ONCOLOGY CLINICAL PHARMACY CAPACITY PLANNING PROJECT

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Disclaimer
Microsoft CoPilot was used to assist in refining sections of this document. The final content has been checked by the author to ensure accuracy and suitability.

Executive Summary

This project evaluates the capacity and demand associated with clinical pharmacy verification of Systemic Anti-Cancer Therapy (SACT) prescriptions across provider Trusts within the Wessex Cancer Alliance (WCA). The project aimed to quantify growth in SACT verification activity over time, assess the clinical pharmacy workforce required to support this demand, and identify any existing workforce deficits by piloting the British Oncology Pharmacy Association (BOPA) Clinical Pharmacy Capacity Planning Tool.

Analysis of prescribing data demonstrated a substantial increase in SACT verification activity between 2019/20 and 2024/25, with growth across all Trusts. High-volume centres such as University Hospitals Southampton NHS Foundation Trust (UHS) and Portsmouth Hospitals University NHS Trust (PHT) experienced increases of approximately 49–56%, while smaller providers such as Salisbury NHS Foundation Trust (SFT) and the Isle of Wight NHS Trust (IoW) saw activity more than double. Overall, these findings are consistent with national trends of increasing SACT demand, estimated at 6–8% per year, and suggest that regional demand is at the upper end of this range.

Despite increasing demand, significant variation exists in workforce size, skill mix, and service capacity across the Alliance. The application of the pilot BOPA capacity planning tool identified a clinical oncology pharmacy workforce deficit at every Trust. The magnitude of this deficit varied considerably, with some organisations demonstrating workforce gaps exceeding their current staffing levels. Larger centres, particularly those delivering complex therapies, showed substantial absolute deficits, while smaller units often exhibited the highest proportional workforce gaps.

Several factors contribute to these deficits, including sustained growth in treatment volume and complexity, historic underinvestment in the oncology pharmacy workforce, variation in skill mix, and differences in operational efficiency. In addition, limitations within the capacity planning tool—such as assumptions regarding verification times, non-patient-facing activity, and workforce efficiency—may influence the calculated deficits, although they are unlikely to fully account for the scale of the shortfall observed.

To address the identified challenges, the report highlights three key strategies: optimising skill mix to maximise patient-facing clinical activity, improving efficiency within SACT verification processes, and reducing unnecessary workload through better allocation of non-SACT tasks. However, even with these measures, workforce expansion is essential to meet current and future demand safely.

In conclusion, this project demonstrates that demand for SACT clinical verification across the WCA is increasing significantly and is outpacing current workforce capacity. Without proactive workforce planning and investment, there is a risk to service sustainability, efficiency, and patient safety. Having access to a fully validated and nationally approved Clinical Pharmacy Capacity Planning Tool is essential to support workforce modelling and should be utilised to inform strategic planning and ensure services remain responsive to the growing complexity and volume of cancer treatment.

Background

According to national SACT data it is estimated that SACT treatment delivery continues to increase on average by 6-8% per year. [1] This increase places significant pressure on the multidisciplinary healthcare team involved in the delivery of SACT services.

Prescriptions containing SACT have been highlighted as high-risk, requiring verification prior to administration. [2] SACT verification is the critical, mandatory, clinical check of cancer medication prescriptions by a suitably trained, registered pharmacy professional, to ensure safety, accuracy, and clinical appropriateness before dispensing. It validates patient details, dosages, protocols, and, if needed, blood results to prevent medication errors.

Clinical verification was historically undertaken by an accredited registered pharmacist; however, models of service delivery are continually evolving and currently there is a move toward utilising suitably qualified, experienced and accredited pharmacy technicians to undertake a proportion of clinical SACT verification.

National standards exist for verification of all SACT prescriptions by a registered pharmacy professional (RPP). [3] This is to ensure that all SACT prescriptions are verified to an agreed minimum standard.

To meet the minimum verification standards, all RPP must undergo education and training and become accredited as competent in SACT verification, these are detailed in the British Oncology Pharmacists Association (BOPA) SACT passport. [2]

The process of clinical verification of SACT, to the expected standard, is time variable depending on the complexity of the SACT regimen and the experience of the verifier. Timings for SACT verification have been proposed by various groups. [4] however, a validated national consensus is currently lacking.

Much work has been done around capacity and demand on cancer services in terms of SACT administration in SACT day units. The introduction of homecare, self-administration and outreach initiatives have the potential to reduce the demand on chair space and SACT nursing time in hospital SACT outpatient day units.

However, these initiatives have had no positive impact on the growing number of SACT prescriptions that require clinical verification by oncology specialist registered pharmacy professionals. The number of cancer treatments approved by NICE has increased 3-fold in the past 10 years, with 50 new therapies approved in 2024/25 in comparison to 14 in 2014/15. [5] The number of prescriptions and their complexity only continue to increase year on year.

Oncology pharmacy services often struggle to recruit and retain pharmacists who wish to specialise in oncology. Some of the potential reasons for this may include the perceived complexity of the workload, the emotive nature of cancer and its treatment and the lack of education and training around oncology at both an undergraduate and post-qualification level. This is likely to result in a significant shortfall in the number of experienced pharmacists who are trained and accredited to verify SACT over the coming years. Many Trusts nationally have developed pharmacy technician SACT verifier roles to fill some of these workforce gaps, however there is also a lack of suitably qualified and experienced technicians to fill these roles.

Aim

The overall aim of this project was to evaluate the capacity and demand associated with clinical pharmacy verification of Systemic Anti-Cancer Therapy (SACT) across provider Trusts within the Wessex Cancer Alliance (WCA). This included assessing trends in verification activity and determining whether the existing clinical oncology pharmacy workforce is sufficient to meet current and future service demands.

Objectives

To achieve this aim, the project had the following specific objectives:

1. **Quantify SACT verification activity**
   - To determine the average weekly number of outpatient SACT prescriptions verified across WCA provider Trusts.
   - To compare activity between 2019/20 and 2024/25 to assess growth in demand and alignment with the nationally recognised annual increase of 6–8%.
   - To identify variation in activity between individual Trusts and explore potential reasons for these differences.
2. **Assess clinical oncology pharmacy workload and workforce capacity**
   - To quantify the amount of time spent on clinical verification of SACT by oncology pharmacy teams.
   - To assess the contribution of wider clinical and non-patient-facing activities to overall workload.
3. **Identify and quantify workforce deficits**
   - To utilise the British Oncology Pharmacy Association (BOPA) pilot Clinical Pharmacy Capacity Planning Tool to estimate required workforce capacity.
   - To determine whether a workforce deficit exists across WCA and quantify the size of any gaps between demand and available capacity.
4. **Explore variation across provider organisations**
   - To investigate differences in workforce capacity, skill mix, and service delivery models between Trusts.
   - To identify potential drivers of variation in workforce deficits, including workload complexity and operational factors.
5. **Support future workforce and service planning**
   - To evaluate the utility of the BOPA pilot clinical pharmacy capacity planning tool in a real-world setting.
   - To provide evidence to inform workforce planning, service development, and future investment in clinical oncology pharmacy services.

Methods

Quantify total weekly SACT prescription verification numbers

To gain a Wessex wide perspective of SACT verification activity, data was collected from the following six provider Trusts within the Wessex Cancer Alliance geography: University Hospitals Southampton NHS Foundation Trust (UHS), University Hospitals Dorset NHS Foundation Trust (UHD), Portsmouth Hospitals University NHS Trust (PHT), Hampshire Hospitals NHS Foundation Trust (HHFT), Isle of Wight NHS Trust (IoW), Dorset County Hospital NHS Foundation Trust (DCH) and one provider, Salisbury NHS Foundation Trust (SFT), from the Somerset, Wiltshire and Avon Cancer Alliance. (SFT was included as it is part of the Central South Coast Cancer Network SACT electronic prescribing collaborative and participates in many WCA advisory groups).

