



University Hospitals Bristol **NHS**
NHS Foundation Trust

 University of
BRISTOL

Level 1 Centre Update

Professor Robert Tulloh

Clinical Lead, Paediatric Cardiology

Bristol Royal Hospital for Children

Who are we?

u Consultants:

- u Prof Rob Tulloh Pulm HT, Kawasaki, Research
- u Dr Rob Martin Catheters / Intervention
- u Dr Demetris Taliotis Catheters / Intervention (lead)
- u Dr Mark Walsh Electrophysiology / Catheters (Leaving)
- u Dr Andrew Tometzki Catheters / Intervention / Network
- u Dr Alison Hayes Echocardiography (lead)
- u Dr Patricia Caldas Fetal (lead)
- u Dr Camilla Snook Fetal (Sept 2018)
- u Dr Graham Stuart Electrophysiology

u Locum Consultants:

- u Dr Michael Yeong Imaging / Echo/ MRI
- u Dr Guido Pieleles Imaging / Exercise Research
- u Dr Catherine Armstrong Inherited Cardiac condition

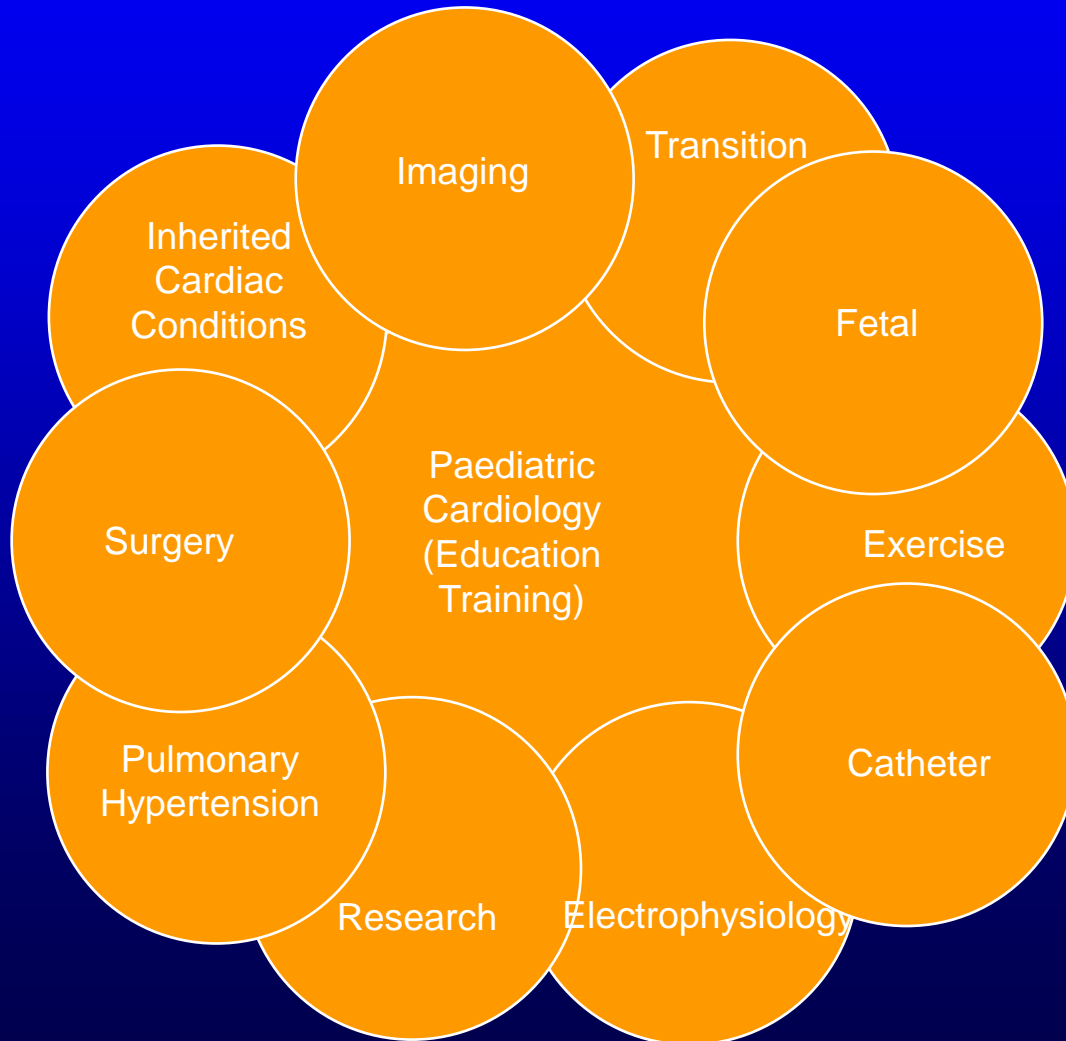
Surgical Team and Trainees

- u Consultant Surgeons
 - u Mr Andrew Parry
 - u Prof Massimo Caputo
 - u Mr Serban Stoica
- u Trainees
 - u 3 Staff grade / Fellows in Cardiac Surgery
 - u 8.5 Registrars (4 NTN, 2 Paed, 2 Fellows)
 - u 3 SHO/ Junior Fellows

