

# Getting the Balance Right

## New Medicines vs. Capacity Demand

**Steve Williamson**

**Consultant Cancer Pharmacist**

**Northumbria Healthcare NHS Trust, NHS England  
& Newcastle University**

# Overview of Session

- Why are we so busy in chemotherapy Services
- What happened to capacity planning /horizon scanning
- What's changed in recent times (e-Rxing, CDF, Blue tech)
- What's Coming Next
- Network /Alliance Capacity Planning Tool
- Difficult Choices- food for thought



# Vicious Circle of spiralling capacity

- Most Service faced with very high demand
- Nursing staff have already 'gone the extra mile'



# Why?

- NHS Busier and less money
- In Chemo 5% to 25% increase patient numbers.....but..
- 15% increase in amount chemo each patient receives
- NICE approving 30 + new cancer medicines per year
- Treatments given for longer, e.g. Pembrolizumab
- Treatments more toxic & complex, e.g. daratumumab
- More unwell patients to deal with
- Acute Oncology services also under pressure

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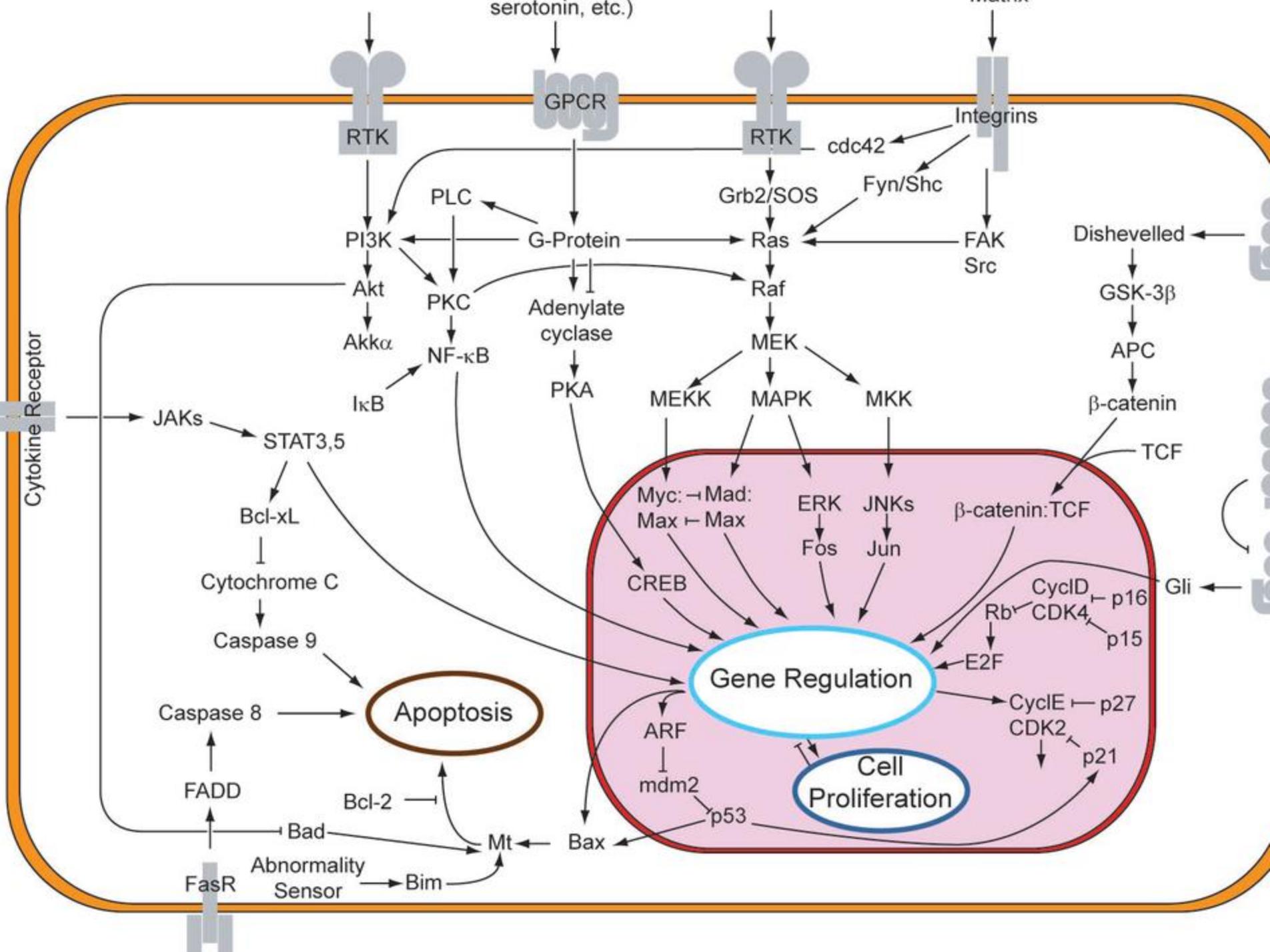
# What happened to capacity planning /horizon scanning

