Improving post hip fracture care through the Ontario Telemedicine Network (OTN)

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GRAND RIVER HOSPITAL

Objectives:

- After attending this session participants will be able to identify the challenges and rewards to providing orthopedic follow-up via OTN

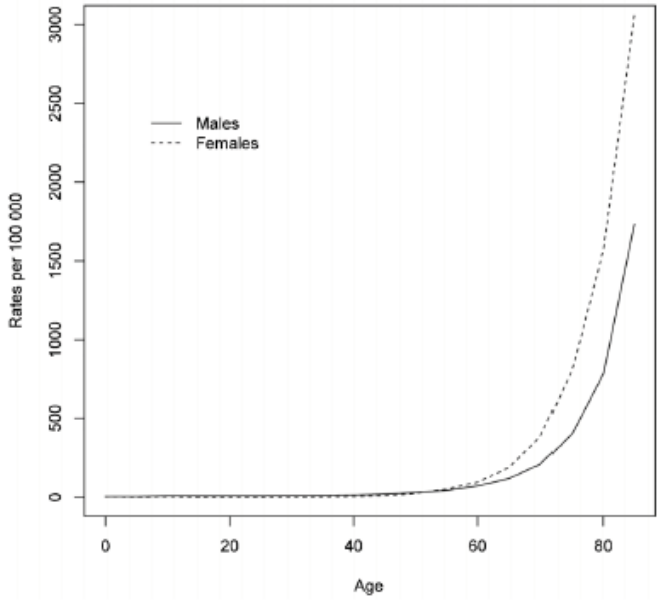
- After attending this session participants will be able to share our implementation experience with other rehabilitation programs.

Background

- In Canada[1]:
  - ~ 30,000 hip fractures per year
  - 72% females
  - 28% males

Background

- Rates increase with age[2]
- Average age in Ontario[3]:
  - 83 years for females
  - 81 years for males

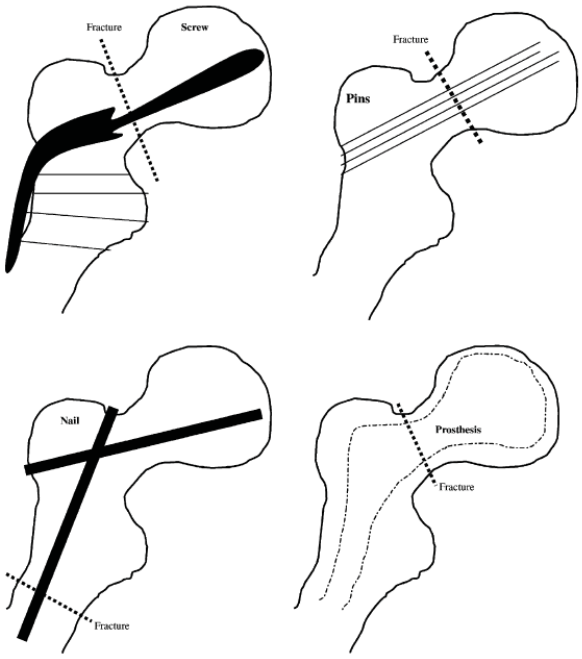


Source: Jean et al., 2013

Background

- Risk factors[4]:
  - Falls
  - Decreased bone mineral density (osteoporosis)
  - Inactivity
  - Impaired cognition

Background



- Significant associated health care resource utilization and costs[3]:
  - Emergency visits
  - Diagnostic testing
  - Surgery
  - Acute Hospitalization
  - Rehabilitation
  - Medication
  - Home care

Background

- Directly attributable costs for the first year post hip fracture in Ontario (2013)[3] :
  - $36,929/ fracture (women)
  - $39,479/fracture (men)
- $282 Million annual in Ontario
- 1.1 Billion in Canada

