

Improving the management of LSCS  
wound complications  
Clinical Practice Improvement (CPI) Project



Margi Moncrieff

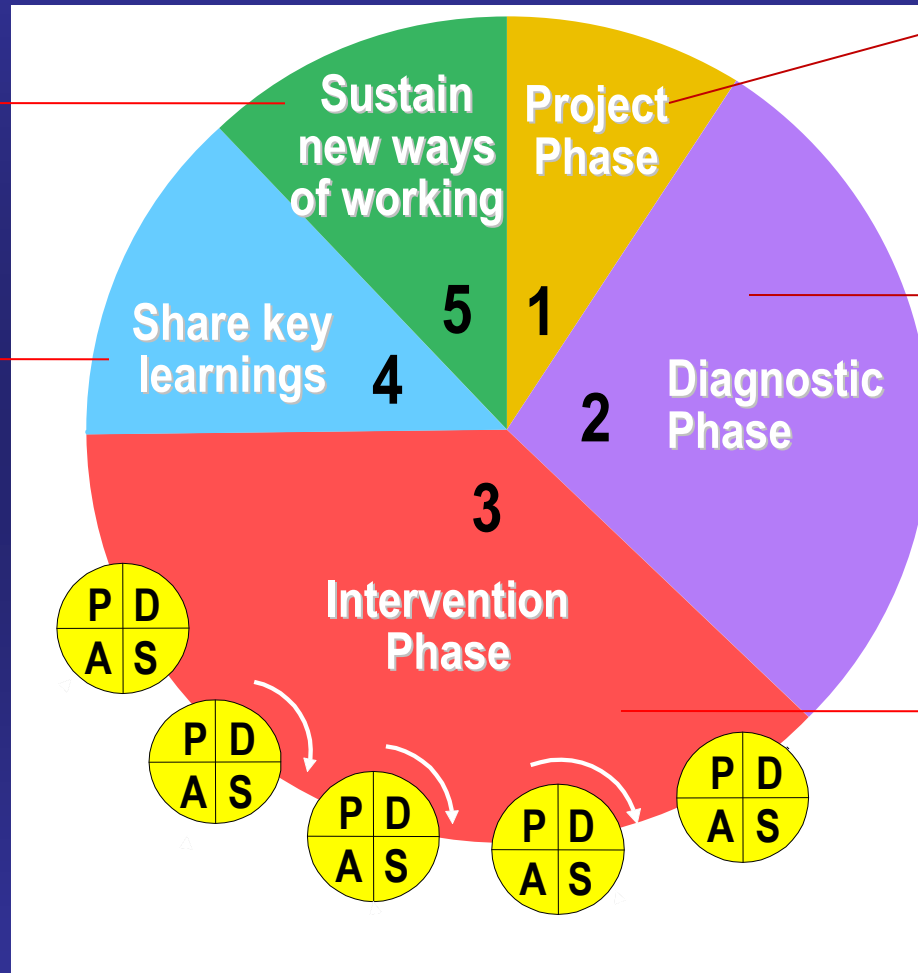
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# Clinical Practice Improvement Methodology

Change embedded in practice

New knowledge and interventions shared



- Problem identified
- Evidence gathered
- CPI methodology studied
- Project team
- Brainstorming
- Causes grouped into themes
- Vote to prioritize the problem
- Interventions that directly affect the cause are developed, implemented and the effect studied
- Plan, do, study, act

# Is there a problem worth solving?



# Is there a problem worth solving?

- Prolonged LOS and delayed treatment for women who were re-admitted with a LSCS complication
- Audit of Jan 2008 patients, 11 women  
av. LOS for re-admits 5.3 days
- 2009, Jan-Dec 931; 25 women = 2.68%

# Mission Statement

" In 6 months there will be a 50% reduction in length of stay for women who re-admit with a LSCS wound complication"



# Project Team

🏠 Margi Moncrieff (WMNP)

🏠 Dr. Sujana Molakatalla  
(O&G Registrar)

🏠 Dr. Steve Scroggs  
(O&G Consultant)

🏠 Dr. Elinor Atkinson  
(O&G Consultant)

🏠 Therese McDowell (Theatre  
ACSC)

🏠 Tracey McPhee (CSC, 4C)

🏠 Sarah Cummings (RN, 4C)

🏠 Anne-Marie Matthews  
(RN, 4A)

🏠 Anne Bristow (Clinical  
Information Systems co-ord)

🏠 Barbara Farrelly (CSC, H@H)

🏠 Genevieve Oosterbrook

🏠 Sarah (Consumer)