Team

- u **Nurses**
 - u **Ward 32 Zoe (sister), 33 band 5/6 nurses**
 - u **Clinical nurse specialists 4.5**
 - u **Clinic nurses**
- u **Cardiac Physiologists**
 - u **Echo/Catheter lab/Pacing/Fetal**
- u **AHP**
 - u **Psychology**
 - u **Play**
 - u **Dietician**
 - u **Pharmacy**
 - u **Data team**
 - u **Admin/management**
- u **Research**
 - u **Nurses, Lab Techs, Post Docs**

Areas within Paediatric Cardiology



Road map to 2021

- u What are the 2021 standards
- u What level of growth does that mean for us – two scenarios
- u What service capacity is required to meet that
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Standards to Achieve by 2021

- **Surgical Activity:**
 - 4WTE surgeons, doing minimum of 125 cases each, 500 total
- **Interventional Activity:**
 - Minimum 4WTE interventionists, at least 2 of which should cover **ACHD**
 - Rota no more frequent than 1 in 4
 - 50 qualifying procedures per interventionist
 - 100 qualifying procedures for lead
- **Cardiologists:**
 - 1 consultant cardiologist per 0.5m population covered by network (6.9m population by 2021 – 14WTE)

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 - **7WTE paediatric CNS (or 1 per 600,000), inc 1 fetal and 1 transition**
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 - **0.25 WTE paediatric psychologists per 100 surgical cases (2.5WTE by 2021), plus 1 WTE for network**
- **Play specialists: 2 WTE dedicated**

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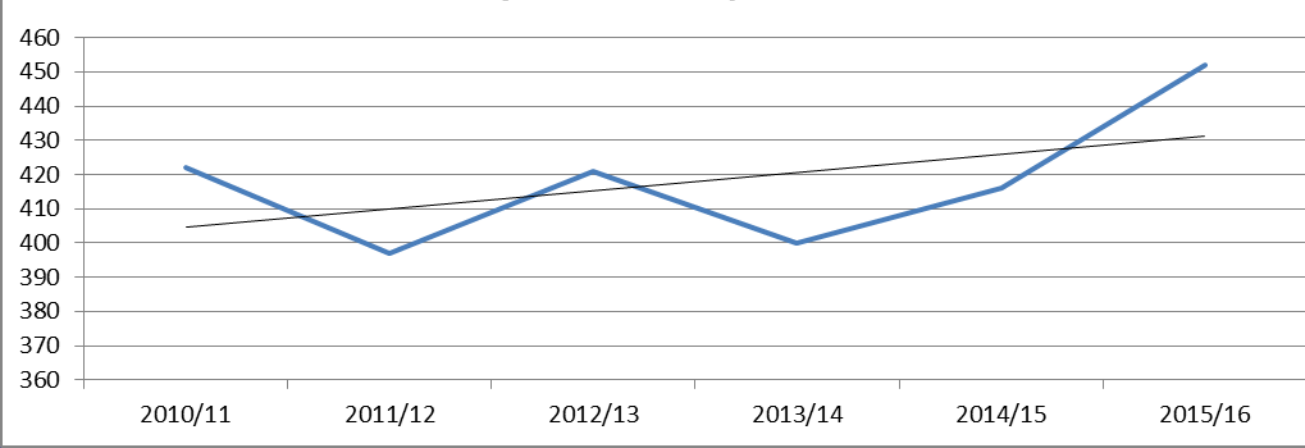
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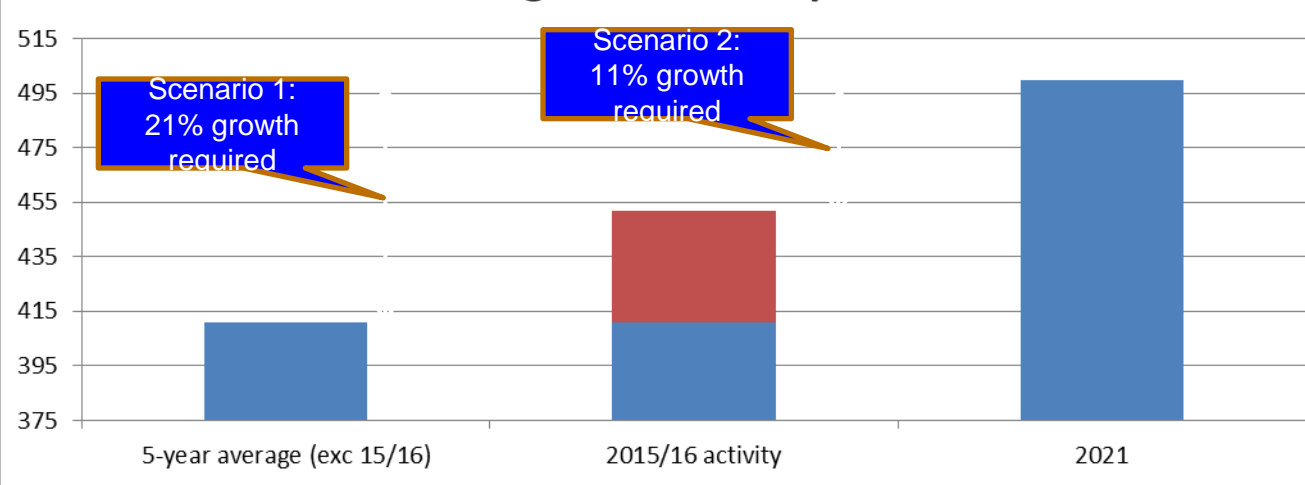
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Additional Surgical Activity Required

