

“You can’t anaesthetise a rumour”

But can you balance elective & emergency demand in busy general hospitals?

The situation

- Monash Medical Centre
 - 9682 OR cases
 - 5177 elective adult & paediatric surgery cases
 - 4420 emergency OR cases
 - 3400 deliveries
 - 650/1000 LUSCS are emergencies
 - All cardiothoracic, cardiology & neurosurgery/ neuroradiology & most paediatric emergencies (except plastics) for SH
- Dandenong Hospital
 - 9580 OR cases
 - 5026 elective adult & paediatric cases
 - 4542 emergency OR case
 - 2600 deliveries
 - 450/ 800 LUSCS are emergencies
 - All adult orthopaedic, plastics & facio-maxillary emergencies for SH

The situation as it was.

- Monash Medical Centre
 - 8 OR
 - All available elective lists allocated (most nominal 3.5h duration)
 - 1 OR dedicated to emergencies 24/7
 - Including most renal & pancreatic transplants
 - Additional emergency OR **potentially** available for limited periods after hours
- Dandenong Hospital
 - 6 OR
 - Most available elective lists allocated (most nominal 10h duration)
 - OR dedicated to emergencies only available after hours
 - Additional emergency OR **potentially** available for limited periods after hours

The situation.

- Additional emergency OR **potentially** available for limited periods after hours meant:
 - Staffed with nurses;
 - from 1700- 2130 weekdays
 - from 1230-1730 on weekends
 - other duties had gradually been incorporated into this time
 - complete elective lists
 - relieving
 - clean up & set up
 - anaesthetic registrar(s) in house & consultant(s) available within 15 minutes
 - theoretically reserved for “time critical” emergencies (particularly LUSCS)
 - time critical cases outside these periods were managed on the “just do it” principle (including LUSCS in the recovery room)
 - By custom, very few known emergencies had surgery before 1300h on weekend
 - 0800-1300 reserved for time critical cases
 - By custom, it had become extremely difficult to book known emergency cases into this potential OR capacity
 - Mega-cases or additional elective lists required additional staffing

And the result was...

- Utilisation of this potential OR capacity was:
 - Usually very low
 - Utterly dependent on the nursing & anaesthetic leadership
 - Infuriating & confusing to surgeons who felt their patients were being placed at additional risk & they were being mucked about
 - So frustrating did this become that one of my colleagues coined the term “anaesthetising a rumour” to describe his role during these periods

And the result was...

- Long delays for emergency surgery not deemed time critical (e.g. # NOF- av.45 hours)
- Continuous “bumping” of other surgeons for caesareans
- When emergency waits became unbearable- elective lists cancelled interfering with elective thruput
- All night surgery to catch up
- Generalised angst (although not for me)
- We were ruled by the perceived variability of emergency demand
- Always ready for the rumour to become reality but often ignoring the reality of known emergency cases!

And for the patients...

- Did the rumours get to surgery faster?

No.

- Did the LUSCS get done earlier?

No.

- Did the # NOF get done in a clinically appropriate time

NO!

How did we get into this situation?

- Demand and Capacity
- People
- Processes

Demand and Capacity.

- Demand:
 - Elective
 - Emergency
 - **Variability**
 - Caesareans
 - Not that variable
 - Other emergencies
 - Capacity to treat more variable than presentations
- OR Capacity = availability X efficiency:
 - **Availability:**
 - Operating rooms
 - Staff
 - **Efficiency**
 - Scheduling
 - Elective OR efficiency
 - Start time
 - Turnaround time
 - **Utilisation**
 - Emergency OR efficiency

People

- Behaving badly
- Or highly variable views of:
 - “capacity to treat”
 - Risk
 - Variability
- Value judgments
- Just doing what we’ve always done
- Advocating for the patients particularly those who are just a rumor

Processes

- Elective Surgery
 - Waiting lists
 - Pre-admission
 - Allocation sessions
 - Scheduling sessions
 - Bed availability
 - Clear measures of performance & comparison with peers
- Emergency Surgery
 - Standard booking processes
 - Standardized urgency criteria except for LUSCS
 - Order of booking rules encouraged crying wolf

What did we change?