# Sarah and baby Ellwood; "the journey"

- 🏠 Emergency LSCS under GA: D/C day 5
- 🏠 Ongoing pain at home and feeling unwell: 2 GP visits
- 🏠 12 days later (Sat) temp 39°: A&E at 1600 & admitted to ward 0400 (Sun); IV fluids & A/Bs commenced. U/S small collection
- 🏠 Fasted on and off during next few days, "just in case"
- 🏠 Seen on Tues by WMNP, still febrile, repeated U/S which identified another, larger collection
- 🏠 OT that afternoon for I&D of large haematoma
- 🏠 D/C home Sat, LOS 7 days



Diagnostic Phase

# Sarah and baby Ellwood; "the effect"

- ✚ Wound left open to heal by 2ndry intention; daily dressing; wound took 6 weeks to heal
- ✚ Baby hungry and crying constantly (repeated fasting affected milk supply and IV A/B's, baby's mood)
- ✚ Sarah had to make a decision to bottle feed
- ✚ Home life and normal bonding with baby disrupted
- ✚ Sarah suffered emotionally and was prescribed an antidepressant
- ✚ This was Sarah's first baby



Diagnostic Phase

# Key issues identified by Sarah

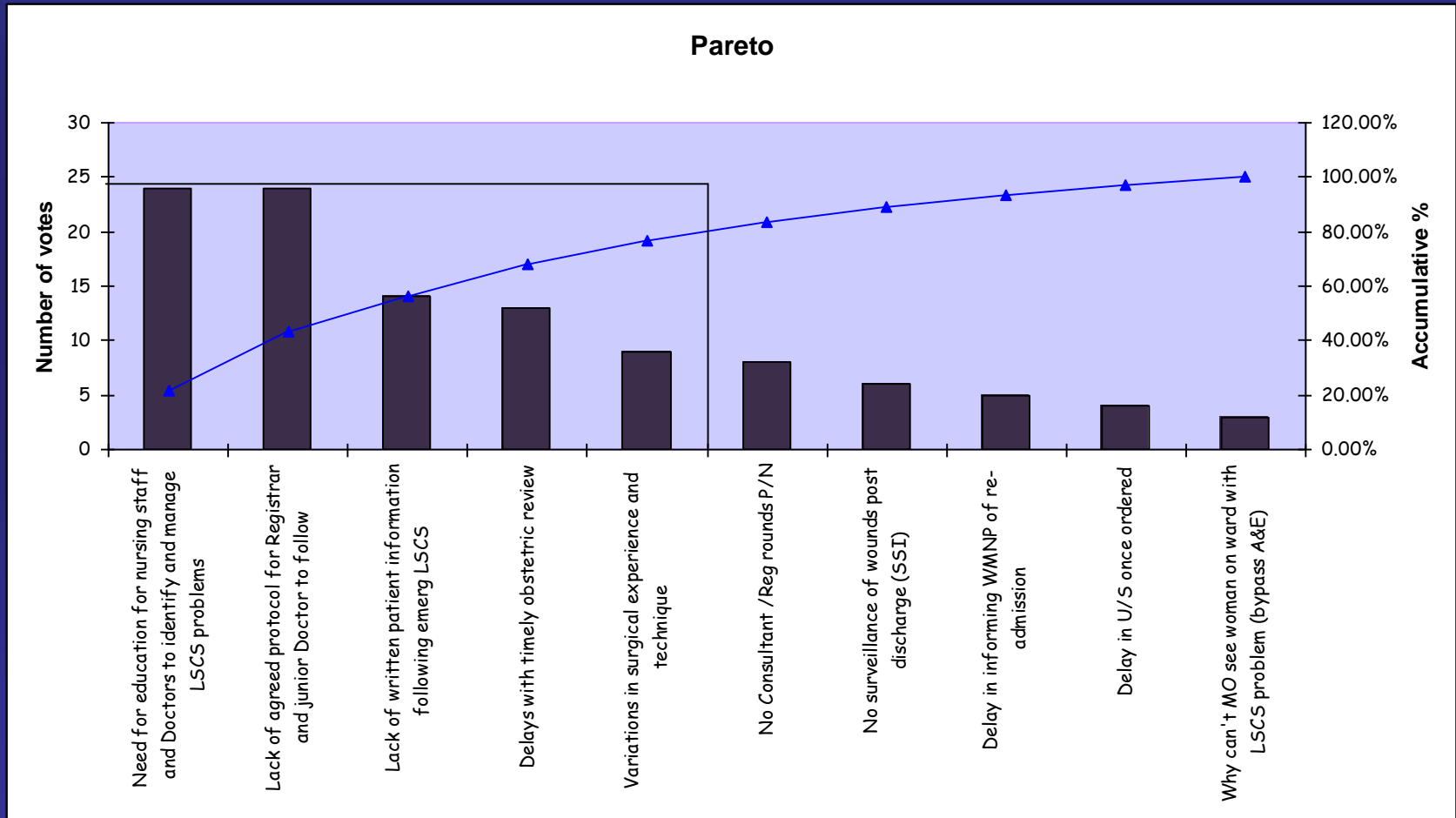
- ✚ Discharged home with unmanaged pain
- ✚ Did not know what was normal pain or what to expect with her wound
- ✚ Felt that she was just not coping vs. having a 'real' problem
- ✚ Did not receive written information
- ✚ Sarah felt that nothing was done for 3-4 days when re-admitted