Grand River Hospital – KW Site

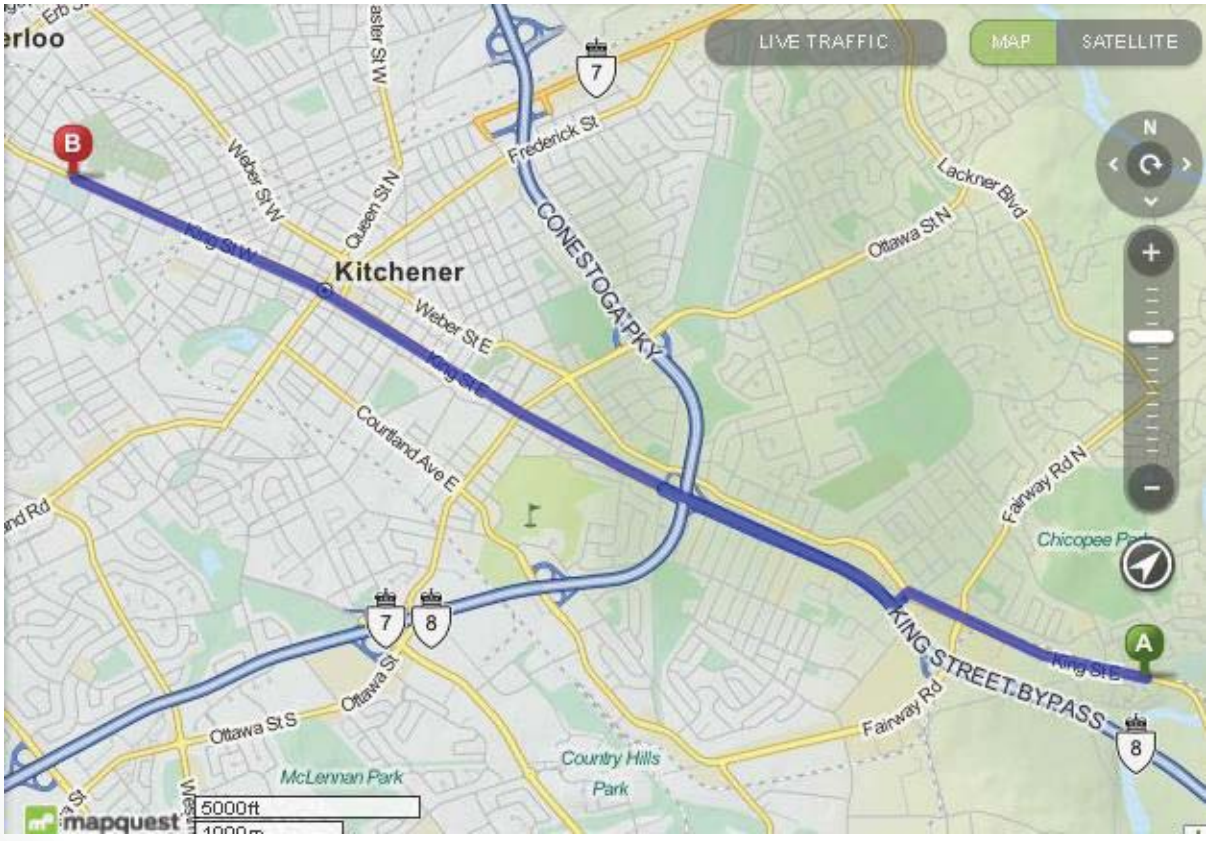
- In Kitchener-Waterloo a hip fracture patient's journey begins here
  - Emergency
  - Surgery
  - Acute hospitalization days

Grand River Hospital – Freeport Site

- Journey may continue at our Freeport site

- Complex Continuing Care
  - 49 Restorative Care Beds (slow stream rehabilitation)
- Rehabilitation
  - 33 beds (general & stroke rehab)

Only problem…



Issues with past process

- Not patient centred
  - Frail, cognitively impaired older adults
- Costly
  - Transportation $200.00 per trip + cost of staff accompaniment
- Barriers to effective interprofessional communcation
  - Therapists concerns/questions not consistently addressed
  - Frequently unable to answer caregiver's questions

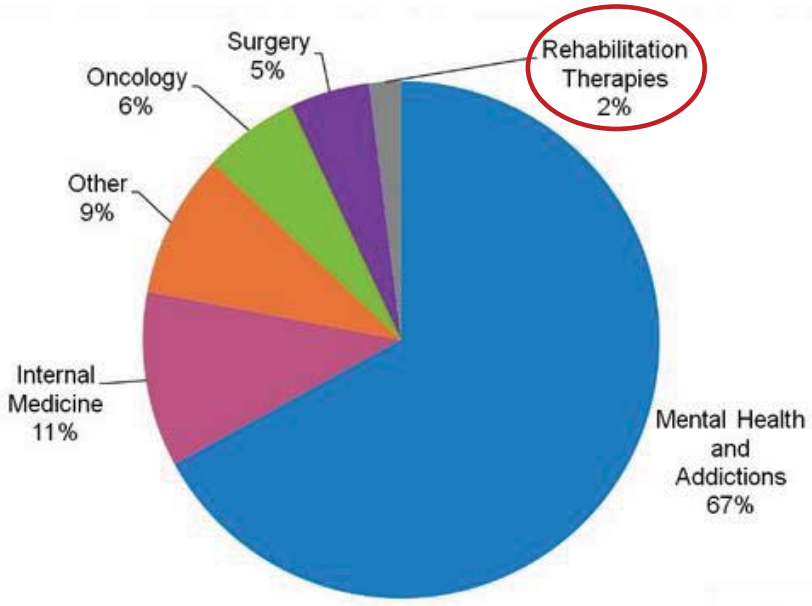
Solution

- Ontario Telemedicine Network (OTN)
  - Independent not-for-profit organization funded by the Ontario Government
  - “Bridges time and geography”

