



CPORT & Implications for Nursing Practice

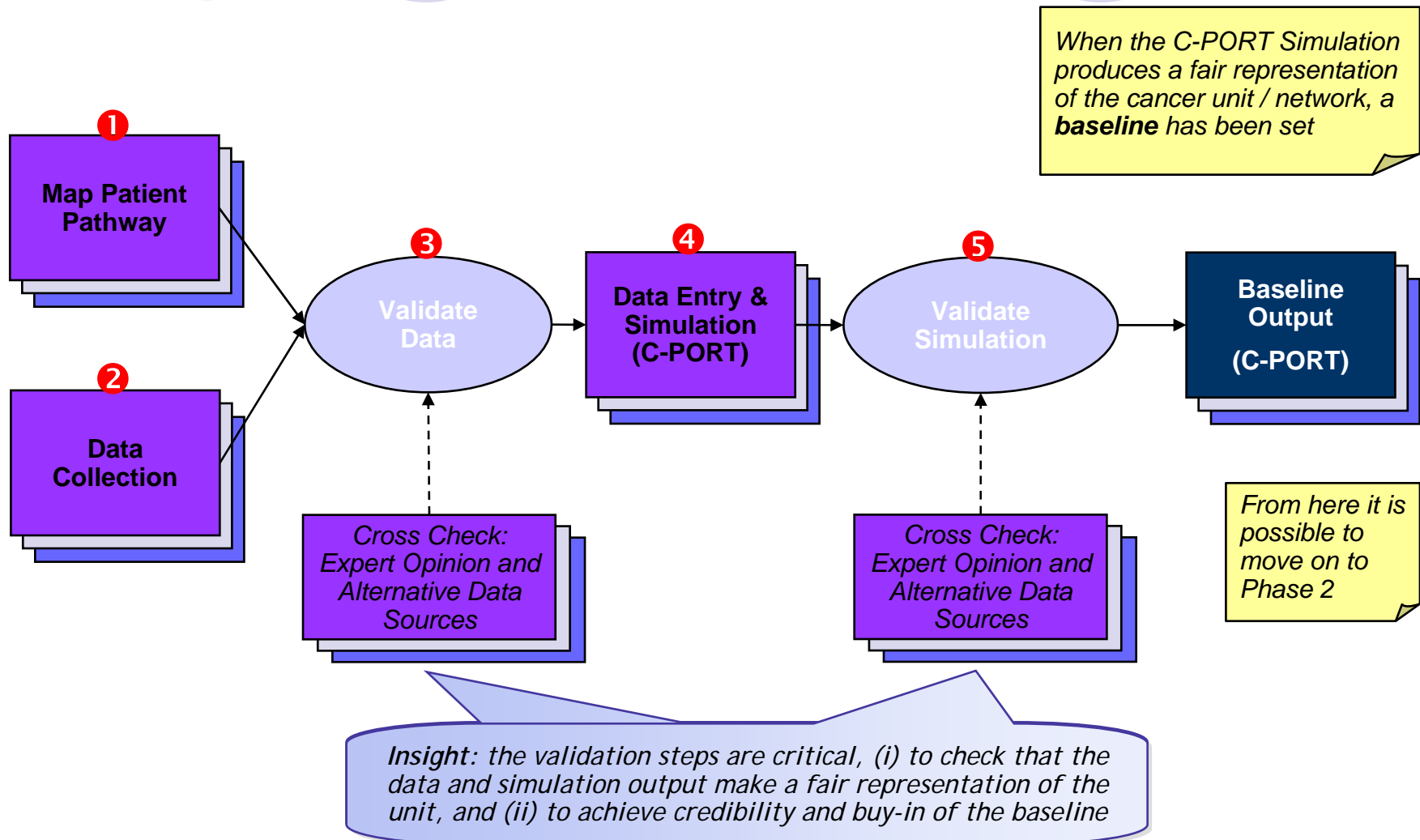
