Optimizing patient flow as a way of improving health service in a low risk obstetric clinic

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Introduction

- Long patients' waiting time in outpatient clinic is a common complaint; and has posed substantial challenge to the healthcare system.

- **Patient flow** in the low risk obstetric clinic in Queen Mary Hospital was identified as target for improvement.

- **Primary aim: To reduce total patients' waiting time during the clinic visit**.

Patient Flow

- '*In simple terms, flow is about uninterrupted movement, like driving steadily along the motorway without interruptions, or being stuck in a traffic jam.'*

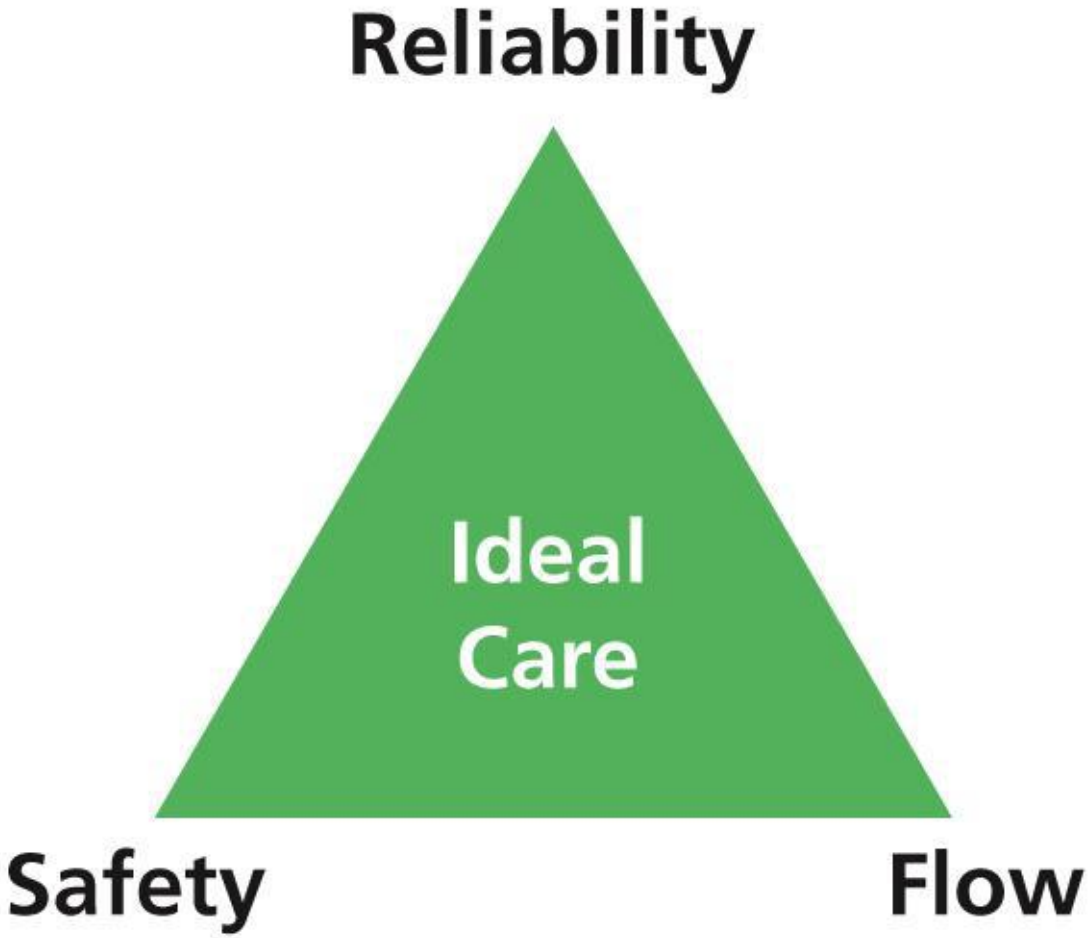
- In a busy city, people spend up to 10 years of their lives waiting.