Surgical Activity Growth



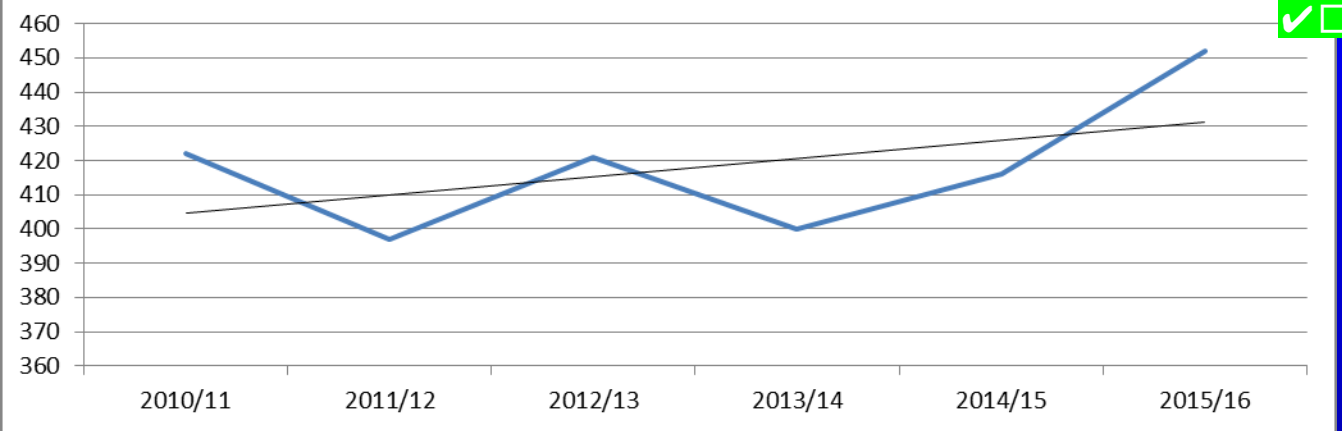
Growth in Surgical Cases Required to 2021



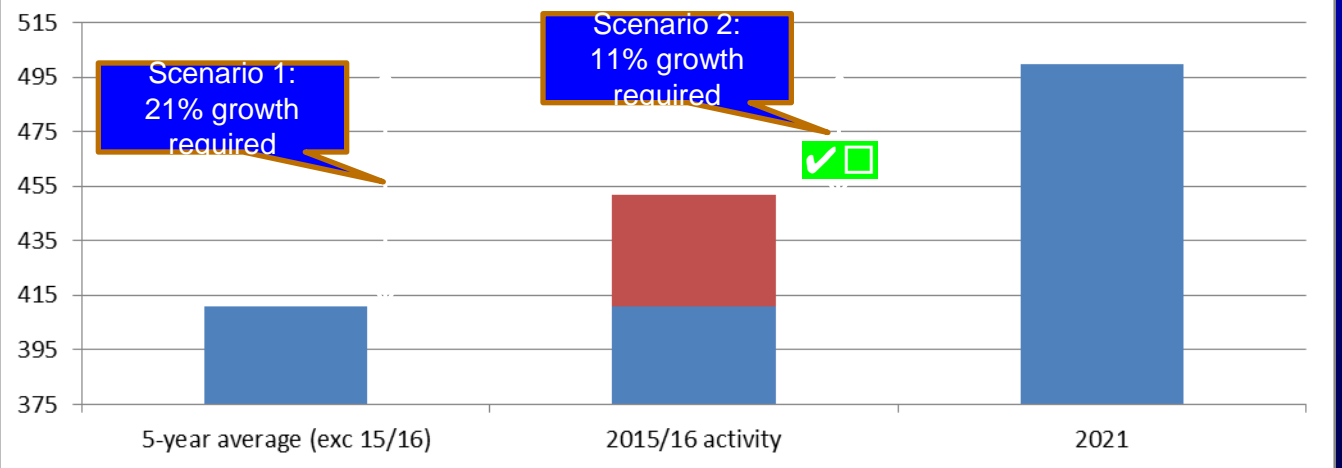
- Growth in surgical activity has been fairly constant.
- Should we base our forecast requirements for facilities on average activity (11% growth), or 2015/16 (21% growth)?
- Both scenarios have been considered