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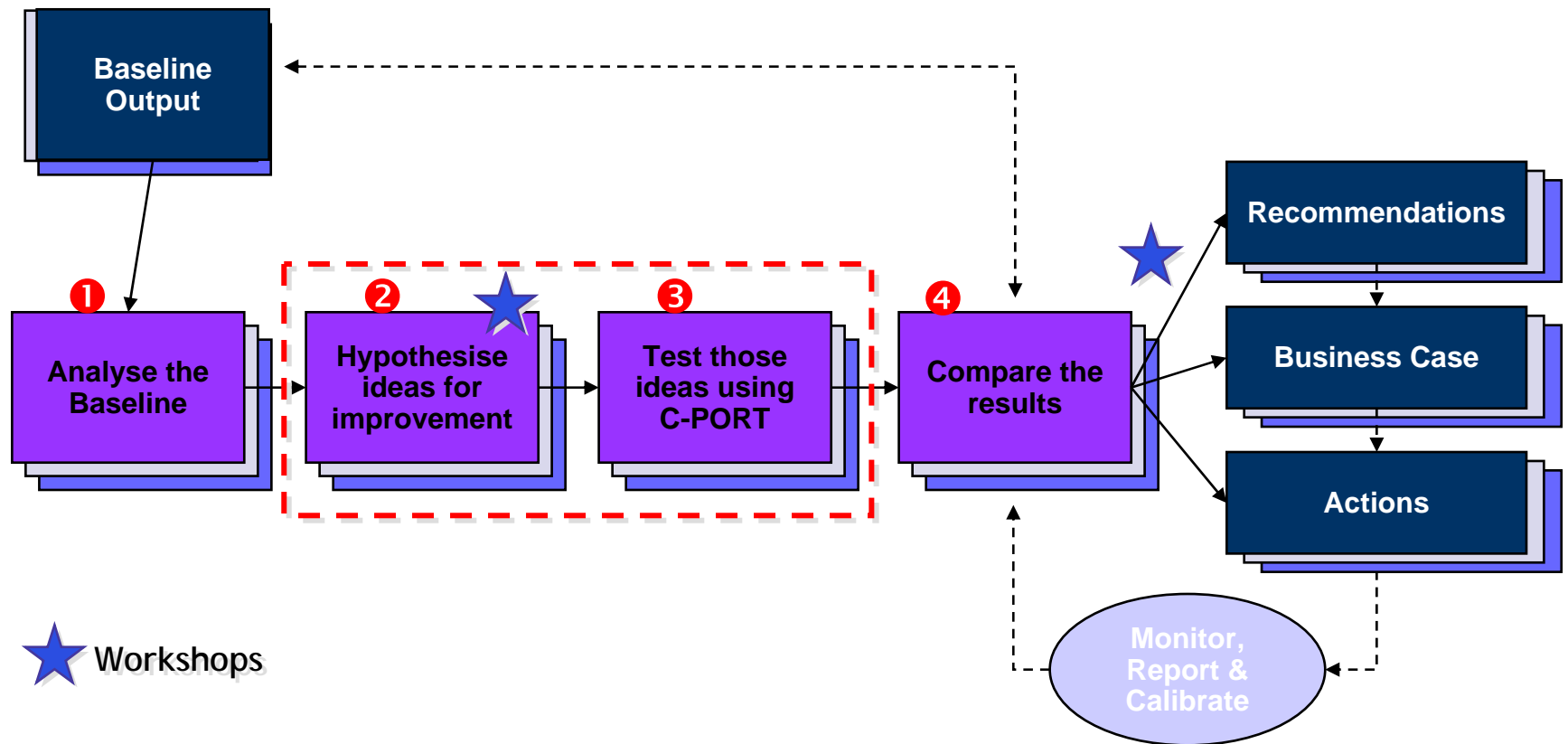
Broadly CPORT enables nursing by;