# Capacity Planning

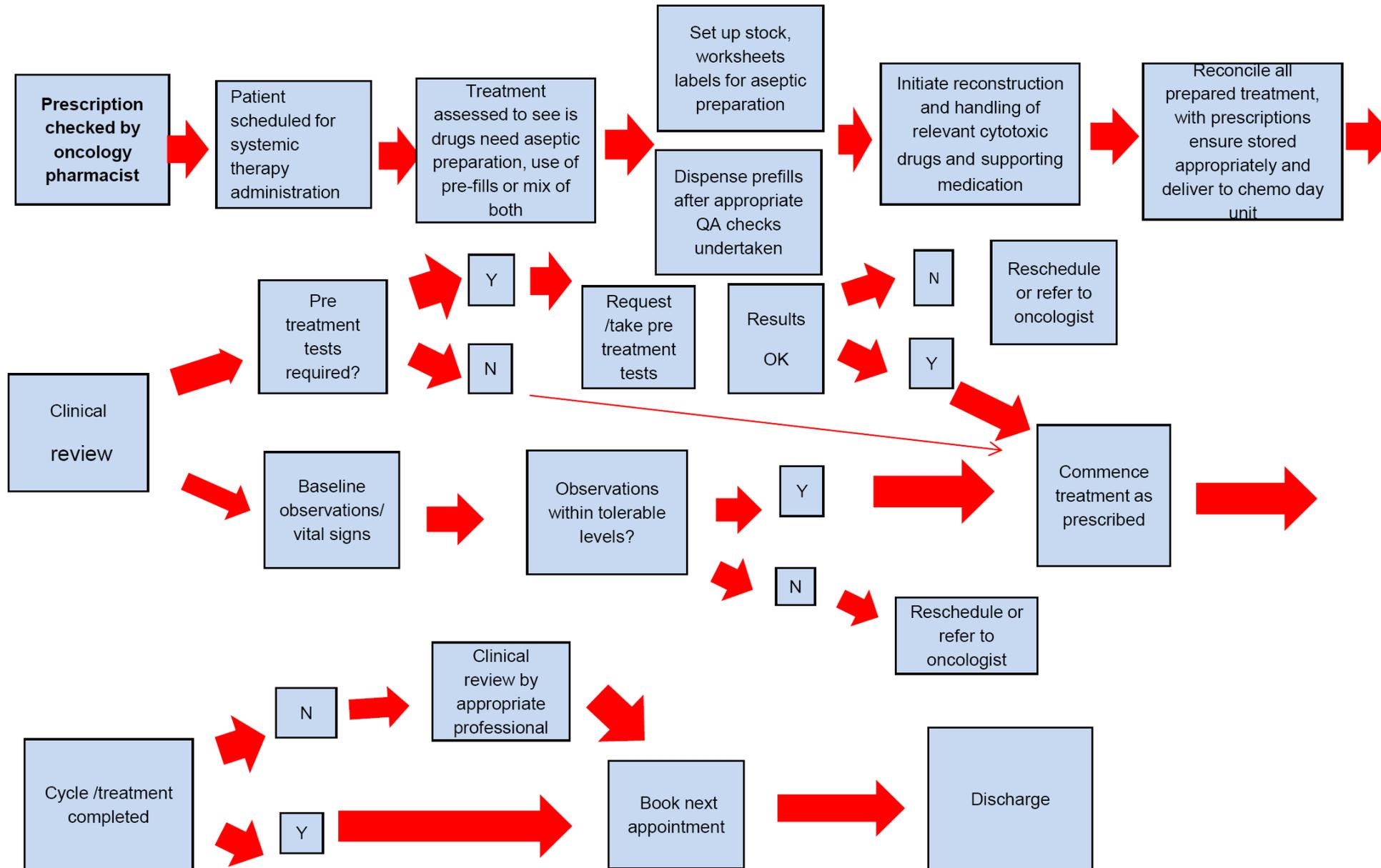
- Capacity Planning recommended in Cancer Standards
- C-PORT... remember that??
- No national solution available to providers
- Pharmacist used to Horizon scan new drugs
  - Was primarily for financial purposes – not needed locally now
  - Network Pharmacist posts gone – no one to do horizon scan
  - No longer get as much info from pharma
  - Pace of new drug approvals increased