- *Cut it to 7 years (30%) over 4 months ?*

- A season of change, please do tune in…

Patient Flow

- Our focus is operational or process view of patient flow.
- Close relationship between both the operational and clinical perspectives.
- Vital to include clinicians in mapping sessions


Reliability
Ideal
Care
Safety
Flow

Methodology

Process mapping

- Clinical and frontline operational staff involved from the beginning.

- Patient journey (from time of arrival for registration till time of leaving the clinic) and associated processes mapped out

- The core working group consists of consultants, resident, DOM, ward manager, APN and midwife.

Methodology

- Front-line staff are involved to identify issues and solutions to problems

- In a staged manner at a pace acceptable
    - plan, do, study, act, cycles of change

- Guided by questions that focus on identifying the root causes of a problem

Methodology

Reduce things that do not add value to patients

- Waiting only adds value if there are clinical reasons for the waiting.

Plan ahead: along all parts of a patient's journey

- Ensures that each step is planned for, scheduled so
- Everyone knows what to expect, when to expect it.
- To co-ordinate and pace work

Methodology

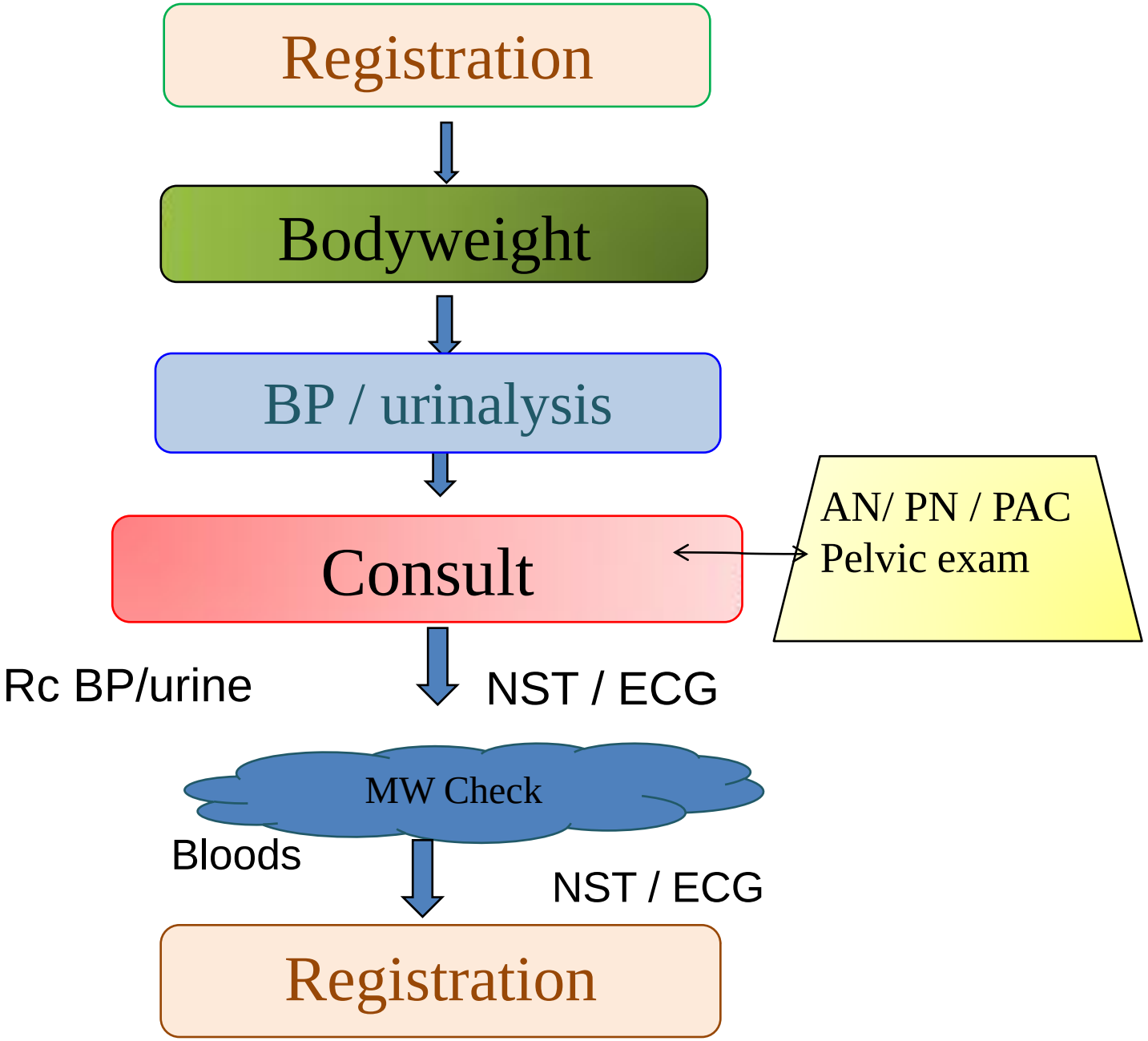
- Three surveys to measure the total patients' waiting time.

