Case study:

How care will change following Clinical & Systems Transformation

Jimmy's Journey

Jimmy is six years old.

He was diagnosed with Acute Lymphoblastic Leukemia a few months ago.

His teacher noticed he was unusually quiet in class, lacked energy, and looked paler than normal.

His mom noticed he was hot to the touch and decided to take him to the hospital.

Jimmy arrives at hospital

Jimmy arrives at the Emergency Department at BC Children's Hospital.

Nurses and physicians immediately review his **medical history** (including hospital visits, community encounters, lab results and all medications).

Jimmy's care path today

Any existing Emergency Department protocols (e.g. fever/neutropenia) are completed **on paper**.

Home medication history is collected on paper.

Data from cardiac monitors is **manually recorded** on a flow sheet by the nurse.

1.5 hours after admission, an Intensive Care Unit specialist comes to see Jimmy and points out that several indicators suggest he might be septic.

Jimmy is transferred to Pediatric Intensive Care Unit for further observation and treatment. The team receiving Jimmy is currently on a case conference. They **send a student to write the transfer orders**.

The nurse requires co-signature of the student's orders before they can be enacted. **Some of the orders are delayed** pending approval.

Pharmacy receives the order, and **notes a patient history of anaphylaxis** to the antibiotic ordered. They page the team and wait (best case scenario).

Jimmy is recovering nicely and is transferred to the Oncology Unit to complete his IV antibiotics. The team is rounding and returns to the unit 60 minutes after transfer. They spend **30 minutes trying to decipher** what medications Jimmy was on before admission and what to continue. Paper copies are pulled from the chart and sit in the bin for 30 minutes waiting for pick up. It is **3 hours before antibiotics are continued**.

Hand over documentation is paper-based and left behind in Intensive Care Unit. The nurse **transcribes orders** to the paper medication administration record (MAR).

Medications arrive on the unit **3 hours** after Jimmy arrived. The nurse signs the MAR for the first dose after manually confirming the rights of medication.

Jimmy's care path tomorrow

Protocols embedded in electronic **order sets** are based on the latest **evidence-based practice**. Physician/ nurse practitioner initiates **orders electronically –** nurse immediately sees them on her task list.

The **home medication history is entered electronically**, with data automatically pre-filled from PharmaNet.

Data is **automatically streamed real time into the clinical information system**, validated and viewed by the care team.

Sepsis alert automatically triggered due to abnormalities in lab values. **Standardized sepsis protocol is immediately initiated.**

The Pediatric Intensive Care Unit team can **view the Emergency Department record and order remotely. Medication reconciliation** is initiated electronically. The team discusses the **care plan** and **places additional orders.**

Ongoing orders are entered from **anywhere** and may be **co-signed electronically** arriving immediately in pharmacy.

The system automatically triggers an **allergy alert**. The **order is changed** immediately.

The team receiving Jimmy can complete **medication reconciliation** based on the electronic medication history. Medications from home are re-started, medications no longer needed are stopped. The IV antibiotic is continued for 3 more days.

The order process is completed by clinicians remotely taking a total of **15 minutes**.

Hand over documentation and orders are **electronically** transferred to pharmacy and verified. The nurse reviews the order. **No transcription or verification** required.

Medications arrive **1 hour** after Jimmy. Nurse scans herself/medication and Jimmy and the medication rights are automatically confirmed using barcode technology.

Upon discharge, Jimmy's clinical information is all up to date on the care he received. Health care providers across VCH, PHSA and PHC can now see a more complete picture of Jimmy's health by accessing his records in the new shared clinical information system.