# Capacity Planning

- Complex! Got to know what you measuring
- NURSING CAPACITY
  - Chair Time – actually how long patient in unit
  - Nurse Time –reviewing, administering
  - Holistic Care, ‘non chemo’ items, pre-assessments etc.
- Consultant Capacity
  - Not monitored
  - Varies with individuals
  - How often Chemo Reviews done during Tx
- Pharmacy Capacity
  - Verification (new Patients)
  - Aseptic Dispensing (Fixed Time, Variable time)



# THE PROCESS OF ADMINISTRATION OF ADULT SYSTEMIC CHEMOTHERAPY



# Horizon scanning for pharma products is well established



Secure horizon scanning database established in 2010

Drugs from three years before UK launch or start of phase III development

Central repository with over 1,200 pharma records

Up-to-date clinical trial & regulator information with cost estimates

Operated & maintained by NICE under contract to DH

Database build funded by ABPI & DH.

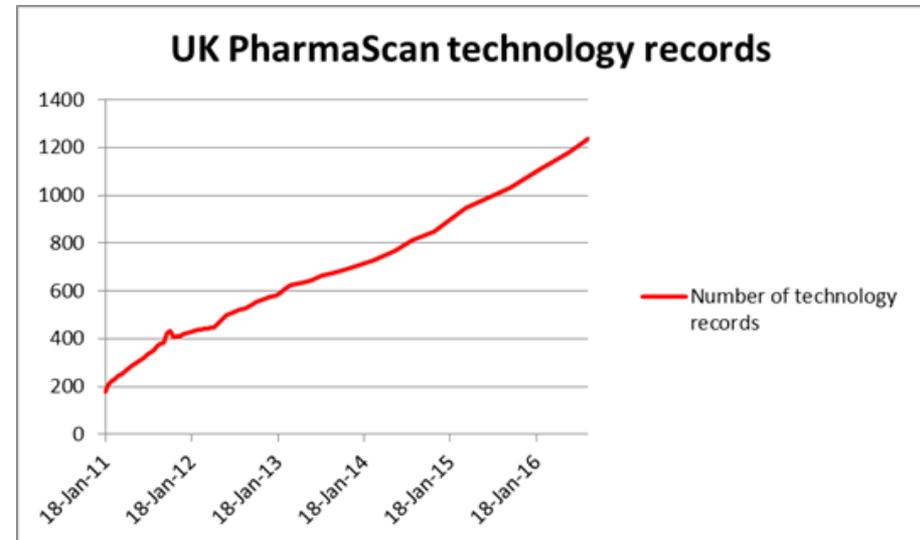
Running costs funded by user fees

NICE & Industry have agreements on data input

NICE & Horizon Scanning

organisations have agreements on data usage

[www.england.nhs.uk](http://www.england.nhs.uk)



## Success characteristics...

- Informs specialised commissioning business planning for drug costs
- System usability for the industry and NHS
- Market access earlier visibility
- Feeds the process of entry into NICE TA and specialised commissioning policy
- Reduced duplication of effort
- Capture across the innovation landscape
- Large volumes of data

# UK PharmaScan

Main data resource for most Horizon Scanning agencies to inform their outputs:

- Identify new drugs/licence extensions with firm development plans
- Clarify indications/ patient populations, likely patient numbers
- Track where a drug is in MA process/ licensing and launch plans
- HTA agency plans
- PAS, cost and budgetary information
- Resource for cross referencing of data elsewhere e.g. clinical trials
- Facilitates discussions with the pharmaceutical industry
- Simplified process for some agencies and reduced resources needed (separate horizon scanning mechanisms)

