Reducing Length-Of-Stay For Stable Antepartum Patients

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BACKGROUND

- The Royal Alexandra Hospital (RAH) is the obstetrical tertiary referral centre for northern Alberta, northern British Columbia, and the Northwest Territories.
- Out-of-town antepartum patients are transferred to the RAH for care of threatened preterm labour, preterm premature rupture of membranes (PPROM) and cervical incompetence.
- Stabilized patients may be eligible for outpatient management, but out-of-town patients may have significant geographic, social, and financial challenges resulting in **prolonged hospital admissions.**
  - In 2016, **1186 patients** were admitted to RAH with PPROM and cervical diagnoses.
  - **133 admitted for >7 days** (mean =21 days), accounting for **2823 bed-days in total**.
    - **48% were out-of-town residents.**
  - Based on $650/day for an acute antenatal care bed, these admissions cost **$1.8 million annually.**
    - Data from Alberta Perinatal Health Program (APHP)
- RAH OBGYN physicians (11/11) saw the need for antepartum outpatient accommodation facility and would refer to this program.
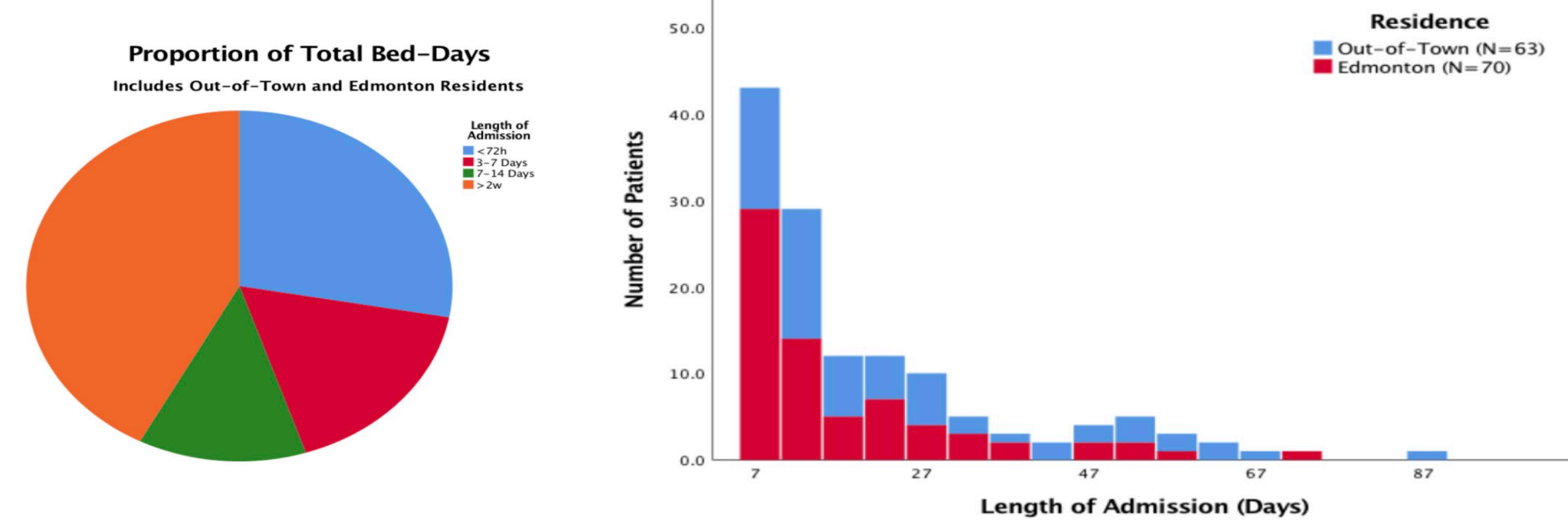- Antepartum patients (N=18) broadly supported safe outpatient management.