To quantify the number of SACT prescriptions verified each Trust collected prescription verification data as agreed from their SACT prescribing systems. Data collection methods may have varied across Trusts due to the use of different SACT electronic prescribing software, however data was collected for the same 4-week period.

Data collection

For the Hampshire and Isle of Wight Trusts and SFT that utilise Aria as their SACT electronic prescribing and administration system (ePMA), data was collected utilising the 'Prescriptions – with or without pharmacy approval' report function on Aria. A report was run for each Trust for each of the 4 weeks beginning 16/12/24; 06/01/25; 13/01/25; 20/01/25.

The Aria report was exported to Excel as this allowed data interrogation and cleansing to ensure removal of duplicate prescriptions and those that did not require pharmacy verification i.e. prescriptions for blood products.

Where multiple prescriptions (with different prescription ID numbers) existed for the same patient, for the same treatment date, these duplicates were removed to ensure that overcounting of total outpatient prescription numbers did not occur.

Furthermore, where multiple day SACT regimens were included e.g. azacitidine 5+2, the prescription was only counted once to reflect that all days of the regimen are usually verified at the same time prior to day 1 of treatment. Where SACT regimens included multiple days of treatment that were separated by 1 week or longer e.g. carboplatin gemcitabine, these were counted as 2 separate verifications.

Where more than one cycle was prescribed at the same time e.g. enzalutamide/abiraterone to cover an extended period of treatment this was also counted as a single verification.

Where supportive regimens e.g. denosumab or zoledronic acid were prescribed alongside the main SACT regimen these were not counted twice as the supportive regimens were verified at the same time as the main SACT regimen.

All unverified prescriptions identified were excluded from the total prescription verification numbers.

Data was also collected from a 4-week period in 2019/2020, for the weeks beginning 16/12/19; 06/01/20; 13/01/20; 20/01/20 using the same methods. (This time period was chosen to minimise the effects of a reduction in patient numbers seen during the Covid-19 pandemic).

Finally, an average was calculated across each of the 4-week periods and used as a representative figure for outpatient verification activity.

Quantify the Clinical Pharmacy workforce position at a WCA level

To explore and quantify the current clinical pharmacy workforce position, the project lead joined the British Oncology Pharmacy Association (BOPA) Clinical Pharmacy Capacity Short Life Working Group (SLWG). This had been created to explore Clinical Pharmacy capacity at a national level and were working to develop and pilot a tool that could be used to quantify the current capacity of clinical oncology pharmacy services at a Trust/service level. The tool that was being developed was based on a validated tool that had been approved for use in Scotland by the Scottish Oncology Pharmacy Practice Group (SOPPG) and was designed to calculate the amount of time in whole time equivalents (WTE) that is required to deliver clinical oncology pharmacy services provided by each Trust, whether that be a large cancer centre or a small cancer unit.

At the time the project lead joined the BOPA workforce capacity and demand group, the tool was going through a preliminary testing phase at a small number of sites, and a questionnaire was being developed to allow Trusts to comment on the utility of the tool when it was circulated for testing by a wider audience. The project lead agreed to co-ordinate completion of the pilot BOPA Clinical Pharmacy Capacity Planning Tool on behalf of the Trusts within Wessex Cancer Alliance. The Wessex data was then utilised for this project and was also fed into the national evaluation of the tool.

Data Collection

To facilitate completion of the pilot BOPA Clinical Pharmacy Capacity Planning Tool, the following data was collected: -

Total number of inpatient beds – including the split between inpatient oncology beds, haematology/complex oncology beds and highly complex beds (BMT/CAR-T)

Oncology Pharmacy Clinical Workload (for the whole SACT verification team) – including hours per week spent at MDT meetings, NMP clinics, individual patient requests for SACT treatments, troubleshooting prescribing issues, managing financial and safety systems e.g. Prescription Authorisation Forms (PAF), clinic organisation/advanced planning, patient education, managing free of charge (FOC)/compassionate use and EAMS schemes, managing clinical queries relating to deliveries/homecare services, extra time spent on clinical trial verification, patient counselling etc.

Available clinical staffing – including banding of job role, hours worked (as WTE), hours spent per week on non-patient facing activities such as covering the aseptic service/release of SACT doses, dispensary cover, hours lost to on-call or weekend working, clinical trials set up, ePMA system set-up, non-malignant clinic roles etc.

To facilitate this, a data collection form was developed to assist colleagues to record the amount of time that they spent each day on other cancer specific, cancer non-specific and SACT non-specific activities outlined above (See Appendix 1).

The lead cancer pharmacist at each Trust was contacted to introduce the project and seek engagement. Assistance and support with completion of the tool was provided. If they did not have the capacity to complete the tool themselves, the project lead offered to complete on their behalf, provided they could supply the required activity and workforce data. (Appendix 2 shows the BOPA pilot capacity and demand tool)

Results

Outpatient prescription verification data

Table 1 and Chart 1 show the average weekly SACT prescription verification activity from both data collection periods (2019/20 and 2024/25). UHS and PHT verified the largest number of SACT prescriptions, which was expected as both Trusts are tertiary cancer centres and treat many different clinical specialties, drawing from a wide geographical area.

In the 2024/25 data collection period, UHD verified the 3rd highest number of prescriptions, however no data was supplied for the 2019/20 period.

HHFT verified the next largest number of SACT prescriptions, followed by SFT, IoW and DCHFT.

A complete data set was unavailable for DCH, therefore the data collected only represents injectable SACT prescription verification activity. Oral SACT prescriptions are verified by a pharmacist in their subsidiary outpatient pharmacy. Therefore, DCH total SACT prescription verification numbers are likely to be significantly higher than current data shows.

Table 1. Total outpatient SACT prescriptions verified and weekly average 2019/20 and 2024/25

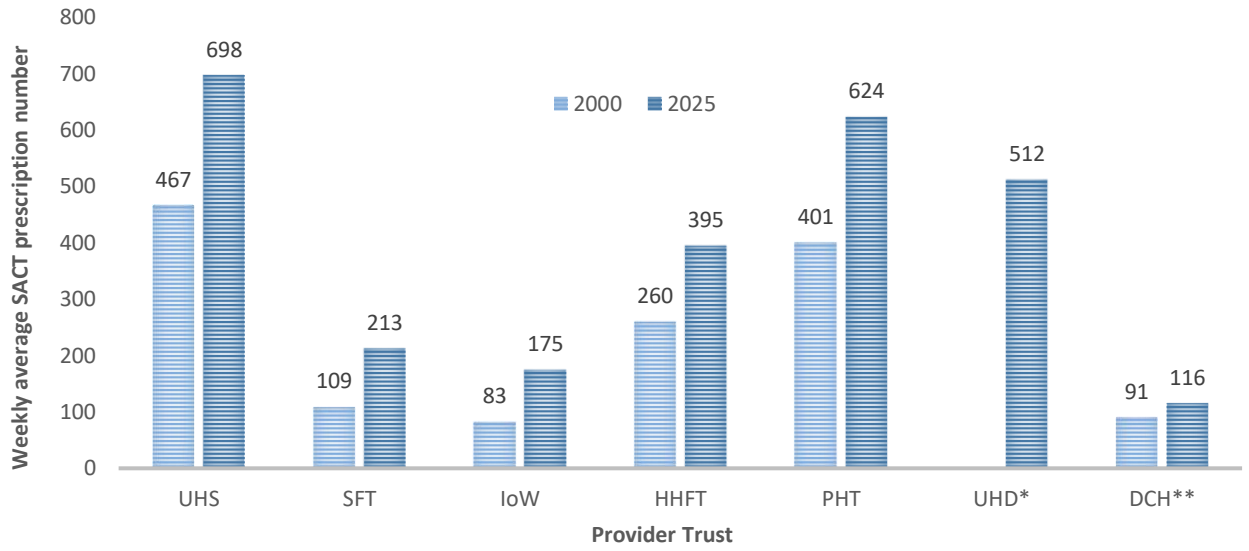
	Trust						
Date	**UHS**	**PHT**	**UHD***	**HHFT**	**SFT**	**IoW**	**DCH****
16/12/19	509	403		267	117	96	83
06/01/20	510	422		290	103	98	98
13/01/20	454	393		232	116	68	95
20/01/20	402	387		248	100	71	87
Weekly average	467	401		260	109	83	91
16/12/24	710	617		434	231	188	125
06/01/25	741	623		429	233	190	121
13/01/25	696	630		354	203	161	119
20/01/25	648	627		361	186	160	99
Weekly average	698	625	512	395	213	175	116