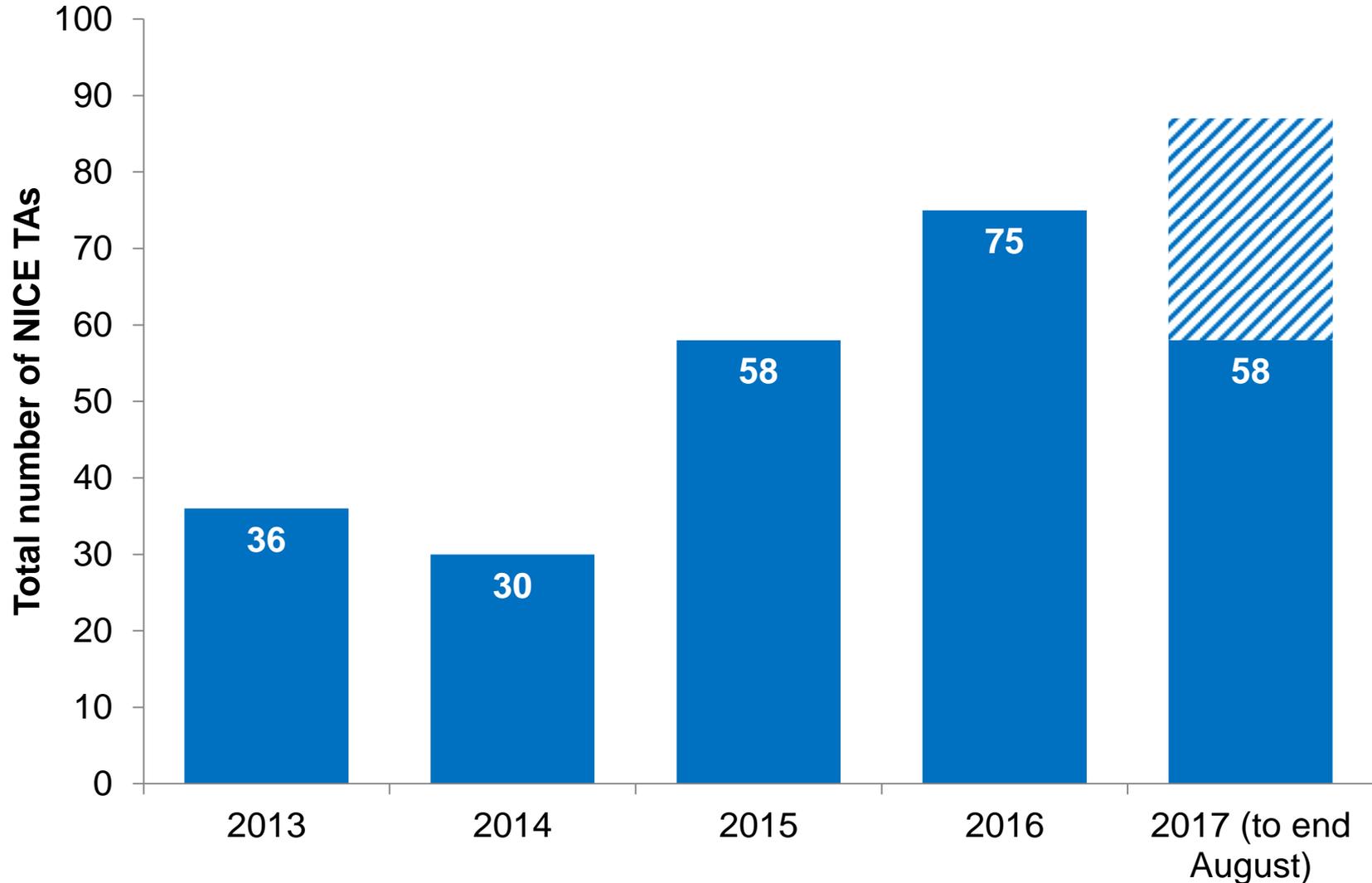
# What's Coming Next



# New Drugs On the Way

- 2015 report Listed **836** Medicines in development for cancer  
<https://www.phrma.org/report/list-of-2015-medicines-in-development-for-cancer>
- Most not get licenced, but cancer remains big business for Pharma
- UK seen more approvals over last 5 years than ever before
- Newer more effective treatments, e.g. immunotherapy
- Additional Lines of therapy
- All now come through NICE
- CDF means faster approvals all draft yes
- NICE Forward plan Feb 2018 = **256 Cancer indications**