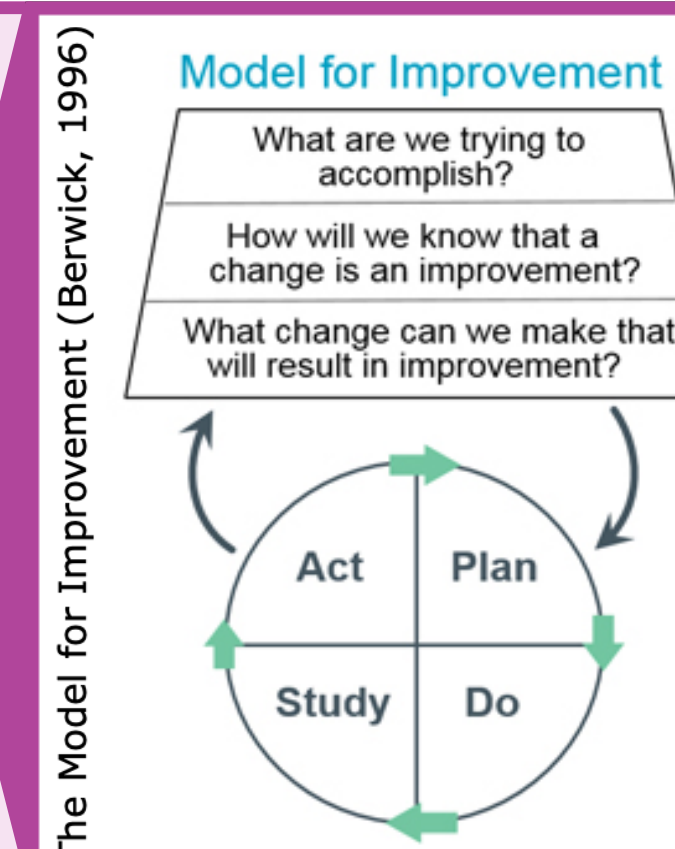Fig 1. Proportion of total bed-days by length of admission.

Fig 2. Number of patients, length of admission and residence.

AIM

- **Reduce inpatient length-of-stay for stable antepartum patients by developing an outpatient housing accommodation program.**
- Optimize healthcare resources by reducing acute care bed utilization.
- Improve patient experience by offering independence and privacy, and reducing unnecessary medical interventions.
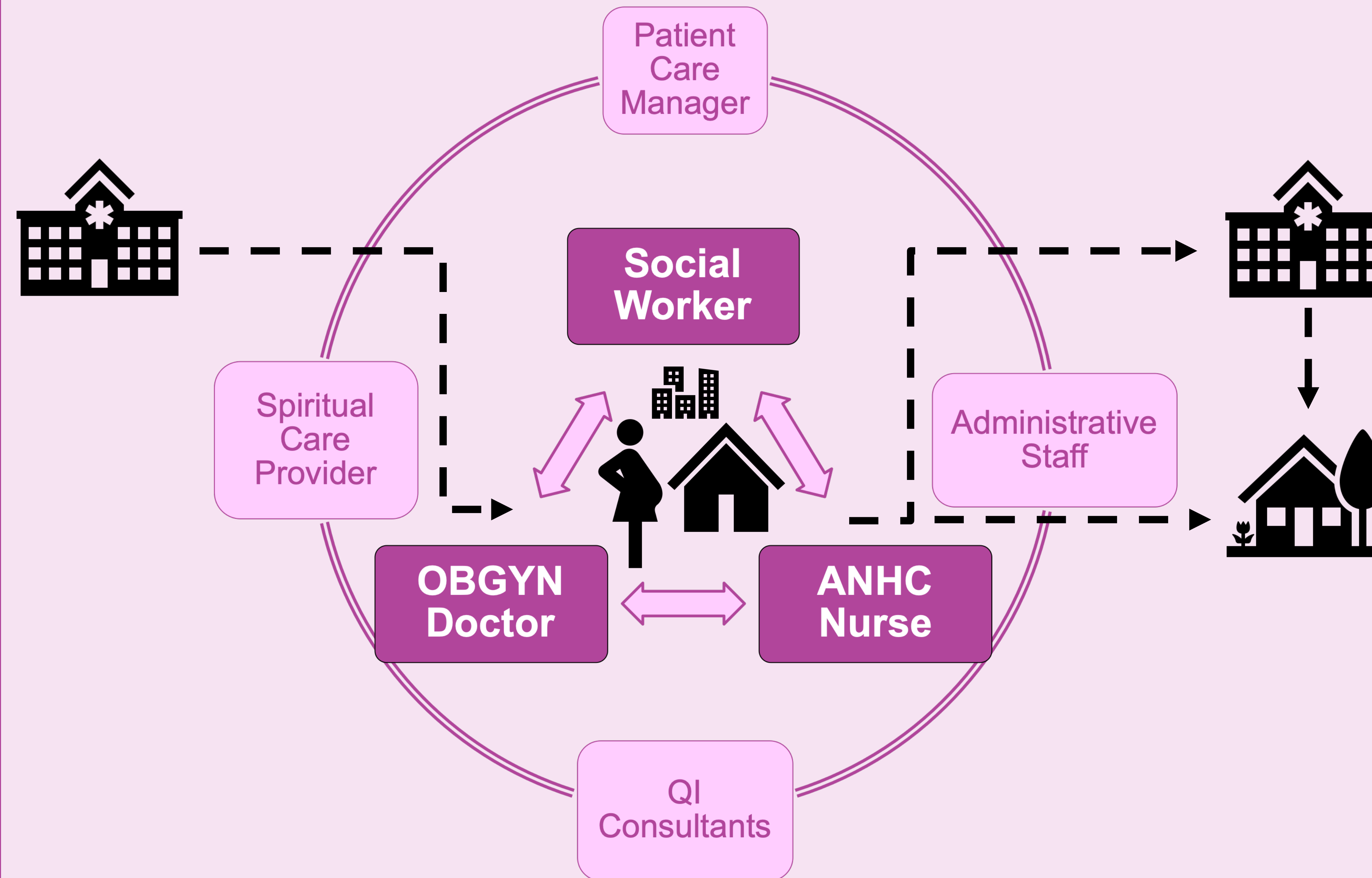
METHODOLOGY