UHS=University Hospitals Southampton NHS FT; PHT = Portsmouth Hospitals University NHS Trust; UHD = University Hospitals Dorset NHS Foundation Trust; HHFT = Hampshire Hospitals NHS Foundation Trust; SFT = Salisbury NHS Foundation Trust; IoW= Isle of Wight NHS Trust; DCH = Dorset County Hospital NHS Foundation Trust

*No data provided for 2019/20

**Only includes data for injectable SACT or mixed injectable/oral SACT as no data provided for oral only SACT

Chart 1. Comparison of SACT prescription verification activity between 2019/20 v 2024/25



UHS=University Hospitals Southampton NHS FT; PHT = Portsmouth Hospitals University NHS Trust; UHD = University Hospitals Dorset NHS Foundation Trust; HHFT = Hampshire Hospitals NHS Foundation Trust; SFT = Salisbury NHS Foundation Trust; IoW= Isle of Wight NHS Trust; DCH = Dorset County Hospital NHS Foundation Trust

*No data provided for 2019/20

**Only includes data for injectable SACT or mixed injectable/oral SACT, no data provided for oral only SACT

There was a noticeable variation in the 5-year growth of SACT prescription verification activity as shown in Table 2 below, with Salisbury and the Isle of Wight showing a 2-fold increase in SACT outpatient prescription verification activity over a 5-year period. Southampton, Portsmouth and Hampshire Hospitals verification activity all showed growth of around 50%.

DCH showed a much lower increase in verification activity. This may be due in part to the fact that data on oral SACT numbers was not included. Therefore, the activity represents injectable SACT prescription verification only. The pharmacy aseptic service at DCH operates to a weekly activity cap, meaning that SACT verification activity would not have been expected to increase by the same amount as other units where aseptic services do not operate a similar treatment number cap.

Table 2. Variance in growth of SACT prescription verification numbers between providers.

NHS Provider	2020	2025	% Growth
University Hospitals Southampton NHS Foundation Trust	467	698	49
Portsmouth Hospitals University NHS Trust	401	624	56
University Hospitals Dorset NHS Foundation Trust*	n/a	512	n/a
Hampshire Hospitals NHS Foundation Trust	260	395	52
Salisbury NHS Foundation Trust	109	213	95
Isle of Wight NHS Trust	83	175	111
Dorset County Hospital NHS Foundation Trust**	91	116	27

*No data provided for 2019/20

**Only includes data for injectable SACT or mixed injectable/oral SACT, no data provided for oral only SACT

Dedicated cancer care inpatient activity

UHS were shown to have the largest number of dedicated inpatient beds for treating patients with cancer. This was expected as they host the Wessex Bone Marrow Transplant Unit, providing cellular therapies for patients across the Wessex region. PHT and UHD also have a significant number of dedicated inpatient beds.

The number of dedicated inpatient beds is relevant as together with the number of outpatient SACT prescriptions verified, bed number is the biggest contributor to driving demand on clinical oncology pharmacy services.

Table 3. Outpatient SACT verification and inpatient bed numbers per provider Trust

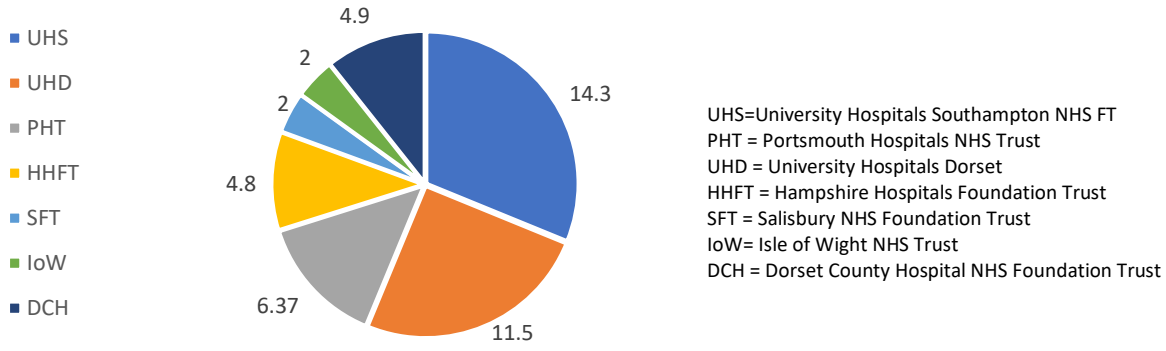
Trust	Weekly OP SACT Rx	No. Inpatient Beds
University Hospitals Southampton NHS Foundation Trust	698	113
Portsmouth Hospitals University NHS Trust	625	59
University Hospitals Dorset NHS Foundation Trust	512	51
Hampshire Hospitals Foundation Trust	395	10
Salisbury NHS Foundation Trust	213	10
Isle of Wight NHS Trust	175	0
Dorset County Hospital NHS Foundation Trust**	125	20

**Only includes data for injectable SACT or mixed injectable/oral SACT, no data provided for oral only SACT

Clinical oncology pharmacy workforce

There was a distinct variance in the size of the clinical oncology pharmacy teams between provider Trusts. It was expected that Trusts with the lowest number of outpatient SACT prescriptions and inpatient beds would have the smallest workforces. However, the data does not consistently reflect this. Chart 2 shows that UHS and UHD have the largest comparative clinical oncology pharmacy workforces. By contrast PHT has approximately half the clinical pharmacy workforce of both these Trusts and yet has the second highest level of demand on those services.

Chart 2. Clinical oncology pharmacy workforce by provider Trust in whole time equivalent (WTE)



SFT and IoW have identical clinical oncology pharmacy workforces in terms of WTE. HHFT and DCH have similar sized clinical oncology pharmacy workforces despite a significant difference in levels of SACT verification activity. It is difficult to draw any further conclusions about this because oral only SACT verification data was not available for DCH.

The skill mix of the clinical oncology pharmacy workforce also varied considerably between providers as shown in table 4, with UHD utilising the role of the pharmacy technician SACT verifier and Band 6 pharmacists, whereas other Trusts relied on the use of experienced Band 7 and 8a pharmacists for much of their clinical oncology pharmacy activity.

Table 4. Workforce skill mix when completing BOPA Clinical Pharmacy Capacity Planning Tool

	UHS	PHT	IOW	HHFT	UHD	DCH	SFT
Cancer Centre - Lead Pharmacist	1	1	1	1	0	0.8	1
Band 8a/8b Non-Lead Pharmacist	8.13	3.37	1	1	5	0.67	0
Band 7 >1 year experience	2	1	0	2.8	1	2	1
Band 7 <1 year experience	3	1	0	0	2	0	0
Band 6 - Rotational	0	0	0	0	2	1	0
Sessional Pharmacist	0.2	0	0	0	0.25	0.4	0
Clinical Technician	0	0	0	0	1	0	0

UHS=University Hospitals Southampton NHS FT; PHT = Portsmouth Hospitals University NHS Trust; UHD = University Hospitals Dorset NHS Foundation Trust; HHFT = Hampshire Hospitals NHS Foundation Trust; SFT = Salisbury NHS Foundation Trust; IoW= Isle of Wight NHS Trust; DCH = Dorset County Hospital NHS Foundation Trust

Workforce deficit

The BOPA Clinical Pharmacy Capacity Planning Tool demonstrated that all provider Trusts have an existing clinical oncology pharmacy workforce deficit, see table 5. However, the extent of this deficit is variable across the Alliance with UHS showing the largest overall deficit and DCH the smallest deficit.