# The total number of TAs that NICE is carrying out is significantly increasing



# Example of Potential capacity 'hit'

- NICE October 2018: 'Pertuzumab for adjuvant treatment of early HER2-positive' Ref APHINITY study N Engl J Med. 2017 Jul 13;377(2):122-131.
- Benefit: 'Modest' 1% reduction in development invasive disease (93.2% trastuzumab alone v 94.1% pertuzumab +trastuzumab)
- CAPACITY IMPACT: Not Modest
- If NICE say yes then 18 cycles of adjuvant SC Herceptin replaced by 18 cycles of Pertuzumab IV +trastuzumab IV
- E.g. Over 12 months a unit with 25 adjuvant patients per year
  - 450 chemo appointments per year
  - 30 min appointment versus 2hour 30min appointment
  - Need extra 0.2 wte nurse
  - Need extra 0.5 wte pharmacy staff (mix pharmacist, technician, ATO)

# Helping Ourselves

- Chemotherapy delivery operates on Tariff System
  - More activity more payment to Trusts
  - Different first cycle but most activity £299
  - Tariff gets lower each year (2013/14 =£321, 2014/15 = £316)
  - Also as average treatment length becomes longer still get same tariff

HRG code	HRG name	Tariff (£)
SB11Z	Deliver Exclusively Oral Chemotherapy	120
SB12Z	Deliver Simple Parenteral Chemotherapy at first attendance	150
SB13Z	Deliver more Complex Parenteral Chemotherapy at first attendance	299
SB14Z	Deliver Complex Chemotherapy, including Prolonged Infusional Treatment at first attendance	449
SB15Z	Deliver Subsequent Elements of a Chemotherapy Cycle	299

# Helping Ourselves

More activity = More tariff payment = More money for staff

- For previous example not a help as not new activity
- SC Herceptin
  - 1st Cycle £150, subsequent £299 X 17 = **£5,233**
- Herceptin IV + Pertuzumab IV
  - 1st Cycle £449, subsequent £299 x 17 = **£5,532**
- But pembrolizumab in NSCLC
  - Previously 4 cycles Gem/Carbo = **£1,349**
  - Now Pembro 18 cycles (one year) = **£5,382**
  - 26 patients per year per £1 million population.
  - Big Trust = Extra £70,000 cover extra Nurse and Pharmacy time