- For 1st time we have a prospective way of looking at our chemotherapy practice
- Provides evidence of practice within chemotherapy services
- Challenges and helps patient understanding of the patient pathway
- Helps understanding of potential and actual 'blockages' within the system
- Workforce planning
- Nurses have pivotal role in implementing & using CPORT

Implementation of C-PORT - data collection, validation and entry dominate –nurses role pivotal



Phase 2 is driven by detailed hypothesis analysis – C-PORT is the vehicle by which to test ideas

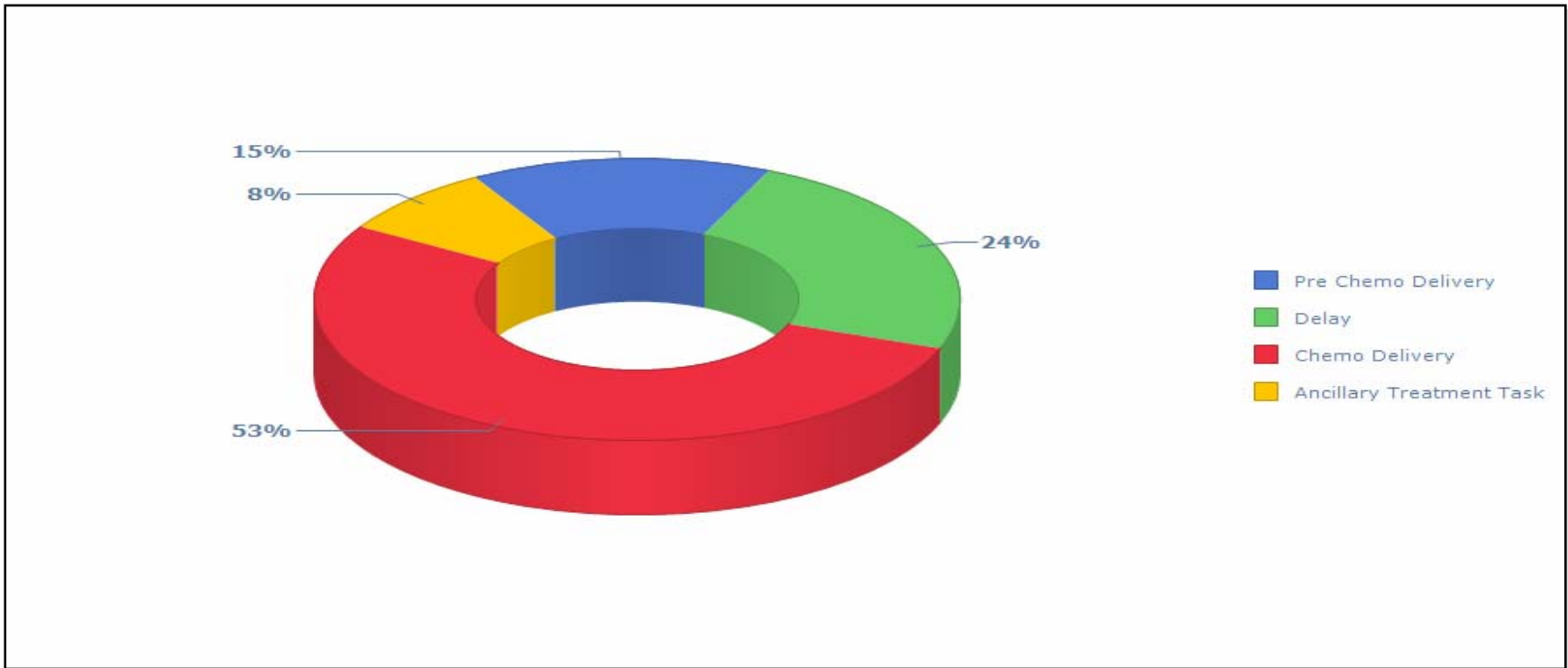
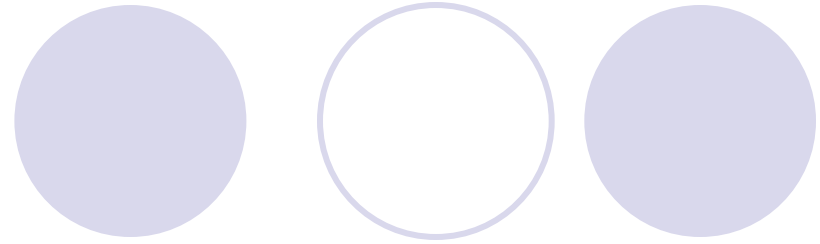