Diagnostic Phase

# Pareto

Works on 80/20 rule; Helps to focus on what is important and target the interventions to focus on the causes that received 80% or more of votes



# Key problems voted

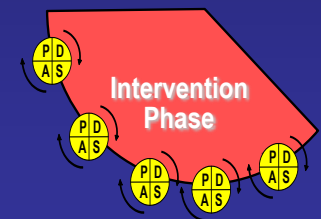
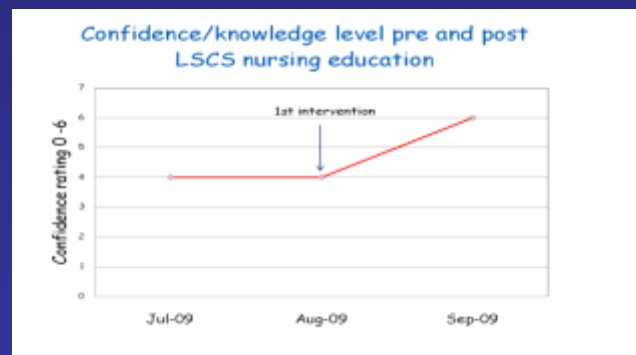
1. Lack of pathway of care or protocol, for junior Doctors to follow
2. Need for medical and nursing education to assess, identify and manage LSCS problems and wound management
3. Lack of written patient information following emergency LSCS



Diagnostic  
Phase

# Intervention No. 2: Education

- Nursing/midwifery in-service on wound Ax (especially D/C) and wound management
- Recording of presentation to enable on-line access for all staff
  - Pre and post education knowledge and confidence survey
    - Twice yearly repeat
- Medical education on surgical and wound management; annual session



# Intervention No. 3: Patient information

- ✚ Elective LSCS receive a "caesarean & baby" booklet in pre-admission

- ✚ Emergency LSCS were not receiving the LSCS booklet



- ✚ Neither had good information on the surgical wound; baby is the focus

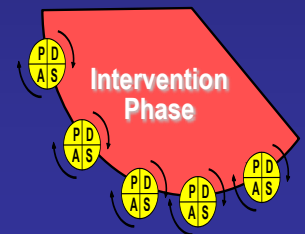
- ✚ Patient information sheet designed, to supplement the booklets (with a focus on D/C wound care).

- ✚ Integrated into booklet at reprint



# Intervention No. 1: lack of agreed pathway of care

- ✚ Develop a protocol on the management of women who readmit with a LSCS complication
  - ✚ From A&E to the ward, theatre to D/C to WMC
- ✚ Protocol completed August 2010; all staff educated
- ✚ Includes assessment, diagnostics, intervention, local wound management, discharge care
  - ✚ Available on the intranet





### Management of caesarean section wound complications

#### Information

Wound complications can occur in women who have had a caesarean section. Complications include haematoma, dehiscence and infection. Surgical site infection is defined as superficial incisional, or deep incisional and occurs within 30 days after the operative procedure. Readmission with a wound complication has a significant impact on the mother and her newborn child.