# Network /Alliance Capacity Planning Tool

# NCA Chemo Capacity Tool

- Developed in 2015

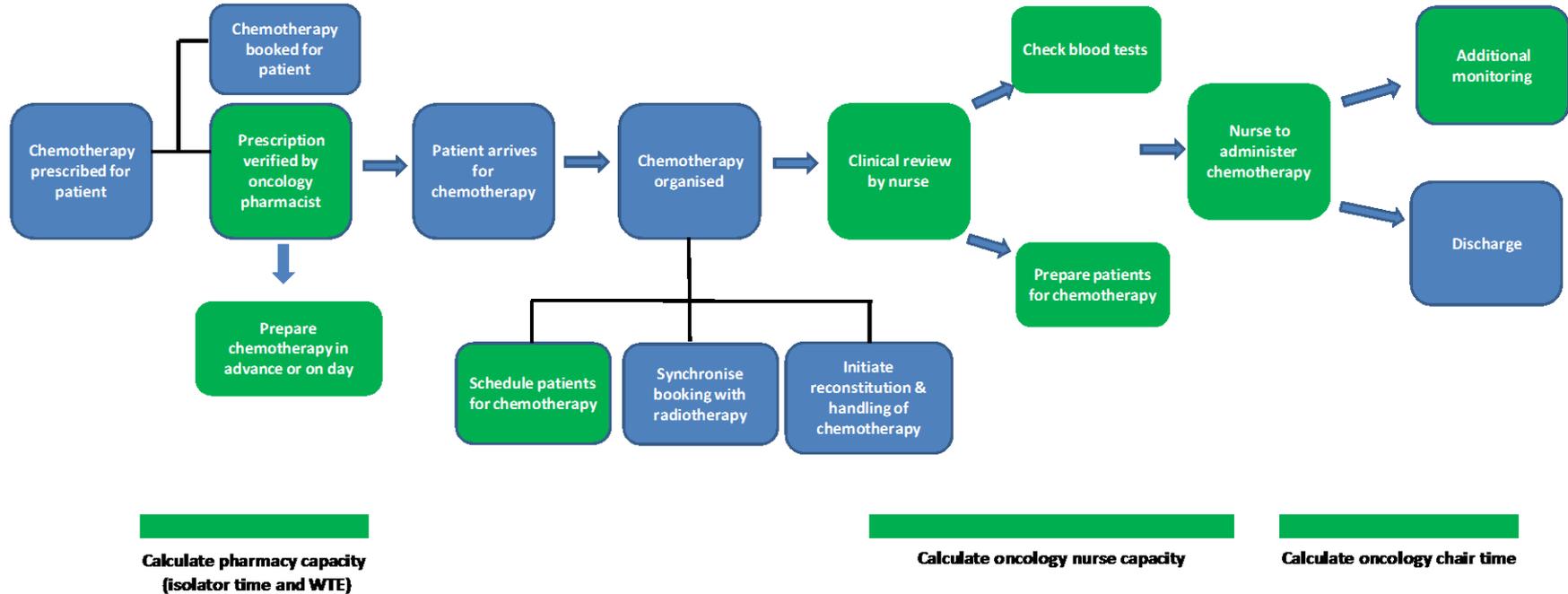
***'The New Drug Capacity Calculator is an Excel-based tool for estimating the resource required to deliver newly approved chemotherapy drugs. The pharmacy resource, nurse resource, chair time and activity tariff can be estimated using this tool. The New Drug Capacity Calculator may assist with planning but it is not intended as a resource scheduling tool.'***

- Not used much recently... but still useful resource
- Assess overall annual impact of a new drug on capacity
- Use for each new drug to get cumulative impact
- Care to reset values to zero
- Spreadsheet and instructions available at <http://www.necn.nhs.uk/networks/cancer-network/expert-reference-groups/nccg-chemotherapy-group/chemotherapy-docs-protocols/>

# CHEMOTHERAPY PATHWAY\*

For information only, no data input required on this sheet

The New Drug Capacity Calculator estimates pharmacy capacity (staff and isolator time), oncology nurse capacity and oncology chair time associated with treating a cohort of patients with a new regimen of cancer drugs



WTE = Whole Time Equivalent

## Key

- █ Areas of the pathway where capacity will be calculated
- █ Areas of the pathway that will NOT be included in the capacity calculations

\* Sample pathway as described in the draft NHS standard specification template for adult systemic anti-cancer therapy services, December 2012.

[https://www.engage.england.nhs.uk/consultation/ssc-area-b/supporting\\_documents/b3servicespec.pdf](https://www.engage.england.nhs.uk/consultation/ssc-area-b/supporting_documents/b3servicespec.pdf)

Accessed January 2015

For current service specification refer to NHS England Chemotherapy CRG webpage.

<http://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-b/b15/>

Accessed January 2015



## CALCULATE NURSE CAPACITY

Times in the "Time/cycle/patient" column can be changed using the drop-down buttons. Whole Time Equivalent (WTE) times can be modified by clicking on the hyperlink below. No other figures should be changed on this sheet.