Steps 2 & 3 are the probably the most important in using C-PORT effectively and should not be underestimated

Some examples of application of CPORT within nursing practice

- Understands the impact of changes in numbers and types of patients
- Understand the impact of adding new regimes and treatments e.g. Herceptin, Avastin or implementation of new research trials
- Model implementation of changing from Intravenous to oral administration of chemotherapy
- Changes in the way the unit is organised – changes in resources e.g. number of nurses, shift patterns, working practices etc
- Test and fine tune the implementation of best practices e.g. introduction of nurse led chemotherapy clinics

Patient journey

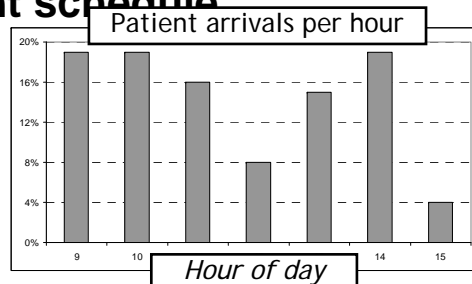


Impact of patient scheduling on the flow of patients through the unit

C-PORT approach: vary patient scheduling

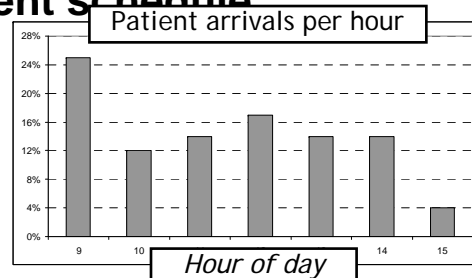
- **Baseline patient schedule**

Peak arrival times for this trust are early morning and in the hour after lunch



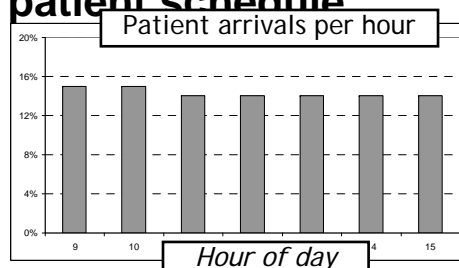
- **Smoothed patient schedule**

A scenario was run which retains the morning arrivals but smoothens subsequent arrivals



- **Perfectly even patient schedule**

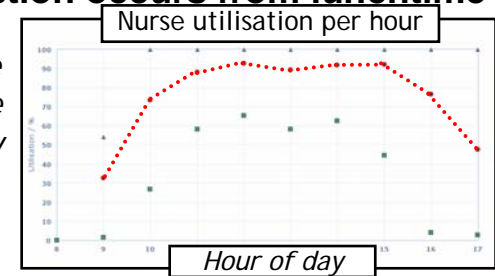
Another scenario was run with perfectly smooth arrivals throughout the day



Impact: nurse utilisation

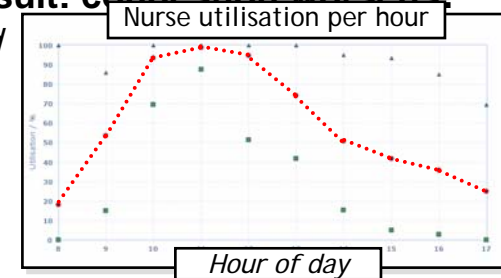
- **Distinct congestion occurs from lunchtime**