Solution

- Multiple uses
  - Initial and follow-up patient visits
  - Case conferencing
  - Multidisciplinary rounds
  - Education
  - Meetings

Telemedicine Use by Clinical Areas



Source: https://otn.ca/en/healthcare-office/health-care-professionals

Significant Process Change

- Formed a multidisciplinary committee
  - OTN Nurse*
  - CNS
  - Therapy Manager
  - Fracture Clinic Manager & Director
  - Patient Registration
  - Involved others as needed:
    - Therapists
    - Medical Imaging
    - Clerical (inpatient units and outpatients)
    - Diagnostic Imaging
    - IT

*Available through TM LHIN Nurse Program

Identified Multiple Challenges

- Physician buy-in
- Space
  - Do we need dedicated space? If so, what's available?
- Equipment
  - What do we need? Is there money?
- Patient registration
  - How will this process be impacted/communicated?
- How do we get the patient to the appointment?
- X-ray availability and coordination
- Physician orders

Physician Buy-in

- Piloted with one physician
  - OTN premium codes
  - Must be registered with Telemedicine (for billing)
  - Access to OTN (cost waived by Ministry)
- Several ‘dry runs’ before an actual patient appointment
- Started slow…one patient at a time

Physician Buy-in

- Added physicians one at a time
- First appointment of the clinic
- OTN nurse present at physician end

Space

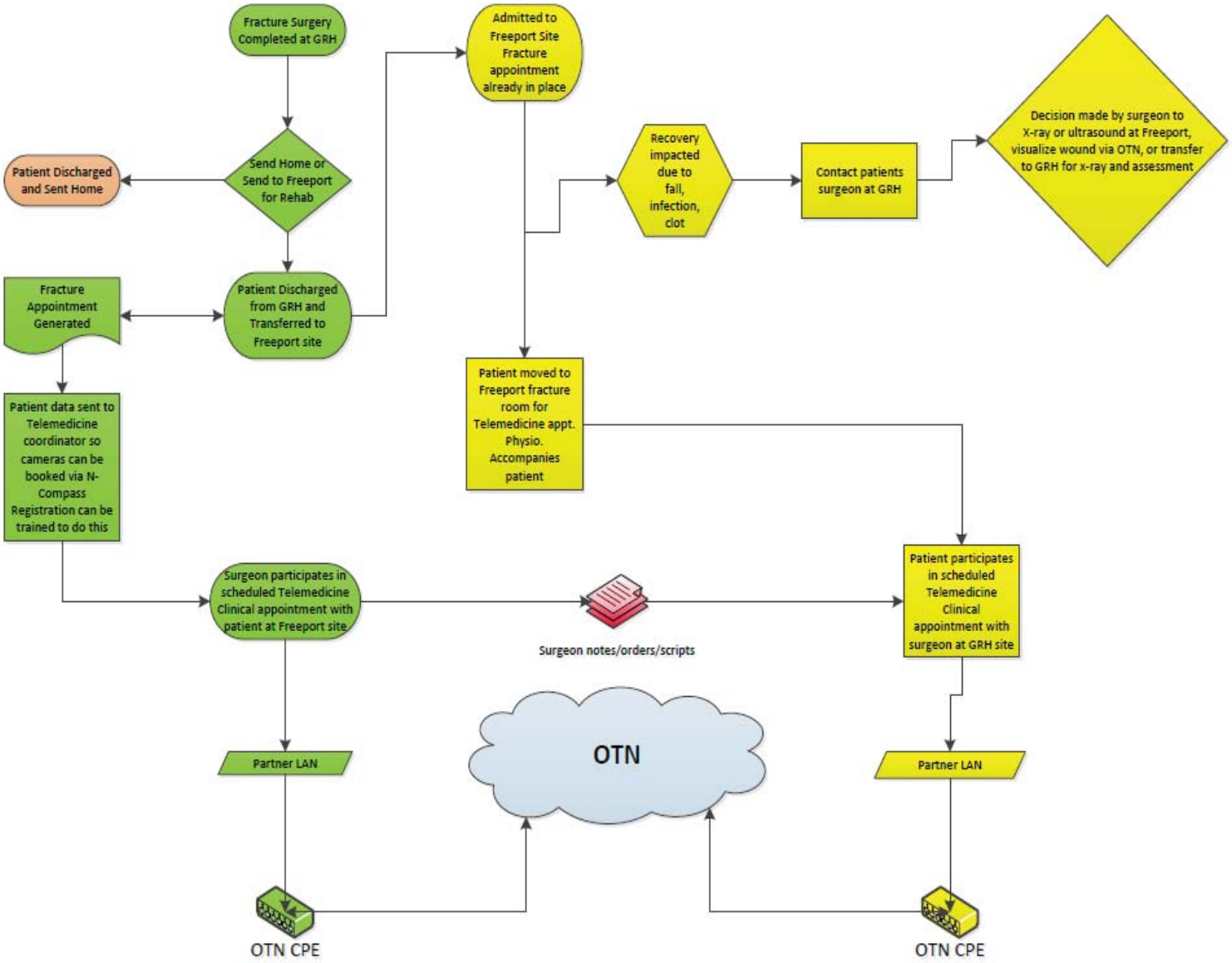
- Needed dedicated space
  - Privacy & logistics
  - Empty room on one of the units
  - Plinth from outpatients & stretcher from KW