Additional Surgical Activity Required

Surgical Activity Growth



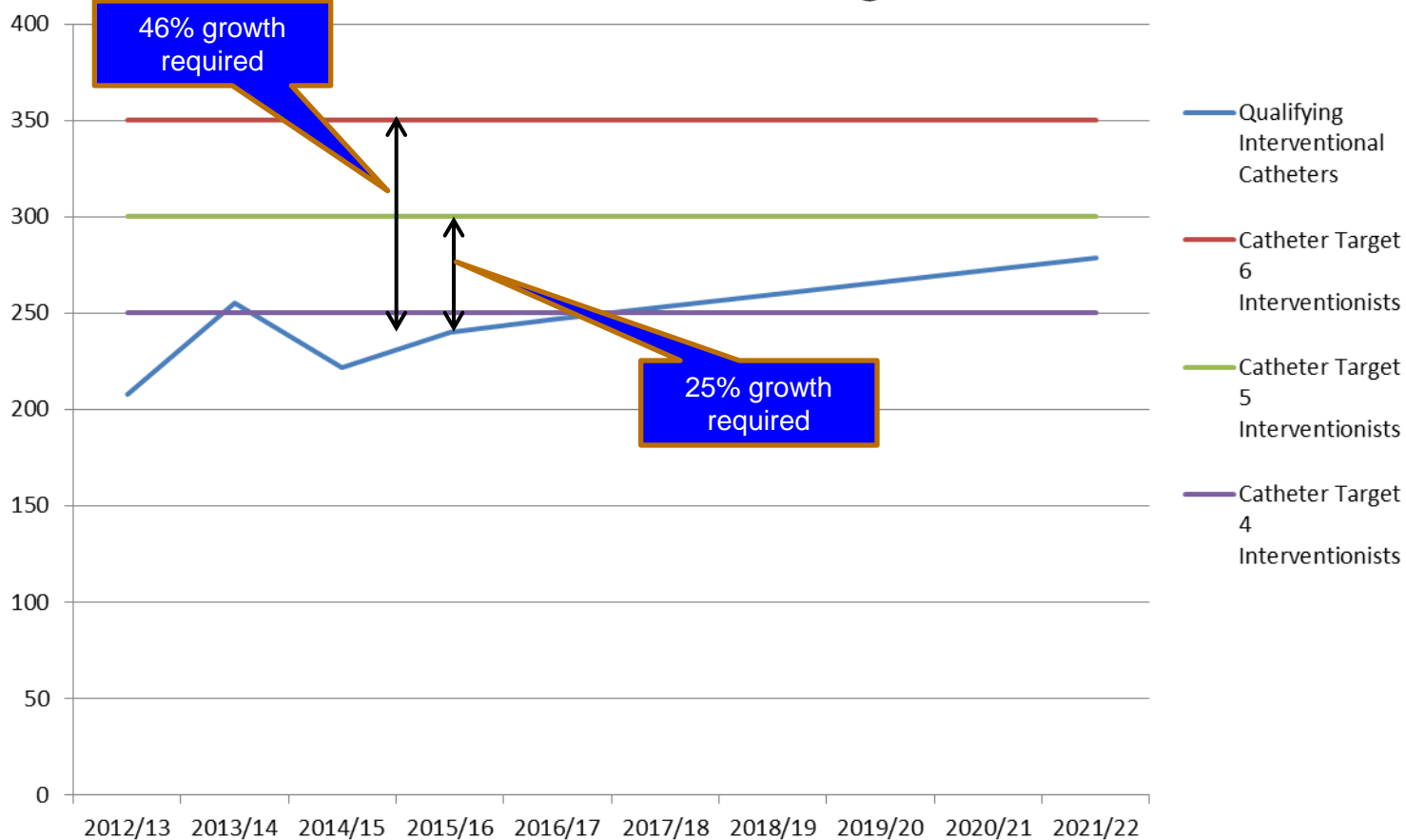
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Interventional Requirements – a Specific Challenge