Despite average nurse utilisation of 80%, the unit becomes severely congesting at lunchtime



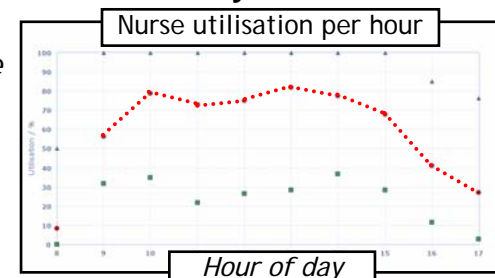
- **Unexpected result: congestion worsens!**

The peak busy period actually becomes worse, C-PORT has identified an unexpected outcome



- **Utilisation profile becomes clearly smoother**

The utilisation profile is clearly more even throughout the course of the day



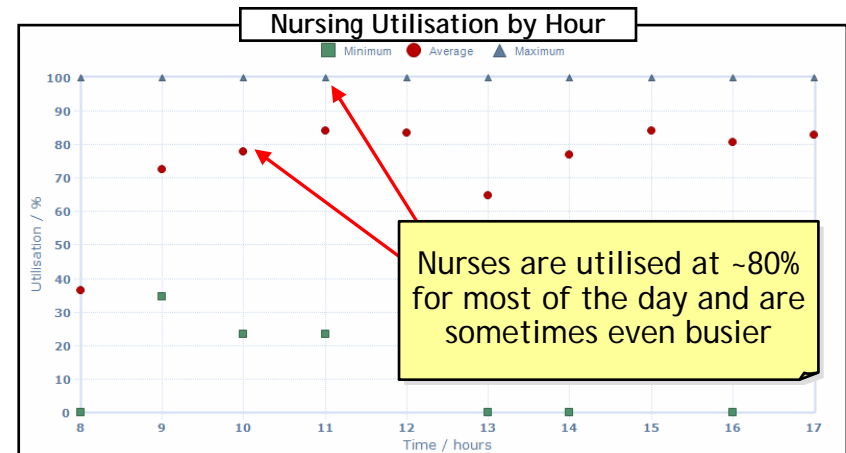
Can a busy cancer centre cope with extra Avastin caseload?

Situation

- A busy cancer centre is conducting a horizon planning exercise:
 - “Do we have the capacity to cope with the introduction of Avastin for HER2-Negative breast cancer patients?”
- Given the unit’s catchment area, local population and incidence, this would equate to an additional 84 patients per year
- Assuming that each patient receives one course of treatment consisting of 6 cycles, this translates to an additional 504 treatment attendances per annum

Current performance

- The trust is already operating at max. capacity
- Throughput of ~18 chemo patients per day
- Productivity of 118 patients per FTE per annum



Question

- **Could this trust cope adequately with the introduction of Avastin given its current profile/performance?**
- **If not, what could be done to enable the trust to accommodate such a potential change?**

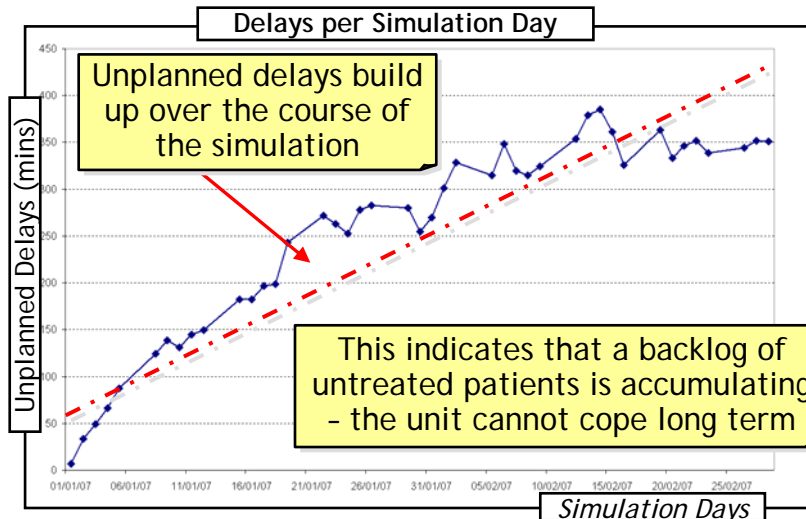
The current resource profile is insufficient

