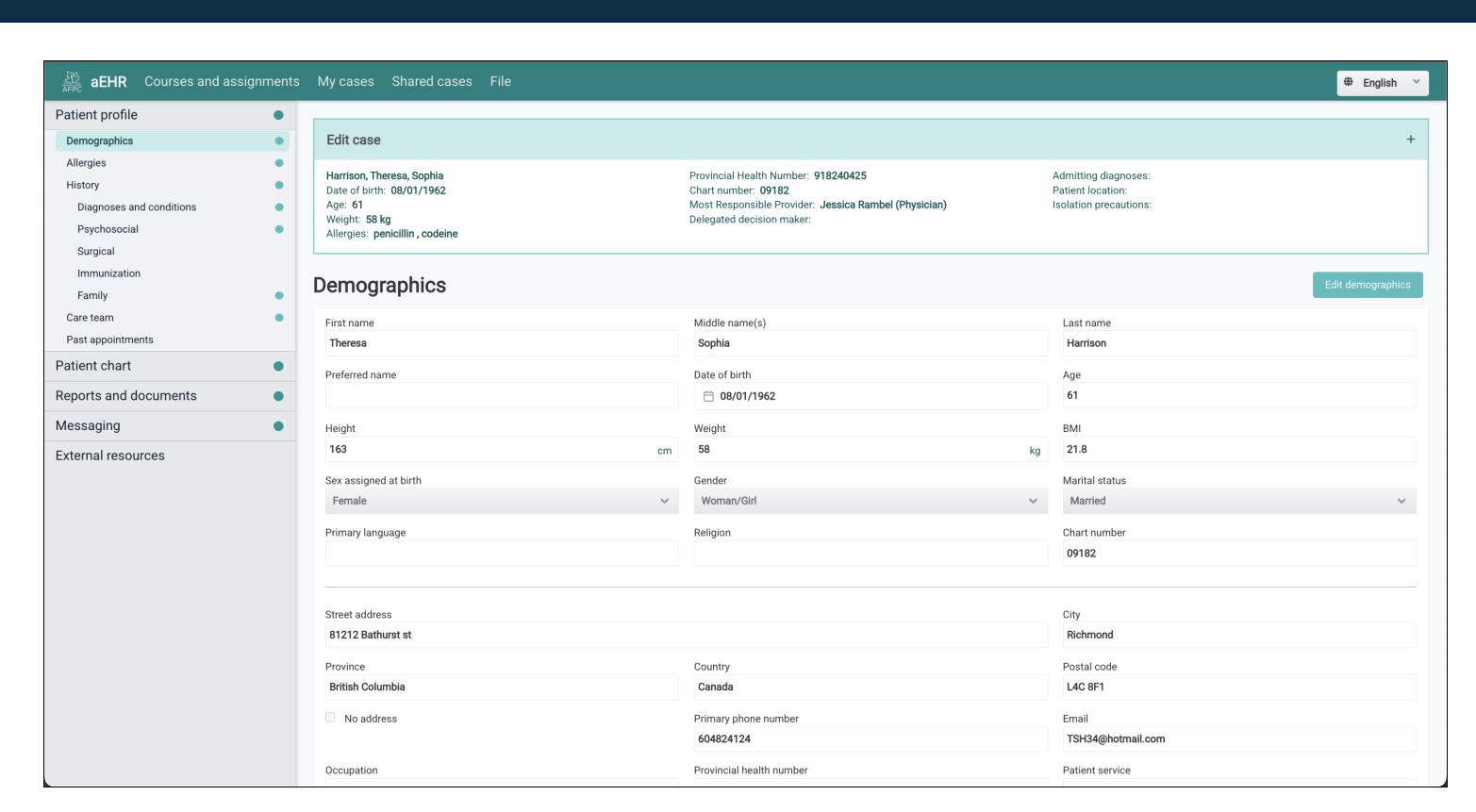


Figure 2: An example of an aEHR patient profile

#### Results

Student and Faculty users consistently found the aEHR to be a realistic practice-based tool, adaptable to various practice settings, and allowed for flexible learning modalities, including individual and small group assignments. Student tools that support interprofessional communication and collaboration were frequently used including the progress notes, lab and vitals viewer, and the medication administration record. Faculty used the aEHR in a variety of teaching environments with innovative activities such as longitudinal patient care assignments and case branching (cases that evolve to different outcomes depending on the student recommendations). The aEHR is being used as a crucial alternative to paper-based patient cases, seamlessly integrating into existing learning management systems (e.g. Canvas, Moodle, etc). The action-based framework for development has allowed for rapid iterative cycles and has responded to user needs throughout its use.