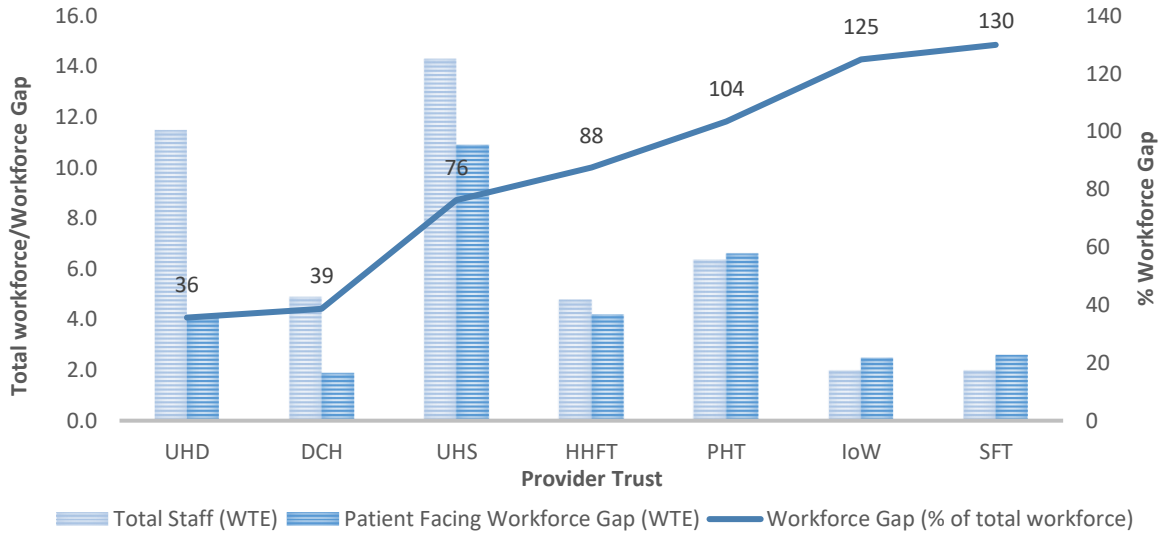
Table 5. Patient facing demand, capacity and workforce gap (deficit)

Provider Trust	Total Staff (WTE)	Patient facing demand (WTE)	Patient facing capacity WTE	Patient Facing Workforce Deficit (WTE)
UHS	14.3	17.1	6.2	10.9
UHD	11.5	9.9	5.8	4.1
PHT*	6.37	9.8	3.2	6.6
DCH**	4.9	2.24	0.35	1.9
HHFT	4.8	6.6	2.4	4.2
SDH	2	3.2	0.6	2.6
IoW	2	2.97	0.44	2.5

*Estimate from the available data (patient facing demand is likely to be higher and therefore workforce gap greater)

** only included data for injectable SACT, with no data for oral SACT

Chart 3. Workforce gap as a percentage of total workforce

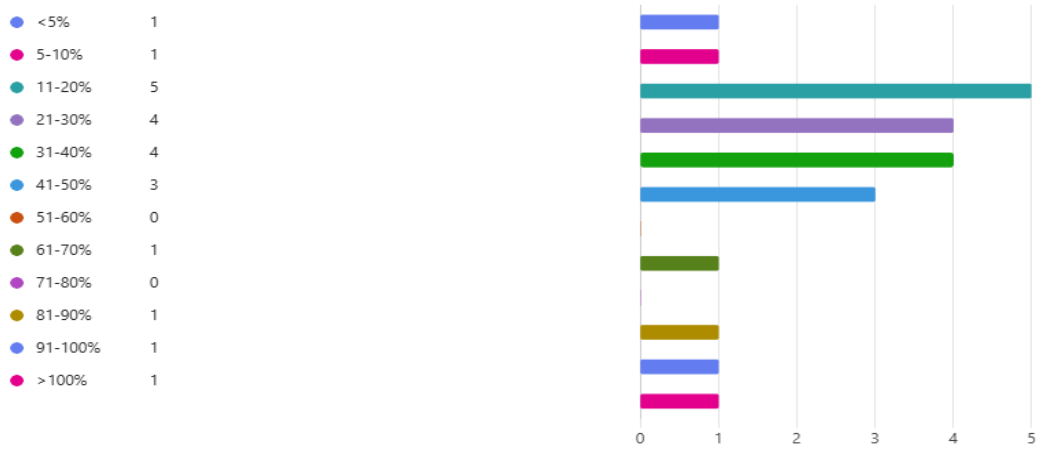


When looking at the deficit as a percentage of existing workforce there is a high degree of variance between provider Trusts. Interestingly some of the smaller, lower volume Trusts i.e. IoW and SFT have the biggest percentage workforce gap. Whereas DCH, also a low volume Trust has a much lower percentage workforce gap. UHD, a higher volume Trust, has a low percentage workforce deficit when compared to other high-volume Trusts, with PHT having the greatest percentage workforce deficit for a high volume provider.

BOPA Clinical Pharmacy Capacity Planning Tool Evaluation

There was considerable variance in the percentage workforce gap nationally, calculated by Trusts who completed the BOPA Clinical Pharmacy Capacity Planning Tool evaluation form, as seen in Chart 4 below. The percentage workforce gap ranged between 5% to over 100%. However, most Trusts reported a deficit in the range 11-50%. Based on the data in Chart 3, the WCA provider Trusts are currently experiencing a greater percentage workforce deficit in comparison to other areas of the UK.

Chart 4. Percentage workforce gap nationally – taken from BOPA Clinical Pharmacy Capacity Planning Tool evaluation



Discussion

Across the WCA provider Trusts, there was broad expectation that the BOPA Clinical Pharmacy Capacity Planning Tool would identify a workforce deficit. However, in several Trusts, the scale of the deficit was greater than anticipated. This finding was consistent with the national evaluation survey of the tool, in which 56% of respondents reported that the tool indicated a higher staffing requirement than expected. This may contribute to scepticism when interpreting the results and could reduce confidence in using the calculated deficits to support future service investment. Conversely, 44% of respondents reported that the tool aligned with their expectations, and no respondents felt that the tool underestimated their staffing needs.

Reasons for the Higher-than-Expected Patient-Facing Workforce Gap

Historic Underinvestment

One explanation for the larger-than-expected deficit is that it reflects a long-standing shortfall in clinical oncology pharmacy staffing. Outpatient prescription volumes have increased on average by 8% per year over the past five years. If workforce growth has not kept pace, the current deficit may represent cumulative underinvestment. Feedback from the evaluation survey supports this view, with one respondent noting that their Trust had 'not received a staffing uplift in a decade despite rising patient numbers'.

Over time, teams may have become accustomed to operating under sustained pressure, normalising an overstretched working environment. The deficit identified by the tool may therefore be accurate, but the workforce has adapted to chronic workload intensity. A shift in focus toward quality rather than quantity is needed; an audit comparing clinical verification quality against national standards may reveal the impact of this sustained pressure.

Activity Counting

Discrepancies in how Trusts record patient-facing versus non-patient-facing activity may also contribute to variation. Potential issues include: -

- Miscounting total prescription numbers
- Inclusion of non-SACT prescriptions
- Double-counting prescriptions
- Variation in interpretation of activity categories

These inconsistencies could inflate verification workload estimates and therefore impact on the calculated deficit.