C-PORT modelling approach: create a new regimen and patient forecast

- Create a new regimen: Avastin for HER2-Negative breast cancer patients
- Change the patient forecast: introduce an additional 84 breast cancer patients per year
- Maintain current resource profile and operating parameters

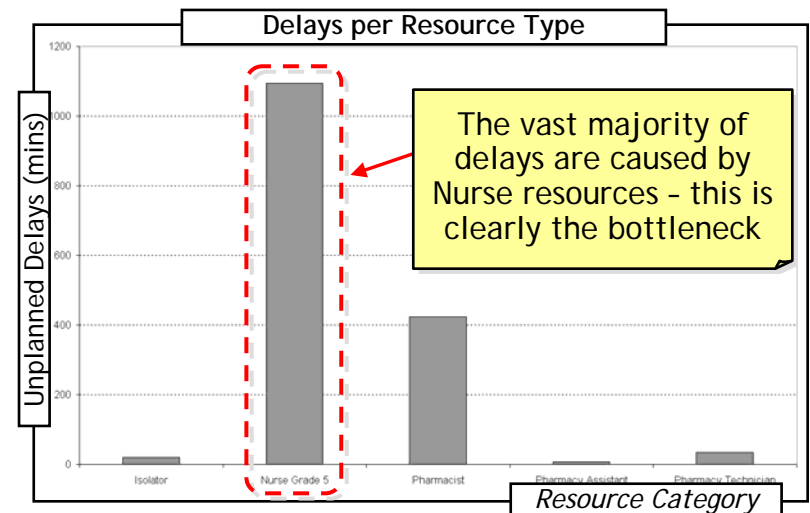
Impact: delay instability

- The unit cannot cope with increased caseload



Bottleneck analysis

- Nursing is the bottleneck in the process



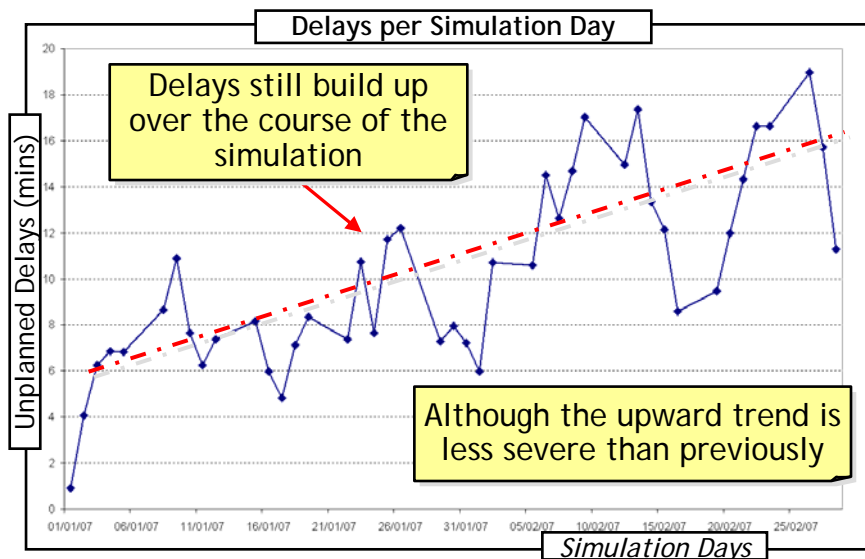
- **Question: what measures can be taken to release nursing capacity and re-stabilise the system?**

Reducing non-core nursing activity helps but does not fully solve the problem..