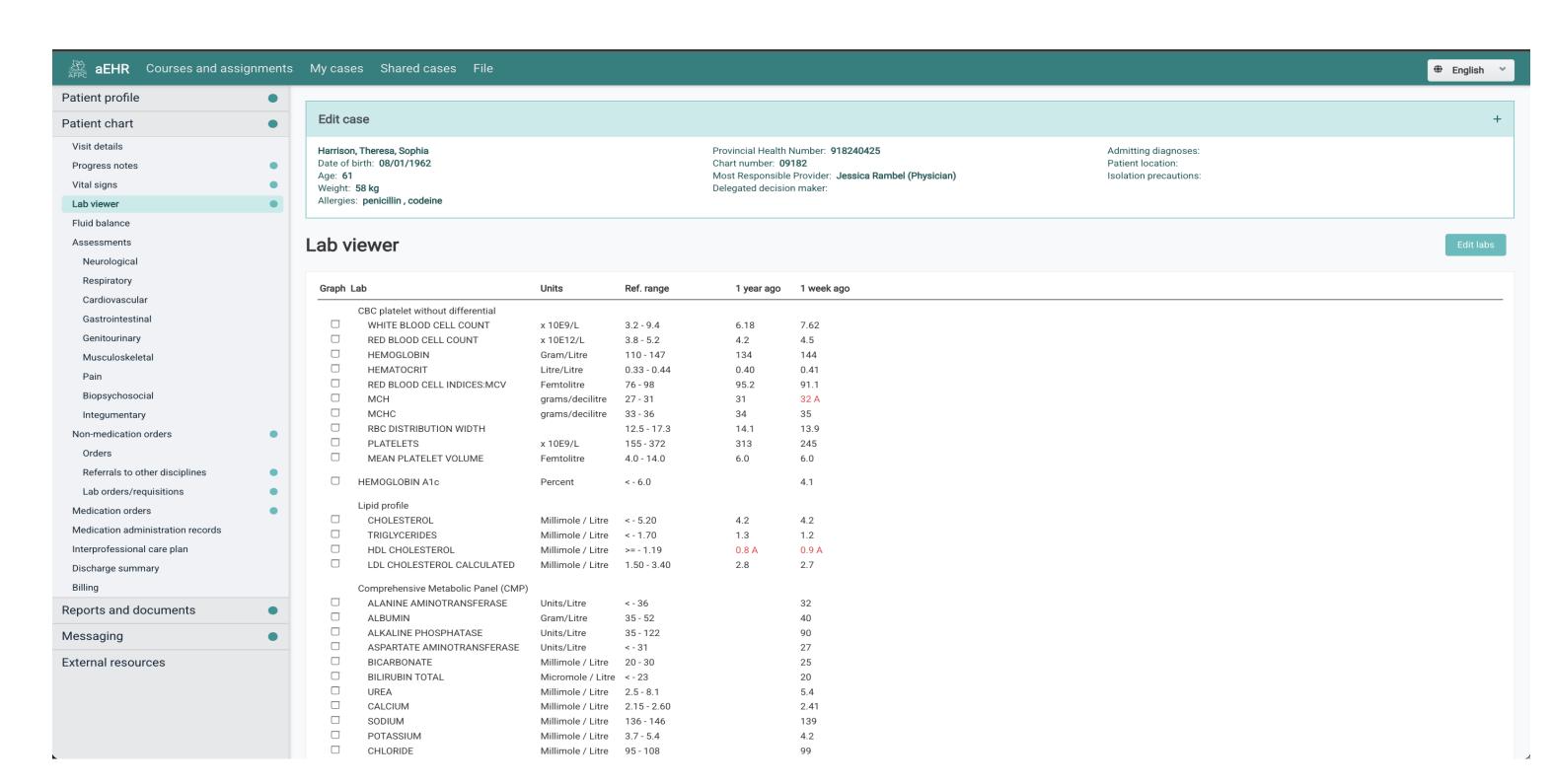


Figure 3: Lab viewer section of the aEHR

# Conclusion

Electronic health records are a vital tool that need to be part of the training and curriculum. By using the aEHR, students can gain real world practice that enhances clinical, documentation and communication skills. Faculty using the aEHR can offer unique pedagogical activities and assessments not feasible with paper-based cases.

Particularly as a digital tool for IPE, in alignment with FIP Development Goal #20 (Digital Health), the aEHR facilitates the development of a digitally literate workforce in a realistic way.

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