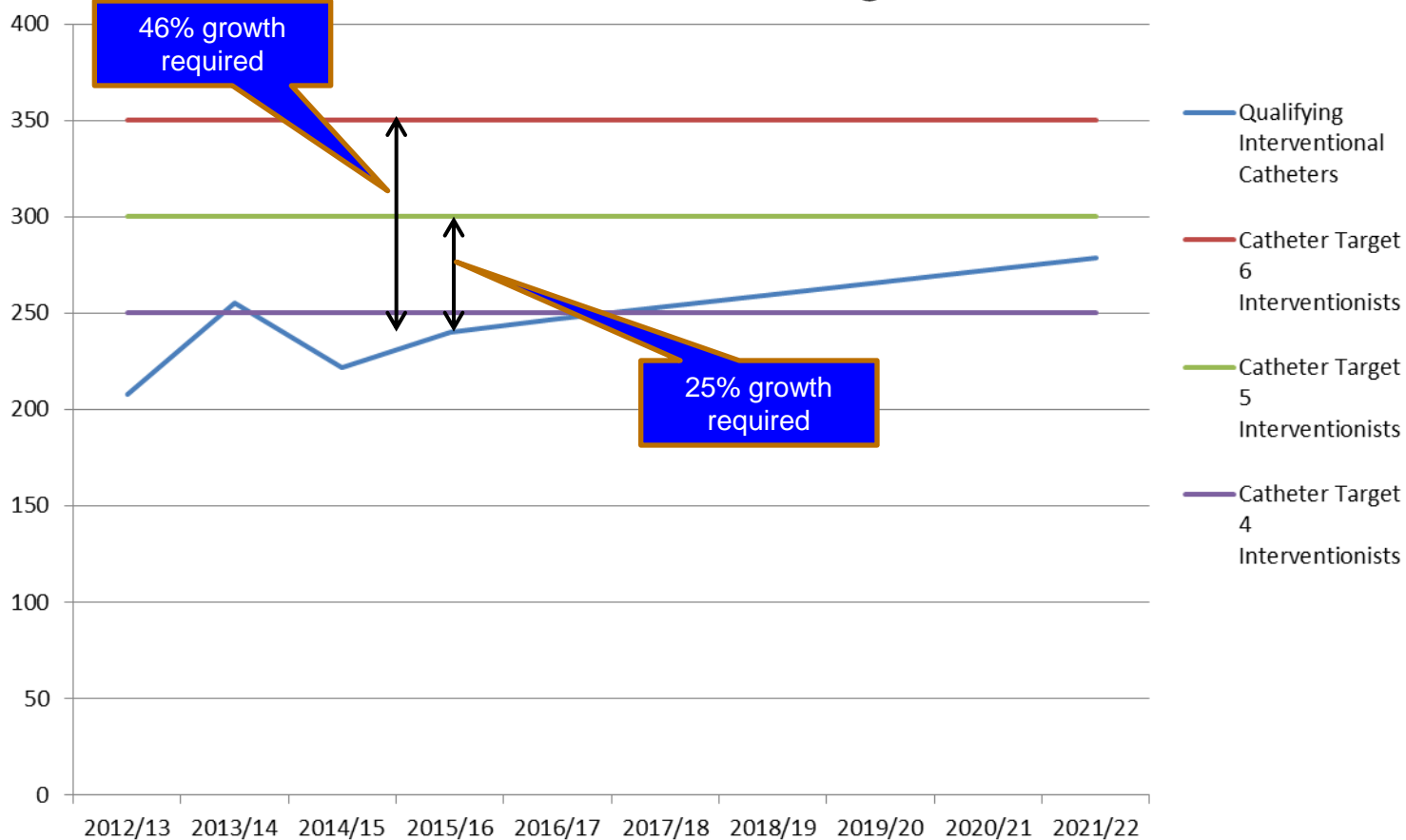
Interventional Catheters - Straighline Forecast



- If we continue with 6 interventionists (adult and paed) we will need to deliver 350 qualifying procedures by 2021 (46% growth)
- The interpretation of 'qualifying procedures' is being challenged

Interventional Requirements – a Specific Challenge

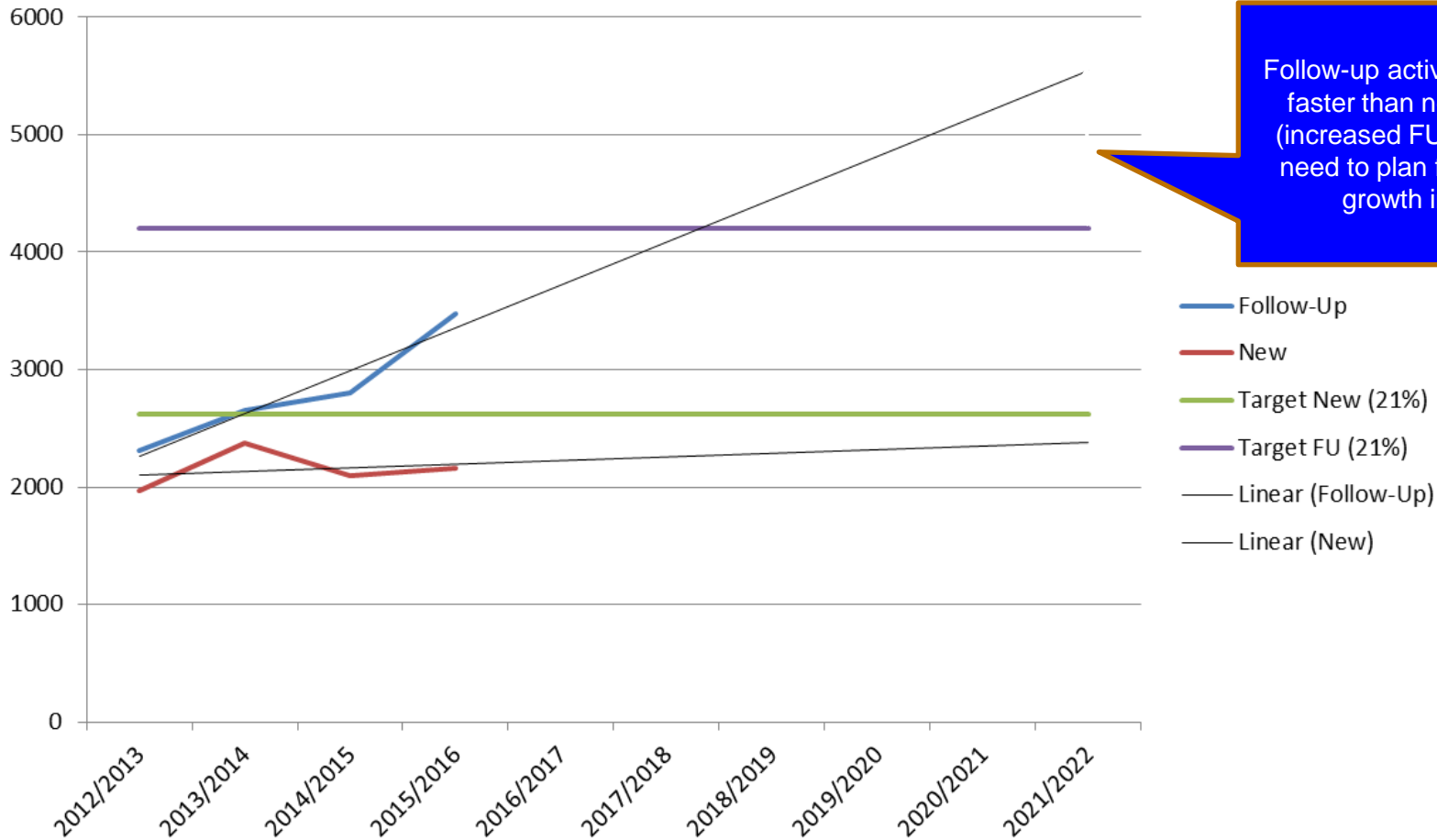
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Additional OP Activity