Verification timings

Another reason why the workforce deficit may be greater than expected, relates to the timings for clinical verification set within the tool itself. The tool assumes that first-cycle SACT verification requires 20 minutes, and subsequent cycles require 12 minutes. Although the tool's verification timings are based on validated data from other groups, they may not accurately reflect the time required for a pharmacy professional to verify a SACT cycle.

The tool also does not account for variation in verification time between Trusts arising from differences in SACT prescribing systems and the additional digital platforms required to complete the verification process. IT infrastructure and system performance vary significantly across the Alliance, meaning the same verification task may be completed more quickly in one organisation than another, irrespective of the grade or experience of the SACT verifier. As a result, the tool may either under- or overestimate patient-facing capacity within the clinical oncology pharmacy verification team.

In addition, the timings used in the tool represent average values and do not account for the varying complexity of SACT regimens. The BOPA SACT verification passport categorises SACT regimens into 3 levels depending on verification complexity. Simple level 2a prescriptions, for example fixed dose oral regimens or single agent fixed dose injectable SACT, may require less than 12 minutes to verify, whereas complex clinical trial regimens or conditioning regimens pre cellular therapies will take significantly longer. The tool assumes that these averages will balance out across the year, producing a representative total verification time. However, this may not hold true for all provider Trusts. Those delivering a higher proportion of complex SACT are likely to require longer average verification times than Trusts whose activity is predominantly simple or medium-complexity regimens.

Assumptions About Non-Patient-Facing Activity and Efficiency

Because the tool calculates *patient-facing* deficit only, the total workforce required will depend on the skill mix chosen to address the gap. The overall requirement will depend on the grade and skill mix of the staff recruited to fill it. Within the BOPA Clinical Pharmacy Capacity Planning Tool, different grades have varying proportions of their role allocated to patient-facing activity, and some grades have higher verification efficiency due to their level of expertise. Feedback from the evaluation survey highlighted concerns from several Trusts about how the tool calculates the percentage of time allocated to non-patient-facing activities for each job role, suggesting that these assumptions may not accurately reflect real-world practice.

Variation in Workforce Gap Across Alliance Provider Trusts

Significant clinical oncology pharmacy workforce deficit variation exists between WCA provider Trusts. Potential reasons for this variation are outlined below.

Uneven historical investment in clinical oncology pharmacy services

There is the possibility that certain provider Trusts have been more successful at securing funding for workforce investment than others, leading to comparatively smaller workforce deficits. As data was not collected on historic clinical oncology pharmacy workforce levels it is difficult to draw any accurate conclusions.

Differences in skill mix

Skill mix variation can distort the calculated workforce gap because some job roles have significantly less non-patient-facing activity built into the tool. As a result, Trusts with a higher proportion of Band 6 pharmacists or clinical technicians may appear to have a smaller deficit. For example, clinical technicians have no non-patient-facing activity allocated within the tool, and Band 6 pharmacists are assigned only 0.1 WTE of non-patient-facing time. In addition, Band 6 pharmacists and Band 7 pharmacists with less than one year of SACT verification experience are assumed to be less efficient than more experienced Band 7 staff or Band 8a and above pharmacists. These assumptions raise important questions about whether the percentage of time allocated to non-patient-facing activity for each role accurately reflects real-world practice.

Variation in the proportion of staff with high non-patient-facing commitments

Skill mix within teams also plays a critical role. Some provider organisations have a top-heavy structure, which is less efficient for clinical verification due to the higher proportion of non-patient-facing responsibilities associated with senior roles. This issue was frequently highlighted in evaluation feedback. For example, within the tool, a lead pharmacist in a cancer centre is assumed to be 100% non-patient-facing, whereas a lead pharmacist in a cancer unit is assumed to be 80% non-patient-facing. Such assumptions can

significantly influence the calculated workforce gap and may not align with how roles are delivered in practice.

Differences in the complexity of SACT delivered

Some provider Trusts deliver a higher proportion of highly complex SACT, including clinical trials and cellular therapies. As a result, the average prescription verification time for these Trusts should be expected to exceed that of Trusts whose activity is predominantly simple or medium-complexity SACT regimens. In the future, it would be advantageous for the tool to allow modification of verification timings to reflect not only the volume of prescriptions verified but also the complexity and type of SACT being delivered.

Addressing the Workforce Deficit

There are three main approaches to reducing the workforce gap:

1. **Increase patient-facing activity within the existing workforce**, or
2. **Reduce the workload of the SACT clinical verification team**.
3. **Increase the staffing complement -** remains valid but may be less feasible in the current financial climate.

Increase Patient-Facing Capacity

A key strategy for increasing patient-facing activity without increasing headcount is ensuring the optimal skill mix within the SACT verification team. For example: -

- **Band 8a pharmacists** can verify highly complex prescriptions and work at an advanced level, but they also carry significant non-patient-facing responsibilities, reducing the proportion of time available for clinical verification.
- **Band 7 pharmacists with more than one year of SACT verification experience** have fewer non-patient-facing duties and can verify most SACT regimens except the most complex (e.g., BMT/CAR-T). They may therefore offer a more efficient balance of capability and availability.
- **Clinical technicians dedicated to SACT verification** are assumed in the BOPA pilot tool to spend 100% of their WTE on verification. In practice, this may not be realistic if they also undertake non-patient-facing responsibilities. If so, these duties should be reflected in the tool to avoid overestimating their patient-facing capacity.

Ensuring the right balance of seniority, experience, and verification efficiency is essential for maximising patient-facing output without increasing staffing levels.

Reduce Verification Workload

Patient-facing demand is driven primarily by:

- The number of outpatient prescriptions requiring verification
- The number of inpatient beds supported by the service

Workload could be reduced through the following measures:

Redirecting Non-SACT Prescriptions

A review of outpatient prescriptions may identify non-SACT items currently verified by the SACT team. These could be reallocated to other pharmacy services, reducing unnecessary workload.

Streamlining Verification Processes

Ensuring that verification is undertaken in the most efficient manner can also reduce demand. For example:

- For multi-day SACT regimens that do not require additional clinical tests before day 8 or day 15 doses, verifying all doses prior to day 1 could significantly improve efficiency.
- Standardising verification processes and reducing variation may also improve throughput.
- Ensuring verification takes place in an environment where interruptions are kept to a minimum, with protected time in the workplan to undertake this key task.

Increase/optimise staffing complement

Even with improvements to the verification process and the diversion of non-SACT prescriptions to other clinical teams, a clinical verification workforce deficit is still unavoidable. Addressing this gap will require a staffing uplift. However, making effective use of skill mix and developing structured job plans for all team members could help minimise any associated increases in workforce expenditure.

Conclusion

The data collected from WCA provider Trusts on average weekly SACT prescription verification activity supports the nationally quoted annual increase in SACT demand of 6–8%. Within Dorset, Hampshire and the IOW, the WCA data indicates that demand for SACT verification services is at the upper end of this range. Sustained investment in clinical oncology pharmacy services will therefore be essential to maintain service quality and capacity as demand continues to rise.

The BOPA Capacity and Demand Tool could be used to model the projected impact of new therapies on clinical oncology pharmacy services and to identify the optimal level and timing of workforce investment required to meet this increased demand. Completing the tool annually or biannually would help ensure that workforce redesign and investment keep pace with the growing pressures on clinical oncology pharmacy services. In addition to examining services for adult and TYA cancer patients, it would also be valuable to assess whether paediatric oncology pharmacy services are experiencing similar increases in demand, and to understand the factors driving any such growth.

To minimise future deficits, investment must be secured before the implementation of new therapies. Business cases should be developed proactively ahead of new NICE Technology Appraisals, rather than relying on existing teams to absorb additional workload without appropriate resource expansion.