Equipment

- Added an OTN drop
- Ministry initiative provided OTN equipment
  - Monitor
  - Camera
  - Hand held camera

Patient Registration Process

- Probably the most challenging element
  - Registration with both the outpatient department & OTN
  - Required changes to the outpatient registration system to reflect “telemedicine” appointment
  - Changes to how patients were scheduled
    - Education of clerks at KW & Freeport
    - OTN nurse developed protocol and education
  - OTN nurse to pull appointments from PHS and book OTN


Fracture Surgery Completed at GRH
Send Home or Send to Freeport for Rehab
Patient Discharged and Sent Home
Fracture Appointment Generated
Patient Discharged from GRH and Transferred to Freeport site
Admitted to Freeport Site Fracture appointment already in place
Recovery impacted due to fall, infection, clot
Contact patients surgeon at GRH
Decision made by surgeon to X-ray or ultrasound at Freeport, visualize wound via OTN, or transfer to GRH for x-ray and assessment
Patient moved to Freeport fracture room for Telemedicine appt. Physio. Accompanies patient
Patient data sent to Telemedicine coordinator so cameras can be booked via N-Compass Registration can be trained to do this
Surgeon participates in scheduled Telemedicine Clinical appointment with patient at Freeport site
Surgeon notes/orders/scripts
Patient participates in scheduled Telemedicine Clinical appointment with surgeon at GRH site
Partner LAN
OTN
Partner LAN
OTN CPE
OTN CPE

Patient Accompaniment

- Physical or Occupational Therapy
  - Allows direct conversation with the Orthopedic Surgeon
    - Clarification of issues/orders
- Required staff education re: equipment operations and process
  - Several sessions
  - Initially, Program Clerical present at Freeport end to assist with camera set-up

Diagnostic Imaging & Physician Orders

- Diagnostic Imaging available only Tuesdays & Thursdays
  - Requires some coordination
  - Engagement of MRP at Freeport
- Physician orders over OTN same as telephone
  - Scope of practice
  - Faxed to unit

Outcomes

- Patients, families, physicians, therapists have embraced the new model of care

- Therapy staff “love” the new process
  - “We get to clarify things with the surgeon instead of him missing our questions on the transfer sheet”

Outcomes

- Patients
  - Fascinated by new technology
  - Happy not to be travelling to the appointment
- Families
  - “I like being able to see and speak with the surgeon”
- Significant cost savings

Essential Elements for Success

- Interest and commitment from all members of the multidisciplinary team
  - Engage the right people
- Start low, go slow
- Availability of an OTN nurse!!!!!!
- Leadership buy-in

Next Steps

- Iron out remaining ‘bumps’ in the road
  - X-ray orders
  - Timing of the appointments
- Expand to our other referring acute care sites
  - Guelph General Hospital
  - Cambridge Memorial

Acknowledgements

- Steering Committee Members:
  - **Karen Champagne**, RN, BSC, BEd, CCNC(C), (MEd), OTN Nurse
  - **Andrea Guth**, BScPT, Manager, Integrated Stroke & General Rehabilitation Program
  - **Robinne Hauck**, RN, BScN, MA, Program Director, Surgical Services
  - **Jane Huiskamp**, RN PAN(C), Manager, Surgical Day Care
  - **Matthew Snider**, MD, Orthopedic Surgeon, Grand River Hospital, Kitchener

Acknowledgements

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  - Clerical
  - Medical Imaging
  - Nursing

- Patients and families

References

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3. Nikitovic, M., Wodchis. W., Krahn, M., & Cadarette, S. (2013) Direct health-care costs attributed to hip fractures among seniors: a matched cohort study. Osteoporos Int. 24:659–669.
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