Outpatient Growth Trends and Target Activity



Follow-up activity is growing much faster than new patient activity (increased FU:new ratio). Do we need to plan for more than 21% growth in Follow Up?

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What does that level of growth mean across the service?

| | Activity Volume | | | Service Requirement | | | | |
|--|-----------------|-----------------------------------|------------|--|----------------------|------------|------------------------------|---|
| | | 2021 Activity with Growth Applied | | | Requirement for 2021 | | | |
| Current Activity | 15/16 | 11% | 21% | Current Provision | 11% | 21% | Type | Notes |
| Beds | | | | | | | | |
| Paed Bed Days (inc HDU) | 4,523 | 5021 | 5473 | 16 Bedded Ward (inc HDU) at 77% | 17.8 | 19.4 | Beds | Assumes bed occupancy at 77% |
| PICU Bed Days | 2346 | 2604 | 2839 | 17 bedded critical care unit. Average 52% of beds days are for CHD patients (elective and emergency) | 18.0 | 18.9 | Beds | |
| Paed HDU Bed Days | 1694 | 1880 | 2050 | 5 Bedded HDU unit (included with 16 | ? | ? | | ??Does that include HDU that takes places on PICU?? |
| Catheters | | | | | | | | |
| Paed Diagnostic Catheters + non-qualifying interventions | 336 | 373 | 407 | | | | | |
| Qualifying interventional catheter procedures paed | 140 | 155 | 169 | | | | | |
| Total Paed Catheters | 476 | 528 | 576 | 6 sessions per week | 6.7 | 7.3 | Sessions pw | Estimated split of adult / paed |
| Adult Diagnostic Catheters + non-qualifying interventions | 293 | 325 | 355 | | | | | |
| Qualifying interventional catheter procedures adult | 100 | 111 | 121 | | | | | |
| Total Adult Catheters | 393 | 436 | 476 | 2.5 sessions per week | 2.8 | 3.0 | Sessions pw | Estimated split of adult / paed |
| Total qualifying interventional catheter procedures | 240 | 266 | 290 | | | | | |
| Surgery | | | | | | | | |
| Qualifying surgical cases adult | 125 | 139 | 151 | 5 half-day sessions per week | 5.6 | 6.1 | Sessions per week | |
| Qualifying surgical cases paed | 327 | 363 | 396 | 10 half-day sessions per week | 11.1 | 12.1 | Sessions per week | |
| Total qualifying surgical cases | 452 | 502 | 547 | | | | | |
| Outpatients | | | | | | | | |
| Paed New OP | 2161 | 2399 | 2615 | | | | | |
| Paed FU OP | 3475 | 3857 | 4205 | | | | | |
| Total OP | 5636 | 6256 | 6820 | 6 CHD and 1 cardiac surgery per week | 51.7 | 98.6 | Additional sessions per year | Assume 5 new, 7FU per clinic |
| Paed peripheral outpatient clinics | 340 | 377 | 411 | 341 PAs (exc uplift and SPA) | 37 | 71 | Additional sessions per year | Excluding travel / SPA / Admin |
| Supporting Activity (paed) | | | | | | | | |
| Echo | 6,396 | 7100 | 7739 | | TBC | TBC | | |
| X ray | 4,769 | 5294 | 5770 | | TBC | TBC | | |
| MRI | 127 | 141 | 154 | | TBC | TBC | | |
| CT | 87 | 97 | 105 | | TBC | TBC | | |

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What are the options for achieving growth