As the tool is currently a pilot in England—despite being validated and approved for national use in Scotland—its accuracy may be questioned due to some of the assumptions made. For this reason, each Trust completing the pilot tool was asked to provide feedback on their results and how well these matched how it feels in real-time which may provide more confidence to those Trusts who wish to use the findings of the audit to inform their service development. This feedback is now being reviewed by the BOPA working group to further refine and strengthen the tool.

Overall, this project highlights the need for a validated and nationally approved tool to support confidence in workforce predictions and enable effective strategic planning. Looking to the future it would be interesting to explore whether there is a role for harnessing AI to analyse verification data gathered from provider Trusts, particularly where this has been obtained from different prescribing software systems. If harnessed effectively it could improve confidence in the data gathered by ensuring that it has been interrogated and represented in a consistent manor.

On final reflection ensuring that Dorset, Hampshire and Isle of Wight provider Trusts utilise the same SACT prescribing system could help drive efficiency across WCA as this would ensure that a combined workforce could be utilised for building and verifying new SACT protocols, releasing time back for clinical pharmacy verification. It would also ensure consistency of data collection for future WCA clinical verification of SACT capacity and demand projects.

Disclaimer

Microsoft CoPilot was used to assist in refining sections of this document. The final content has been checked by the author to ensure accuracy and suitability.

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3. British Oncology Pharmacists Association (2025). Standards for the Pharmacy Verification of Prescriptions for Cancer Medicines Version 5.0. Online at https://www.bopa.org.uk/resources/bopa-standards-for-clinical-pharmacy-verification-of-cancer-medicine-prescriptions/

4. Pollack L, Robinson J, Chan T, et al. Capturing Cancer Clinical Pharmacy Workload – A National Approach. Poster presented to 28th BOPA Conference. Belfast, 3-5th October 2025.

5. National Institute for Health and Care Excellence (2026). Technology appraisal data: cancer appraisal recommendations. Online at https://www.nice.org.uk/what-nice-does/our-guidance/about-technology-appraisal-guidance/technology-appraisal-data-cancer-appraisal-recommendations

Appendix 1 - Workforce activity data collection form

Name: …… Grade: ……

Experience of screening SACT (Band 7 or below only): < 1 year or > 1 year (please circle)

Date: ……

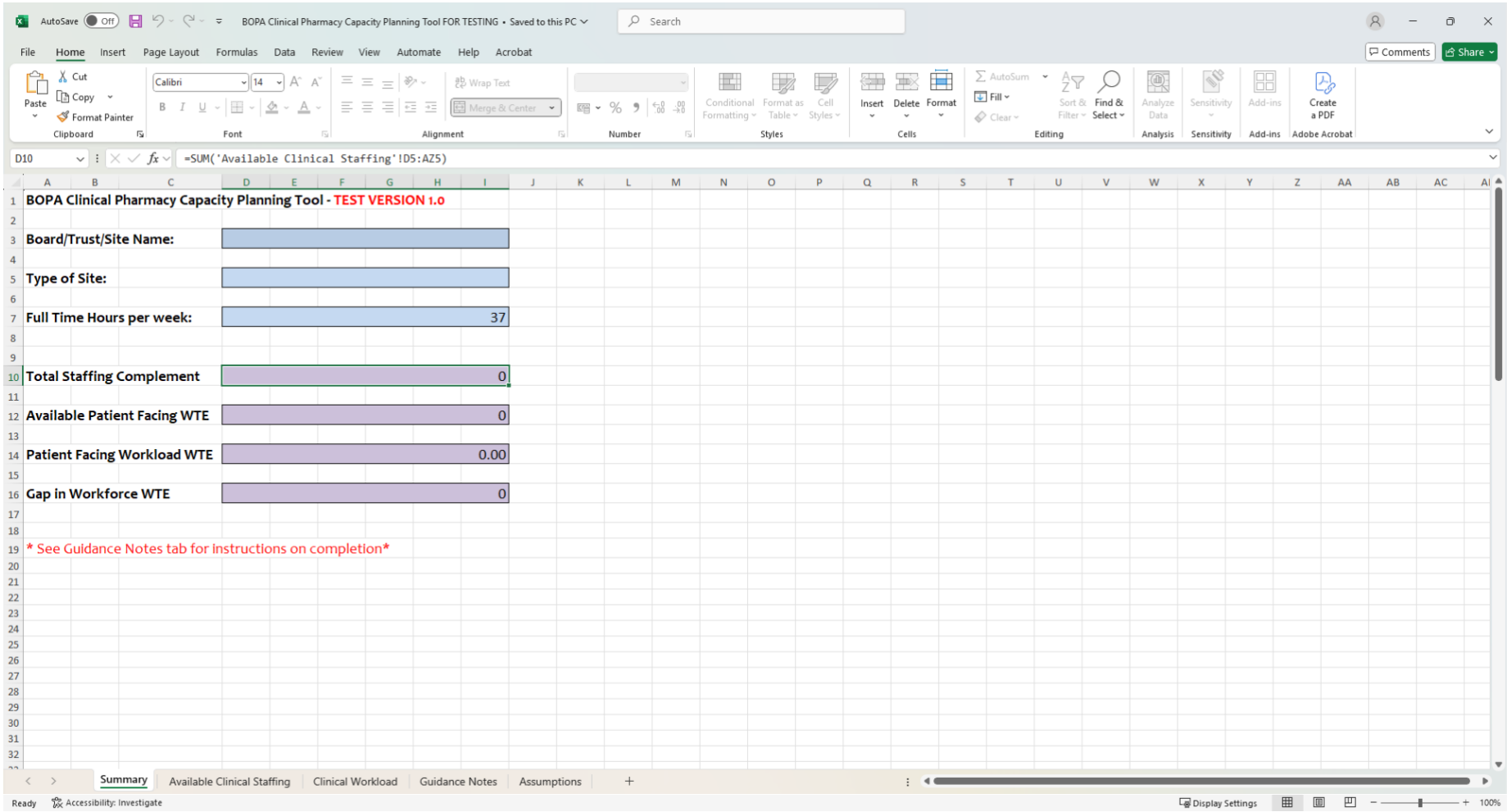
	Monday	Tuesday	Wednesday	Thursday	Friday	Total
Non cancer care related meetings (hours)						
Study leave (hours)						
Releasing SACT doses (hours)						
Patient education episodes Total number Simple/Intermediate/Complex (see below for explanation)						
Time spent on ward rounds/MDT/meetings directly linked to patient care (hours)						
Weekend working (hours)						
Free of charge scheme admin (set-up/ordering etc) (hours)						
Dispensary late night (hours)						
Prescribing clinic and associated follow-up (hours)						

Aria queries eg password reset/adding patient to Aria/technical prescribing advice (hours)						
CAR-T/ ATMP ordering/receipt/dispensing (hours)						
Clinical Trials – additional workload (hours)						
Homecare/deliveries issues (hours)						
ePAF/Blueteq/SACT portal/finance challenges etc (hours						
Miscellaneous (hours)						