Type of Item/activity	Quantity/patient	Time /cycle/patient for regimen (min)	Total time for cohort (hours)	Staff resource (WTE days)
<b>CLINICAL REVIEW (NOT INCLUDED IN CHAIR TIME)</b>		<b>Step 1 - Select times for the following clinical review activities</b>		
Check blood tests	N/A	20	50.0	9.3
Administrative tasks	N/A	20	50.0	9.3
Pre-chemo assessment	N/A	15	37.5	6.9
Other clinical assessments	N/A	5	12.5	2.3
<b>Total times for clinical review</b>			<b>150.0</b>	<b>27.8</b>
<b>ADDITIONAL CHECKS/PREPARATION (NOT INCLUDED IN CHAIR TIME)</b>		<b>Step 2 - Select combined time for activities</b>		
Cycle 1	N/A	20	5.0	0.9
Subsequent cycles	N/A	20	45.0	8.3
<b>Total times for additional checks/preparations that do not use chair time</b>			<b>50.0</b>	<b>9.3</b>
<b>PATIENT &amp; EQUIPMENT CHECKS/PREPARATION (INCLUDED IN CHAIR TIME)</b>		<b>Step 3 - Select combined time for this type of activity</b>		
Cycle 1	N/A	60	15.0	2.8
Subsequent cycles	N/A	60	135.0	25.0
<b>Total times for patient &amp; equipment checks/preparation that use chair time</b>			<b>150.0</b>	<b>27.8</b>
<b>CHEMOTHERAPY DRUG ADMINISTRATION (INCLUDED IN CHAIR TIME)</b>		<b>Step 4 - Select times for drug administration</b>		
Oral	1	5	12.5	2.3
Sub-cut	1	5	12.5	2.3
Intramuscular	0	5	0.0	0.0
IV bolus	0	5	0.0	0.0
IV infusion	3	5	37.5	6.9
Intrathecal	0	5	0.0	0.0
<b>Total times for chemotherapy drug administration</b>			<b>62.5</b>	<b>11.6</b>
<b>TIME SPENT MONITORING PATIENT (INCLUDED IN CHAIR TIME)</b>		<b>Step 5 - Select time the nurse spends with patient</b>		
Cycle 1	N/A	20	5.0	0.9
Subsequent cycles	N/A	20	45.0	8.3
<b>Total time spent monitoring patients</b>			<b>50.0</b>	<b>9.3</b>
<b>TOTALS FOR ACTIVITIES THAT REQUIRE CHAIR TIME</b>			<b>263</b>	<b>49</b>
<b>TOTAL NURSE RESOURCE REQUIREMENT FOR THE COHORT</b>			<b>463</b>	<b>86</b>

The assumption in Steps 1 & 4 is that the activities will take similar lengths of time for cycle 1 and subsequent cycles. In Steps 2, 3 & 5 different times may be selected for cycle 1 and subsequent cycles.

Click here to change the number of hours that constitute WTE.

This sheet allows the user to calculate the nurse capacity needed to deliver the newly approved regimen. It calculates the time needed for the nurses to deliver the specified regimen for a cohort of patients. The output is expressed in WTE days of nurse staff resource needed for delivery of the regimen.

# Sheet 5 – Pharmacy Capacity

## CALCULATE PHARMACY CAPACITY

Time in the white box for isolator cleaning time can be changed by overtyping, times in the "Variable time" column can be changed using the drop-down buttons. Fixed times and Whole Time Equivalent (WTE) times can be modified by clicking on the hyperlinks below. No other figures should be changed on this sheet.