1. Natural Population growth
2. Ensuring we capture all activity in our catchment area
3. Expanding to cover new areas

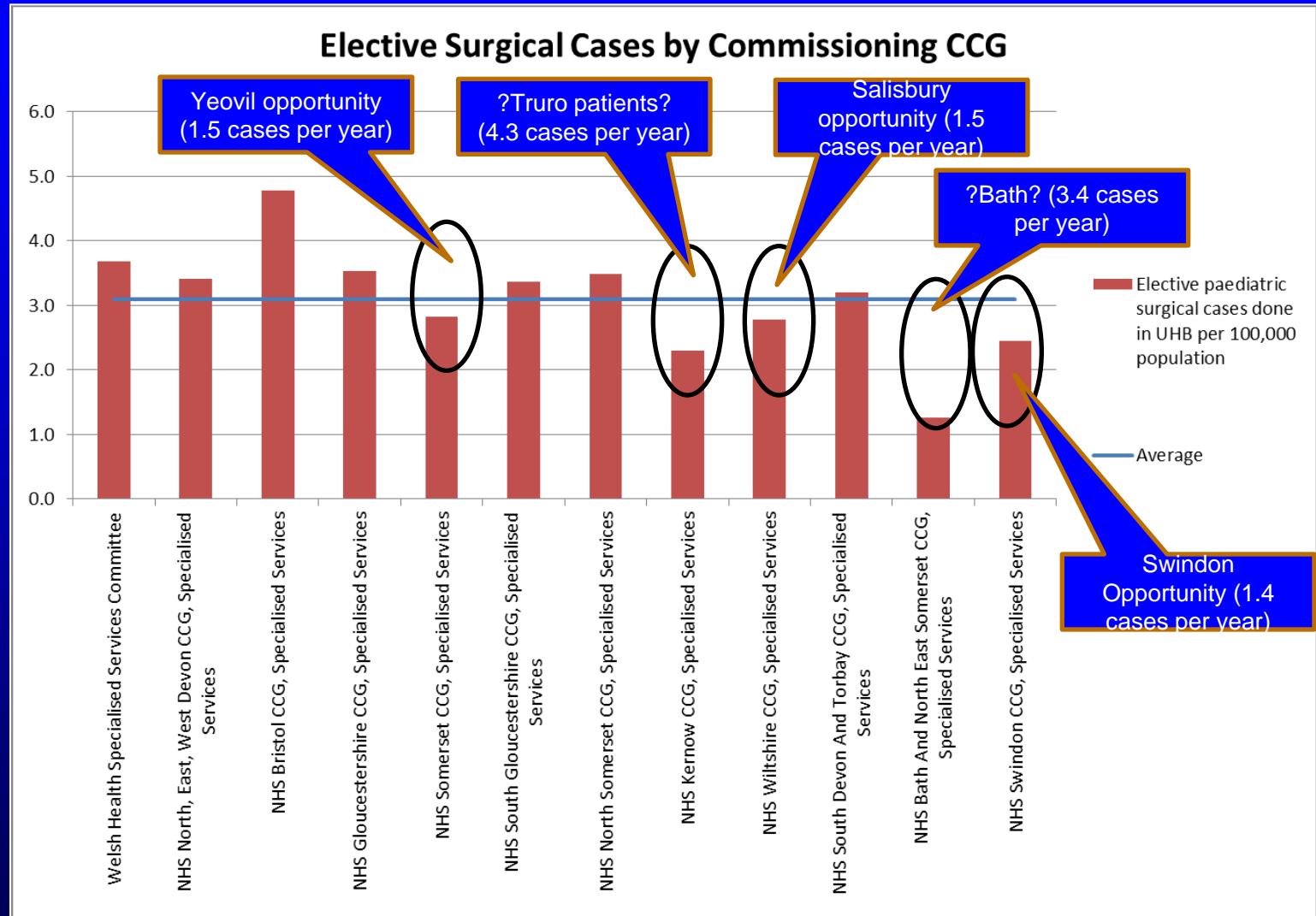
Population growth is strong, but only in line with last 5 year