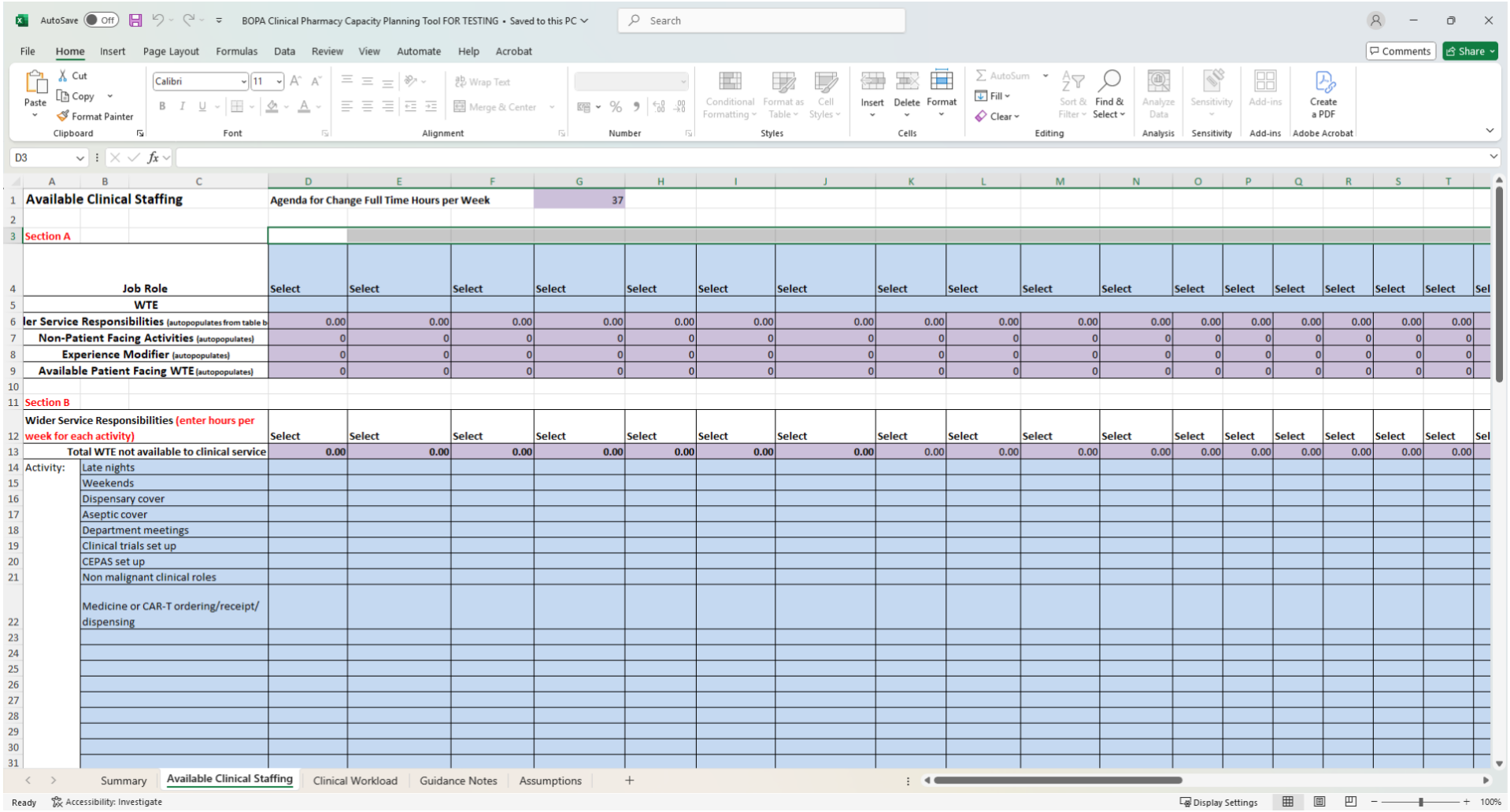
*Patient education episodes
Simple = 6mins Intermediate = 12mins Complex = 18mins

Appendix 2 – BOPA Clinical Pharmacy Capacity Planning Tool

Summary Section

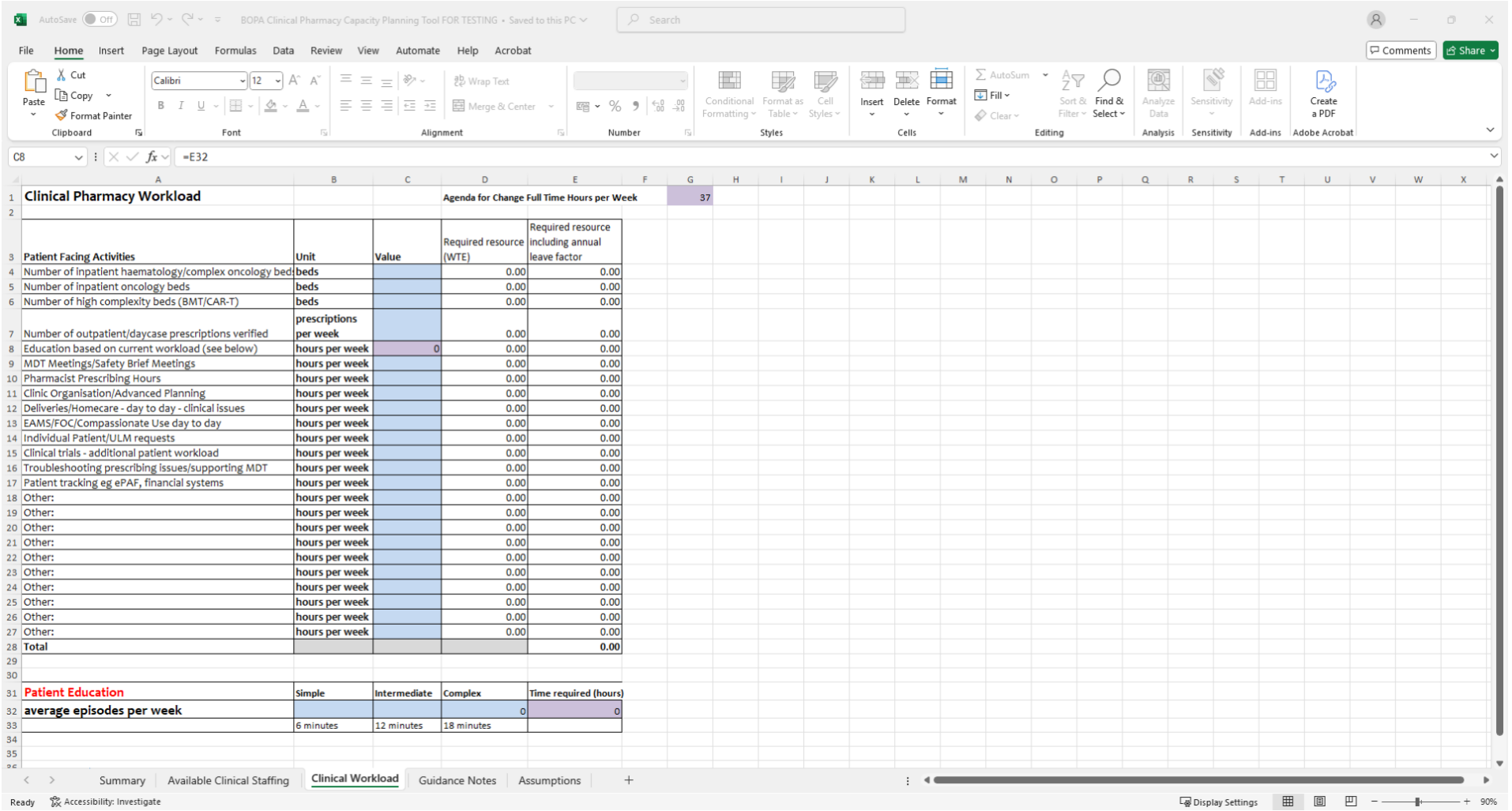


Available Clinical Staffing Section



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	**Available Clinical Staffing**			**Agenda for Change Full Time Hours per Week**			37													
2																				
3	Section A																			
4			**Job Role**	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select
5			**WTE**																	
6			**ler Service Responsibilities** (autopopulates from table b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7			**Non-Patient Facing Activities** (autopopulates)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8			**Experience Modifier** (autopopulates)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9			**Available Patient Facing WTE** (autopopulates)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10																				
11	Section B																			
12			**Wider Service Responsibilities** (enter hours per week for each activity)	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select	Select
13			**Total WTE not available to clinical service**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	Activity:		Late nights																	
15			Weekends																	
16			Dispensary cover																	
17			Aseptic cover																	
18			Department meetings																	
19			Clinical trials set up																	
20			CEPAS set up																	
21			Non malignant clinical roles																	
22			Medicine or CAR-T ordering/receipt/ dispensing																	
23																				
24																				
25																				
26																				
27																				
28																				
29																				
30																				
31																				