First survey over 1 week in August 2012

- **Group 1-** pre-implementation of changes
- 4 to 5 patients randomly selected in 4 different time slots during each clinic session
- Total waiting time was 110.5 ± 36.1 min (mean ± SD)
- Waiting time for consultation was 67.0 ± 32.8 min (mean ± SD).

Methodology

- Every waiting time interval and associated processes were examined to identify gaps for improvement using
  - lean thinking and
  - theory of constraints.


Registration
Bodyweight
BP / urinalysis
Consult
AN/ PN / PAC
Pelvic exam
Rc BP/urine
NST / ECG
MW Check
Bloods
NST / ECG
Registration

Methodology

Possible factors were addressed including

- long toilet queue for saving urine
  - Staggered appointment , reduce time interval /batch
  - Patients' reminder
  - Toilet facilities

- late start of doctor consultation
  - Doctors' reminder
  - Asterisk assignment
  - Survey

Methodology

- inefficient procedure explanations
  - Patients ‘ reminder
  - Videos, written information
  - Outpatient clinic outline for different gestations
  - Easy access of pamphlets

- midwifery check of records after doctor consultation
  - Limit checks
  - Empower patients and doctors

- **purple flow** message (Red **+ Blue = Purple)**

Methodology

- Two surveys were performed after staged implementation of changes in
  - November 2012 (**Group 2**) and
  - January 2013 (**Group 3**)

Results

- 167 patients with 63, 58 and 46 from the Group 1, 2 and 3 respectively.

- Table 1 shows profile of the groups.

- Waiting time for urine tests and blood pressure measurements was lowest in Group 2, with slight increment in Group 3, but still significantly shorter than Group 1 ($p = 0.000$).

Table 1

Waiting time (mins) for	Group 1 Mean ± SD (N = 63)	Group 2 Mean ± SD (N = 58)	Group 3 Mean ± SD (N = 46)	P value
Urinalysis & BP	17.1 ± 14.8	6.1 ± 5.8	9.8 ± 13.5	0.0000
Consultation	67.0 ± 32.8	56.4 ± 26.7	44.3 ± 25.9.	0.0004
MW check	19.0 ± 13.1	16.1 ± 10.8	16.7 ± 16.5	0.4
Total time spent	110.5 ± 36.1	83.5 ± 29.9	74.6 ± 27.3	0.0000

Results

- Waiting time for consultation was significantly reduced ($p = 0.0004$).

- Waiting time for nurse instruction ($p = 0.4$) showed no statistical difference.
  - MW's check load much decrease
  - More patients go straight to registration after consultation

- The total waiting time was significantly reduced ($p=0.0000$), and shortest in **Group 3** (74.6 minutes).

Conclusion

- Total waiting time is reduced by **32.5%** (110 → 74 minutes)after staged implementation of changes over one season.

- Optimizing patient flow as a way of improving health service in a low risk obstetric clinic is mission possible.

Conclusion

- ✓ A structured approach applying small tests of change (plan, do study, act, audit) with measurement (time) will help to ensure that any change results in an improvement

- ✓ Empowering and engaging staff, and using lean thinking and theory of constraints approaches do support improvement efforts.

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Thank you