We seem to under-provide or lose cases to other centres in certain CCGs

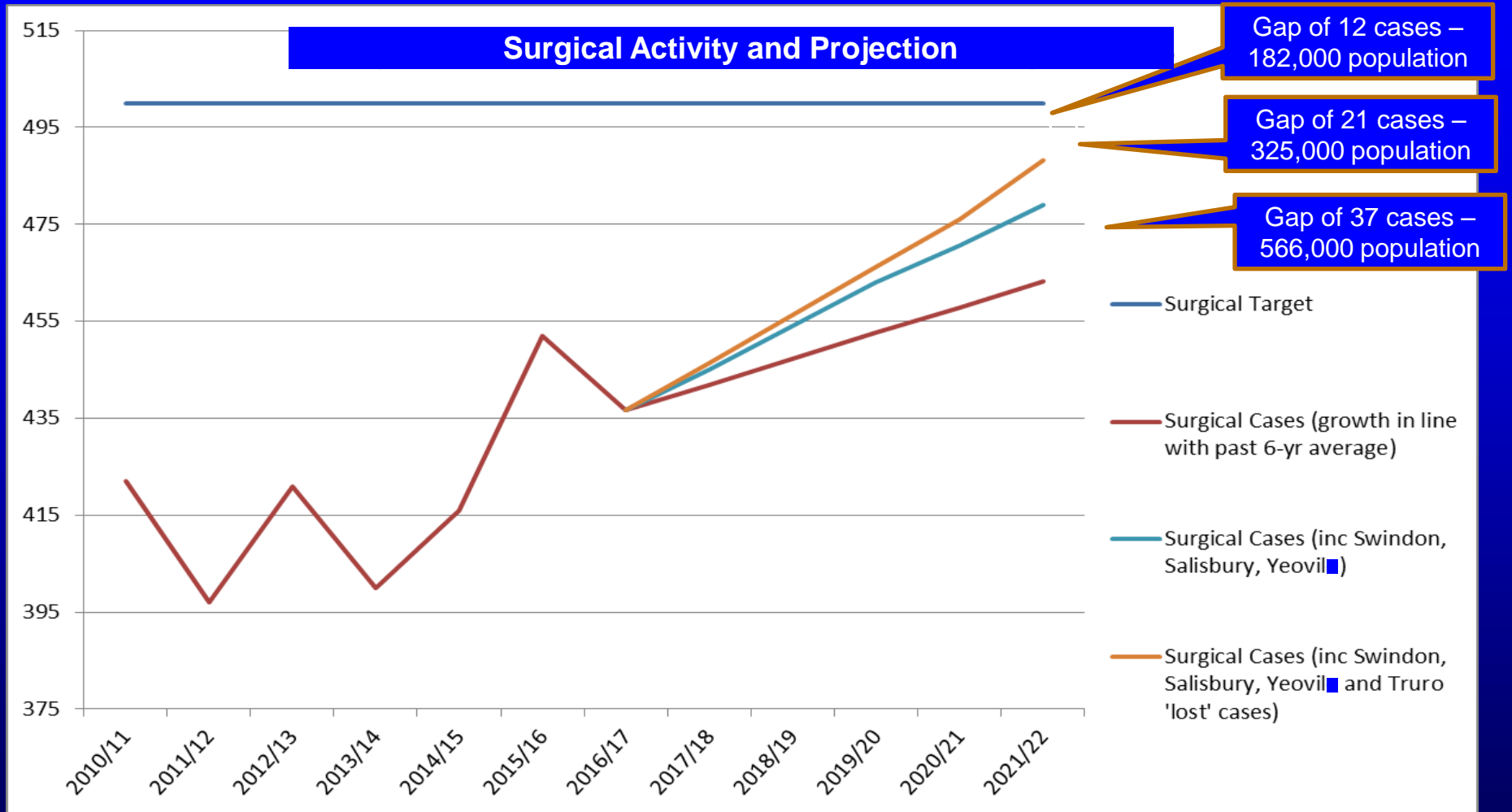
| Population Projections | 2015 | 2021 | Change |
|---------------------------------------|--------|-------|--------|
| South West Region Population (1,000s) | 5463.5 | 5,700 | 4.3% |
| SW Births | 58.5 | 61.3 | 4.8% |
| All Wales Population (1,000s) | 3,101 | 3,158 | 1.8% |
| All Wales (0-9 years) | 355 | 350 | -1.4% |

| | Population (2015) | Population 2021 | No. elective paediatric surgical cases | Cases per 100,000 population | Variance from average |
|--|-------------------|------------------|--|------------------------------|-----------------------|
| Our Catchment Population | | | | | |
| Welsh Health Specialised Services Committee (estimate) | 2,000,000 | 2,036,000 | 74 | 3.6 | 0.4 |
| NHS North, East, West Devon CCG, Specialised Services | 890,596 | 933,345 | 30 | 3.2 | 0.0 |
| NHS Bristol CCG, Specialised Services | 449,328 | 470,896 | 21 | 4.6 | 1.3 |
| NHS Gloucestershire CCG, Specialised Services | 617,162 | 646,786 | 22 | 3.4 | 0.1 |
| NHS Somerset CCG, Specialised Services | 545,390 | 571,569 | 15 | 2.7 | -0.5 |
| NHS South Gloucestershire CCG, Specialised Services | 274,661 | 287,845 | 10 | 3.5 | 0.2 |
| NHS North Somerset CCG, Specialised Services | 209,944 | 220,021 | 7 | 3.3 | 0.1 |
| NHS Kernow CCG, Specialised Services | 551,728 | 578,211 | 13 | 2.2 | -1.0 |
| NHS Wiltshire CCG, Specialised Services | 486,093 | 509,425 | 14 | 2.7 | -0.5 |
| NHS South Devon And Torbay CCG, Specialised Services | 278,566 | 291,937 | 10 | 3.4 | 0.2 |
| NHS Bath And North East Somerset CCG, Specialised Services | 184,874 | 193,748 | 3 | 1.5 | -1.7 |
| NHS Swindon CCG, Specialised Services | 222,769 | 233,462 | 5 | 2.3 | -0.9 |
| Total / Average | 6,711,111 | 6,973,244 | 225 | 3.2 | |

Where are the opportunities for increasing provision



What does additional activity mean for our forecast



Even in a best-case scenario, we would still need to increase our catchment area by 182,000 – an area approximate to North Somerset