- An existing process for optimizing OR function & two large & important new pieces of work
 1. We had an org-wide conversation about obstetric access
 2. We examined in exquisitely painful detail the management of the elderly patient with a #NOF

OR function

- Operating Room Management Group
 - Previously Theater Users Group (THUG)
 - Multi-disciplinary
 - Management, OR nursing , Anaesthetists, all surgical disciplines & obstetricians
 - Robust
 - Doctors are ruder about each other than to each other
 - Data driven
 - Considers
 - Elective & emergency access
 - Changing organisation needs/ focus
 - OR capacity (= staffed OR hours x utilization)
 - Discipline based contracts for mixing emergency & elective surgery
 - Financial performance

OR function

- Start Times
 - Every time someone visits overseas or we have a visitor we have a management “insight” or panic attack about start times
 - Cost about 1-2 hours per day across 27 ORs
 - In a context of > 98% elective DOSA & < 1% cancelled not fit
 - Surgeons have learnt to be careful not to start this conversation
 - Exceptions are managed by In Charge Anesthetist / NUM
- Turnaround Times
 - 10, 20, & 30 minutes depending on complexity of campus / surgery
 - Surgical Inactive Time, Anesthetic Turnaround Time & OR Turnaround Time separately reported
- Late finishes
- Utilization
 - Elective: 85-100%
 - Emergency: >50 %

Nobody knows the troubles I've had...

with Utilization & Turnaround time

- Utilization:
 - No magic number
 - Dependent on number & duration of cases
 - Improvements often aren't
- Turnaround Time:
 - Not the same as how long the consultant surgeon is in the tea-room
 - There is a theoretical minimum
 - A 25% improvement may be 5 minutes per case & as little as 30 minutes per day

If...

- You book sessions to agreed sensible rules
- Don't have cancelled sessions
- Start within 10 minutes of the designated time
- Your utilization is >85%
- Your turnaround time is reasonable for your case mix
- & your waiting list is still growing & your emergencies are still waiting...

You don't have enough OR time!

Obstetric Access

Easy data – hard changes in people

- The data showed a convincing lack of variability
 - 9am , 1pm , 6-7pm
 - Truly time critical cases were rarely delayed
- A conversation about the patients view
- A conversation about the “baby killer” view

Obstetric Access

- Additional elective LUSCS sessions each week
- Had to use the emergency booking system
 - Realistic non threatening / bullying estimate of waiting time
 - Expect an unhelpful response if the in-charge anesthetist knew you had been fluffing or in your rooms all day
- Bump your own first
- Always speak directly with the person you are bumping
- *Code Green* procedure

Outcomes

- *Code Green* decision to delivery times of 14 & 16 minutes which is world best-practice
- Decision to incision time for non time critical LUSCS in 30-40 minute range
- Almost no complaints about being bumped for a caesarian
- Very few complaints about access for urgent LUSCS
 - Obstetricians manage their own
 - Dinosaurs howled down by their colleagues
 - Failure to communicate taken very seriously

I have a fracture- I need to fix it!

- Quik-NOF project
- Complex data collection across patient journey
- Attempted to fix everything from ED management to discharge
 - Admission package including OR booking & serum rhubarb
 - Early referral to Aged Care & Rehab which became the Ortho-Geriatric Service
- Dramatically effective:
 - Time to OR reduced from 45 to < 20 hours
 - LOS halved to eight days
 - Cancellations reduced (reduced episodes of NBM)
 - In-hospital morbidity/mortality trended down

I have a fracture- I need to fix it!

- Later changes:
 - Twilight sessions:
 - Each week night from 1800-2200
 - Shared by orthopedics & plastics
 - No electives (but electives finished by these staff)
 - No time critical cases (except your own)
 - Fully staffed (anesthetic consultants or fellows)
 - Saturday sessions
 - 0800 – 1700
 - Non elective only
 - Managed with same rules about scheduling & efficiency as elective lists
 - Completely separate from emergency provisions which were still one OR + potential for a time critical OR

The outcome

- Stable happy workplace
- Increased elective activity
- Good obstetric access
- Decreased wait for admitted emergencies
- Increased utilization of “rumor” time
- Certainty for surgeons
- A marked reduction in work after 2200 & in clashes with time critical surgery between 2200 & 0800 – no NOFs at 2am!
- Wait time for #NOF increased slightly but:
 - Rarely cancelled
 - Medically ready
 - Minimal periods NBM

But a little while later...

- The transfer of all emergency & most elective orthopedic & all plastic surgery to a single campus
- The transfer of colo-rectal surgery vascular surgery & complex head & neck surgery to the same campus
- Extra OR commissioned for additional elective surgery
- A rapid increase in video assisted bowel surgery
- The increased activity at a new campus with an ED but no emergency surgery resulted in a perceived flood of transfers- an excellent way for that hospital to balance elective & emergency demand
- The increased government & organizational focus on elective surgery targets
- All occurred in a short time frame & rapidly destabilized our systems

So what was happening?

- Everybody was unhappy but the general surgeons were the most unhappy
 - The obstetricians were playing by the rules (mostly) but the frequency of bumping had increased
 - OR function was slightly worse
 - Everyone had changed their elective/emergency mix on in hours sessions to increase electives
 - Twilight & emergency sessions were encroached on by late finishing elective lists
 - Just too much work for the available capacity

So what did we do?