Type of Item/activity	Number of cycles	Quantity for cohort	Fixed time/ item (min)	Variable time /item (min)	Total time (hours)	Staff time (WTE days)	Isolator time (days)
<b>PRESCRIPTION VERIFICATION/REVIEW</b>			<b>Step 1 - Select times for prescription verification/review</b>				
Cycle 1 prescription verification/review	1	15	N/A	10	2.5	0.5	N/A
Subsequent cycles prescription verification/review	9	135	N/A	5	11.3	2.1	N/A
<b>TOTAL TIME FOR PRESCRIPTION VERIFICATION/ REVIEW FOR THE COHORT</b>					<b>13.8</b>	<b>2.5</b>	
<b>ADDITIONAL CHECKS</b>			<b>Step 2 - Select time for additional checks</b>				
Check blood tests	10	150	N/A	10	25.0	4.6	N/A
Other checks	10	150	N/A	5	12.5	2.3	N/A
<b>TOTAL TIME FOR ADDITIONAL CHECKS FOR COHORT</b>					<b>37.5</b>	<b>6.9</b>	
<b>MANUFACTURING - CYCLE 1</b>			<b>Step 3 - Select time for manufacturing each item - Cycle 1</b>				
Infusion bag	1	30	34	60	47.0	8.7	6.3
Syringe	1	15	24	30	13.5	2.5	1.8
Ready made syringe	1	0	15	0	0.0	0.0	0.0
Ready made infusion bag	1	30	15	0	7.5	1.4	1.0
Oral	1	15	10	0	2.5	0.5	N/A
<b>TOTAL MANUFACTURING TIME FOR CYCLE 1</b>					<b>70.5</b>	<b>13.1</b>	<b>9.1</b>
<b>MANUFACTURING - ALL/SUBSEQUENT CYCLES</b>			<b>Step 4 - Select time for manufacturing each item - all/subsequent cycles)</b>				
Infusion bag	9	270	34	30	288.0	53.3	38.4
Syringe	9	135	24	30	121.5	22.5	16.2
Ready made syringe	9	0	15	0	0.0	0.0	0.0
Ready made infusion bag	9	135	15	0	33.8	6.3	4.5
Oral	9	135	10	0	22.5	4.2	N/A
<b>TOTAL MANUFACTURING TIME FOR ALL/SUBSEQUENT CYCLES</b>					<b>465.8</b>	<b>86.3</b>	<b>59.1</b>
<b>ISOLATOR CLEANING</b>			<b>Step 5 - Review time assigned for cleaning isolator(s)*</b>				
Isolator cleaning time	N/A	1	52	N/A	0.9	N/A	N/A
<b>TOTAL PHARMACY RESOURCE REQUIREMENTS FOR THE COHORT</b>					<b>588</b>	<b>109</b>	<b>68</b>

Isolator time in days is calculated on the basis of 7.5 hours. Staff time in days is based on Whole Time Equivalent (WTE).

Click here to change the number of hours that constitute WTE.

This sheet allows the user to calculate the pharmacy capacity needed to deliver the newly approved medications. It calculates the time needed for items that require aseptic preparation and those that are pre-filled items. The output is expressed in Whole Time Equivalents (WTE) days for pharmacy staff and the isolator time needed to deliver the regimen to a cohort of patients.

# Food for thought Difficult Choices

# Being Realistic

- Realistic medicine
- Must stop chemo as soon as see sign of progression
- Do we really need 3rd / 4th /5th line of palliative treatment
- Advanced Supportive care i.e. early links to palliative care
- Most new drugs offer only modest benefit
- Outsource
  - Supply (Pharmacy) maximise use of ready made products
  - delivery (Nursing) Homecare/ private options... let go of patients
- Is skill mix maximised ? Advanced support workers
- All unnecessary work removed from Oncology Units
- Is scalp cooling a luxury when we are over capacity?

VISION PRIMARY **LEARN** FUTURE GREATER CHANGE  
INSPIRATION **MEDICINE** ENABLING  
RESEARCH RELATION **CHANGE** APPLYING  
CURRENT **UNDERSTANDING** INTERESTED **PUBLIC** APPROACH WORK  
PEOPLE  
BROADER **MORE** UNDERSTANDING TOPIC SUPPORT BETTER INTEGRATION CROWDSOURCING OVERVIEW POSSIBLY SPECIFICALLY OTHERS  
HELP CARE **REALISTIC** SIGN NEW GO MORE PUBLIC HEAR MEDIA **ROLE** COMMS VERY  
SMC PH MORAL CONCEPT FIND FURTHER SENSE MEANS **HEALTH** EVIDENCE  
DEVELOPING **THINK** WANT MAKE REALISTIC INDICATORS **CARE**  
CONTRIBUTE **HEAR** HEAR **HEALTH** **CARE** **CARE**  
RISKY ISSUE SOCIAL **HEALTH** **CARE** **CARE** **CARE**  
HAPPEN BEHAVIOUR **HEALTH** **CARE** **CARE** **CARE**  
REASON PERSPECTIVE DISCUSSION LEGISLATING

# Being Realistic

- Consultants, Nursing & Pharmacy teams MUST work together
- Risk of conflict /blame as pressure increases on everyone
- Look after yourselves
- Manage patient expectations
  - May have to wait to start
  - May not get choice of treatment times
- Manage consultants expectations
  - Can't get your patient in quickly
  - Have to prescribe in advance
  - Not able to change doses on the day – patient has to come back
- Manage nurses expectations
- ?time to accept that we can't get best experience for every patient