C-PORT modelling approach: release nurse capacity by reducing non-core activities

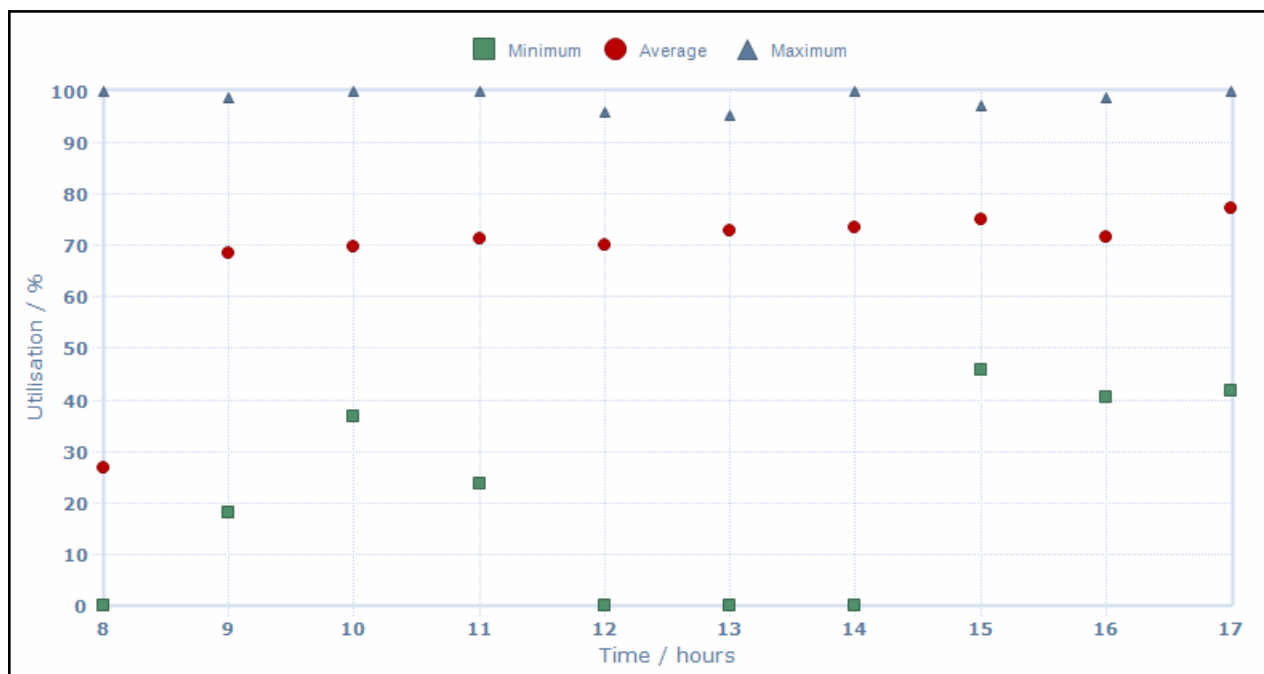
- Reduce capacity modifiers: a revised appointment booking system would release capacity for trained nurses (and the unit could achieve this using existing resources)
- Reduce capacity modifiers: a dedicated resource to answer the telephone would release capacity for trained nurses (although this would require additional administrative resource at the unit)

Impact: unfortunately delay instability persists



- There is still an upward trend in unplanned delays which indicates that the unit is still not stable in the long term
- Conclusion: a more significant level of extra nursing capacity is required (unsurprising given that the unit was already operating at near maximum capacity)
- **Question: would an additional nursing resource re-stabilise the system?**

Add an extra nurse...



Nursing utilisation
Utilisation stabilises at 70% - a more reasonable level of utilisation which would confer qualitative benefits

So in conclusion...

- CPORT is a powerful and creative predictive tool for chemotherapy nursing practice both in the present and the future
- For the first time it enables nurses to look at remodelling chemotherapy practice without actually testing on 'real patients'
- Provides evidence to review work force requirements