- ORMG had a robust but structured discussion:
 - Strong focus on achieving OR efficiency from nursing surgical & anesthetic staff
 - New OR commissioned & some of capacity used for 5 in-hours emergency lists (not orthopedics)
 - Increased elective orthopedic & plastic surgery lists
 - New surgical appointments with high non elective commitment
 - Renegotiated & reinforced elective/ emergency mix on in-hours lists
 - Stopped systematic overbooking of elective lists
 - Reduced plastics access to weekday twilight lists by transferring to in-hours lists & eventually starting twilight lists at elective hospital
 - Formalized staffing for all-day Sunday lists for non time critical surgery

A new balance

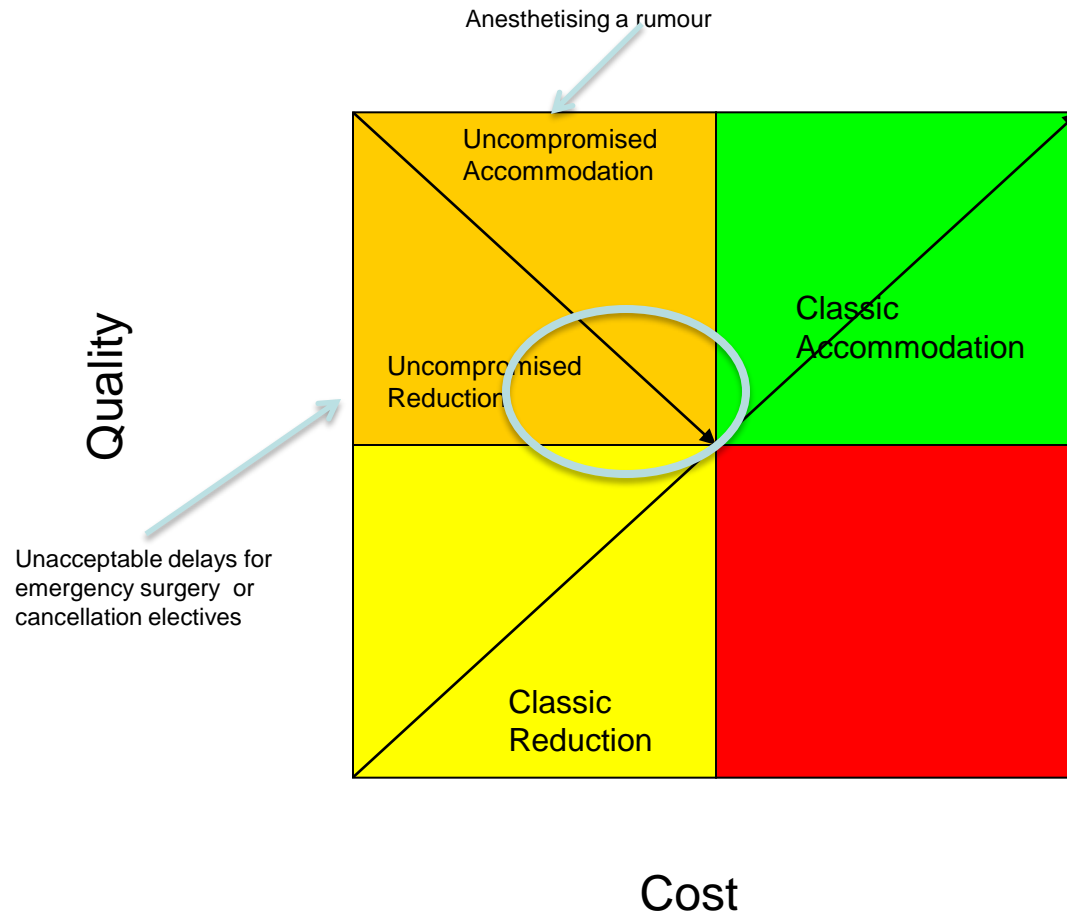
(for now)

- Demand /Capacity
 - availability x efficiency
- People:
 - Agreed rules of engagement
 - Robust communication
- Processes :
 - A structure which is designed to:
 - reduce variability when possible
 - deal with it when necessary!

Variability.

- Variability of emergency demand :
 - Universally accepted (even embraced)
 - Demand clearly increasing with time
 - But is the variability overstated?
- Variability of elective demand:
 - Demand clearly increasing
 - But is the variability understated?
 - Funding
 - Impact of emergency demand
 - Bed availability
 - New technology & techniques

How can we manage variability?



So can we balance elective &
emergency surgery?

YES we can!

And NO we can't!