Clinical Workload Section



Clinical Pharmacy Workload			Agenda for Change Full Time Hours per Week	37
Patient Facing Activities	**Unit**	**Value**	**Required resource (WTE)**	**Required resource including annual leave factor**
Number of inpatient haematology/complex oncology bed	**beds**		0.00	0.00
Number of inpatient oncology beds	**beds**		0.00	0.00
Number of high complexity beds (BMT/CAR-T)	**beds**		0.00	0.00
Number of outpatient/daycase prescriptions verified	**prescriptions per week**		0.00	0.00
Education based on current workload (see below)	**hours per week**	0	0.00	0.00
MDT Meetings/Safety Brief Meetings	**hours per week**		0.00	0.00
Pharmacist Prescribing Hours	**hours per week**		0.00	0.00
Clinic Organisation/Advanced Planning	**hours per week**		0.00	0.00
Deliveries/Homecare - day to day - clinical issues	**hours per week**		0.00	0.00
EAMS/FOC/Compassionate Use day to day	**hours per week**		0.00	0.00
Individual Patient/ULM requests	**hours per week**		0.00	0.00
Clinical trials - additional patient workload	**hours per week**		0.00	0.00
Troubleshooting prescribing issues/supporting MDT	**hours per week**		0.00	0.00
Patient tracking eg ePAF, financial systems	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Other:	**hours per week**		0.00	0.00
Total				**0.00**

Patient Education	**Simple**	**Intermediate**	**Complex**	**Time required (hours)**
average episodes per week			0	0
	6 minutes	12 minutes	18 minutes	

Guidance Notes

PROPOSED BOPA Clinical Pharmacy Capacity Planning TOOL – User Guide

This user guide details the steps needed to complete the proposed BOPA capacity planning tool. The tool will calculate the staff needed for patient facing (individual patient related tasks eg prescribing, verification, patient education, individual funding requests) and non-patient facing clinical roles (benefiting groups of patients eg clinical governance, training, audit etc). Generally, data only needs to be entered into boxes that are blue. Boxes in purple will autopopulate.

Data will require to be collated prior to input into the tool. This includes:

Staff Data

* List of all clinical staff members, AFC banding and WTE including both pharmacist and clinical technician posts
* For the staff members above, the proportion of their substantive post that is not a clinical role eg dispensary rota, compensatory time for late nights/on-call/weekend working, non clinical responsibilities eg management, aseptic sessions etc. The 'Wider Service Responsibilities' section on the spreadsheet will work as a prompt for this.
* For the staff members above, which have been working in a cancer role for <1 year.
* For any staff member who has a small proportion of their overall role being clinical eg 1 clinic session per week, these can be entered into the tool on a sessional basis (enter as WTE).

Activity Data - you will also need the following activity data for your Trust/Hospital:

* Number of inpatient haematology, oncology, complex haematology and highly complex (eg BMT/CAR-T) beds
* Number of SACT daycase/outpatient prescriptions verified (average per week)
* Number of patients requiring patient education per week (simple (6 minutes), intermediate (12 minutes), complex (18 minutes))
* Hours per week attending MDT/safety brief meetings
* Hours per week for pharmacist prescribing sessions
* Hours per week for additional clinical tasks - some are listed on the tool but these can be added to as required

Completing the Tool

Open the Summary Tab

* Enter Hospital/Trust name
* Enter whether the site is a cancer centre or a cancer unit
* Check that the correct number of hours is allocated for full time working. Once the full tool has been populated this can be amended to model the impact of the reduced working week.

Open the Available Clinical Staffing Tab

Section A:

* In row 4, enter each of the roles within your team (using the drop down menu) and add the associated WTE in row 5 . This can be done in two ways: either summarise the WTE for each staff group or a column can be created for each staff member. If opting for listing all staff members individually, their name can be entered in the column in row 3 to keep you on track.
* Ensure you select the correct description for the site lead pharmacist as there is a different calculation within the model for cancer centres compared with cancer units.
* For band 7 roles, select if the staff member has less or more than 1 year of experience in cancer, this will affect the capacity modifier for inexperienced staff
* For specialist roles which have a sessional clinical commitment, chose the sessional pharmacist option. There will be no non-patient facing time allocated to this staff member from within their clinical time.
* Lines 7 and 8 will autopopulate based on the assumptions based in the tool (see assumptions tab)
* Line 7 allows a set proportion of the week for non-patient facing clinical tasks, such as governance, protocol development, education of self and others. This has been determined per grade of staff - see assumptions tab for more detail.
* Line 9 will update once section B is complete.

Section B:

* The aim of Section B is to capture the number of hours not available for clinical duties due to wider department responsibilities.
* Enter the average weekly impact in hours for each staff grade for each non-clinical activity undertaken. Tasks may be added/deleted depending on local set up. This can either be entered as a total for the staff per grade if this was how section A was set up, alternatively it could be per staff member, if this was the preferred option in section A.
* The spreadsheet will calculate the total number of non-clinical hours per week and equivalent WTE and pull this through into row 6 of section A and calculate the available patient facing time per row.

Open the Clinical Workload Tab

* Enter all of the average weekly activity in the units requested. This is the total across all clinical pharmacy staff. Additional tasks may be added if sites have activity that is not otherwise covered in the pre-populated list.
* Use the patient education calculator to determine the number of hours of patient education required for your service. This will be very dependant on local set up.Each site will have different systems for who educates patients. Enter the number of patients requiring education per week for each of the following categories: Simple (6 minutes) eg handing out oral SACT prescription from cycle 2+, Intermediate (12 minutes) eg prostate cancer medicine counselling cycle 1 or dose changes, Complex (18 minutes) eg capecitabine counselling cycle 1. Put a zero if patient education is not undertaken by the team.
* The model will calculate the required resource in WTE assuming a 22.5% factor to take into account these activities require to be covered 52 weeks per year (covers annual leave, sickness, study leave etc)
* Once all of the data has been entered the tool will calculate the gap between the required workforce for the entered activity and the actual workforce entered.

Open the Summary Tab

* Once all of the data has been entered the tool will calculate the gap between the required workforce for the entered activity and the actual workforce entered. This will be in terms of WTE and local consideration should be given to which pharmacy professional and at which banding would be appropriate to fill the gap.

Assumptions made in the tool

Staffing:

Time is allocated to allow capacity for non-patient facing activities (per WTE):
(including, but not limited to governance, HR, PDP, training of self and others)

Lead Pharmacist - cancer centre	1
Lead Pharmacist - cancer unit	0.8
Band 8a/8b - non lead	0.4
Band 7	0.2
Band 6	0.1

It is assumed that any pharmacist working at band 6 level will work at 50% productivity due to inexperience, this is also true of band 7 pharmacists with less than 1 year experience working in the cancer setting,

Workload:

Inpatients:	1 WTE per 25 oncology beds
	1 WTE per 15 haematology or complex oncology beds
	1 WTE per 10 high complexity beds (BMT/CAR-T)
	This includes the time to verify SACT prescriptions on these wards.
Outpatient/Daycase SACT:	10 prescriptions can be verified every 3 hours
	Average across all tumour types and complexities
	Assumes 1 new patient (20 minutes) and 9 return patients (12 minutes)
	Adds 30 minute liaison time per 3 hours to resolve issues and communicate with others eg MDT, dispensary, aseptic
	Also has a 15% capacity factor applied to allow for peaks in workload.
	Also assumes that 10% of patient cycles are deferred and each deferral takes 5 minutes of pharmacy time to record care issue/check any supportive medicines
Patient Education:	Cycle 1 day 1 oral SACT prescriptions will take 18 minutes to educate the patient
	other counselling sessions are counted as simple (6 minutes) or intermediate (12 minutes)