**Characteristics of superficial incisional infection** (Involves only the skin and subcutaneous tissue of the incision) and exhibits **at least one** of the following signs;

- purulent discharge
- organisms isolated from an aseptically collected culture or tissue fluid
- pain or tenderness, localised swelling, redness or heat at the incision site
- diagnosis or antimicrobial treatment of superficial SSI by the Surgeon or Registrar

**Characteristics of deep incisional/organ space infection** (Involves deep soft tissues (e.g. fascial and muscle layers) AND/OR organs/spaces opened or manipulated during an operation) and exhibits **either 1 and or 2** of the following signs;

- purulent drainage from deep soft tissue
- spontaneous dehiscence at the incision site or the Surgeon explores the wound in the patient who shows evidence of **one or more** of the following signs
- fever 38<sup>o</sup>>, localised pain or tenderness
- organisms isolated from an aseptically collected culture or tissue obtained from organ/space
- an abscess or other evidence of infection
- Diagnosis or antimicrobial treatment of deep SSI by the Surgeon or Registrar

#### Evidence of haematoma may include:

- the above mentioned characteristics of infection
- increased pain
- swelling
- bruising
- blood stained discharge

**Timely management of the LSCS complication will result in improved health and wellbeing and reduce interruptions to motherhood, breastfeeding and bonding. Outcomes include early surgical intervention, treatment of infection and reduction of length of stay.**

**On presentation to the Emergency Department the patient will be seen by a member of the O&G medical staff as early as possible**

#### Investigations

- FBE, CRP, If febrile 38<sup>o</sup>> blood cultures.
- Wound Swab for MC&S (request a copy of the results to be sent to GP)
- Abdominal Ultrasound.
- CT scan may be indicated if deep tissue involvement is suspected or necrotising fasciitis is possible

#### Assessment

Observations (BP, TPR, SaO<sub>2</sub>) Palpate around wound documenting areas of induration, pain/tenderness; observe and document exudate quality and amount. Gentle probing to identify tracks/collection: mark cellulitis with permanent marker

#### Non-admission Treatment options

- H@H for IV antibiotics
- Follow up appointment with GP and oral antibiotics. Where possible the antibiotics are targeted at specific bacteria identified in micro swabs and blood cultures
- Follow up in Wound Management Clinic (Bookings through Clinic A)

### Management of caesarean section wound complications

#### Admission

##### Initial Management

- 4 hourly observations (BP, TPR, SaO<sub>2</sub>)
- IV fluids are essential for maintaining hydration and milk supply
- Analgesia
- Antibiotics broad spectrum until MC&S available
- Ensure facilities for infant rooming in are in place
- **If for surgery:** Fast for minimum of 6 hours pre operatively

#### Intra operative management

- Following incision and drainage of infective collection/haematoma: shave suprapubic region to facilitate dressing adherence and comfort on dressing removal. Dress wound with Aquacel-Ag, recording number of pieces used on operation sheet. secondary dressing of gauze, then Mesorb and secure with Tegaderm.

#### Post-operative

- Routine post op observations (TPR, BP, SaO<sub>2</sub>, check wound site)
- IV fluids to maintain good hydration
- Antibiotics as prescribed
- Pain relief as required
- The dressing is to be changed after 24 hours; ensure patient has appropriate analgesia at least 30 minutes prior
- Dressing change: Explain procedure to the patient; Wound is to be dressed daily with Aquacel-Ag, gauze, Mesorb and Tegaderm to waterproof. Complete Wound Assessment and Dressing Regime Chart, document wound assessment in medical record.

#### Discharge preparation

- Educate patient on expectations on home wound care and wound healing
- Refer patient to H@H for discharge wound care
- Book patient into the Wound Management Clinic (Clinic A)
- Post natal appointment with O&G Consultant if appropriate
- Discharge prescription including analgesia and antibiotics
- Complete nursing and midwifery discharge checklist

#### Discharge home when:

- Medical staff have reviewed and patient considered medically stable
- Wound Management Nurse Practitioner has reviewed the wound either prior to or on day of discharge
- Adequate pain control on oral analgesia

#### References

1. "Surgical Site Infection, Prevention and Treatment of Surgical Site Infection", Clinical Guideline, NICE October 2008, Published by the RCOG Press, London
2. "Surgical Site Infection (SSI) Definition" Safety and Quality Council, 2004 [www.safetyandquality.gov.au/](http://www.safetyandquality.gov.au/)
3. "Position Document of the Australian Wound Management Association, Bacterial Impact on Wound Healing", July 2009 [www.awma.com.au/publications/2009/bacterial\\_impact\\_position\\_document\\_v\\_1\\_1\\_0.pdf](http://www.awma.com.au/publications/2009/bacterial_impact_position_document_v_1_1_0.pdf)

# Next steps

- ✚ Maintain Medical and nursing education
- ✚ Extend education to Obstetric Shared Care GP's

- ✚ Audit records at 6 months (March 2011) to identify if LOS has reduced



- ✚ Encourage surveillance



- ✚ Trial of a TNP device for high risk women



Minimise the impact of a complicated journey,  
to ensure the experience is supported and still  
memorable