- Applied the **Model for Improvement**: A road map for the study.
- **Donabedian Conceptual Evaluation Framework**: Employed to develop a family of measures (outcome, process and balancing measures).

The Model for Improvement (Berwick, 1996)

METHODS

- **Suppliers, Inputs, Process, Outputs, Customers (SIPOC) map**: Identified areas of strength and potential change in the current process.
- **Cause and Effect Diagram**: Identified potential causes of problem, further refined with a why-why analysis.
- **Process Mapping**: Visual illustration of current and proposed future processes to ensure gaps were closed.
- **ARECCI Risk Screening tool**: score=5, indicated minimal ethical risk.

Patient Care Manager — Social Worker — Spiritual Care Provider — Administrative Staff — OBGYN Doctor — ANHC Nurse — QI Consultants

INTERVENTION

- **Infrastructure: Existing Boarder Room Facility used by RAH Neonatal Intensive Care Unit.**
  - 2 individual rooms allocated to this study.
  - Communal kitchen, living space, washroom and laundry.
  - Assessment room for outpatient management with ANHC.
- **Care Team: A patient-centered network of care providers to support study participants.**
  - Standard Operating Procedures (SOPs) for collaborative practice of relevant healthcare providers.
- **Referral Process: Eligibility criteria for referral to the Boarder Room Program.**
  - Nursing staff trained to facilitate referral process.
  - Patient information package about Boarder Room Program.
  - Tracking system to manage referrals.
- **Check In/Out Process: Formalized process to standardize facility room-stay logistics.**
  - Exit surveys to measure the following parameters: demographics, patient-provider communication, functionality of accommodations, accessibility, safety and participant experience.

THE BOARDER ROOMS

PLAN DO STUDY ACT-CYCLE #1

- Two eligible patients will enter the Boarder Room Program PDSA #1:

Eligibility Criteria	1. Diagnosis that meets ANHC outpatient management criteria	✓
	2. Lives >30 min away from RAH	✓
	3. Able to do light activity (walking, carrying a light bag of groceries)	✓
	4. Would be treated as outpatient if residing in Edmonton	✓
No significant social concerns that would favor inpatient management, as determined by Social Worker Assessment		✓
Patient informed consent, after review of information package and tour of Boarder Room Facility		✓

- Participants can:
  - Be supported by a multidisciplinary care team.
  - Independently schedule and attend appointments.
  - Grocery shop and prepare meals.
  - Attend scheduled social events.
  - Be immersed in the community.
- Followed until delivery at the RAH or discharge to home community.

"Where Healthcare Supports Maternal Independence"

MEASUREMENT PLAN

Process Measures	• # of patients eligible for the Boarder Room Program. • # of participants who successfully complete the Boarder Room Program.
Outcome Measures	• 50% reduction in out-of-town admissions >1 week due to PPROM or cervical conditions. • 25% increase in # of discharges. • Participant experience stays the same or improves, compared to inpatients. • Decrease in unnecessary medical interventions.
Balancing Measures	• No out-of-hospital births.

FUTURE DIRECTIONS & IMPACT

- Data from PDSA #1 in 2019 demonstrated that a full review of the lessons learnt are required before further PDSA cycles can be completed.

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