SACT data improvement areas for the NHS England MO CQUIN

The Systemic Anti-Cancer Therapies (SACT) dataset held by the National Cancer Registration and Analysis Service (NCRAS) at Public Health England (PHE) has been collecting chemotherapy activity data since 2012. Since April 2014, providing all 43 dataset items has been mandatory.

The NHS England medicines optimisation CQUIN (MO-CQUIN) 2017-2019, encompasses requirements to improve the overall quality and completeness of the SACT data being provided by trusts. It also identifies a number of SACT data items that are high priority for improvement. The SACT CQUIN requirements are detailed in this document.

In June 2017 the checks carried out on SACT data uploads were updated. Since then data must be present against all records for a small number of additional data items e.g. drug name. A prerequisite to this CQUIN is that the required data is being submitted for all records.

Improvement areas covered by this CQUIN are;

- Report all treatment activity in the SACT dataset across all administration routes;
    a. Correct all critical errors before uploading and approving SACT data
    b. Include all activity in SACT data uploads
- Achieve high completeness and quality for the following key data items across all administration routes;
    - At regimen level - Performance status, treatment intent, height and weight.
- Complete mapping of local to national treatment regimens within upload deadlines.
- SACT data to be uploaded and approved by agreed deadlines

Patient inclusions/exclusions

To ensure CQUIN requirements are achievable some treatments and patients were excluded from targets. Details of these exclusions are provided alongside the relevant targets below. In general:

- Private patients are excluded from all targets.
- Patients taking part in clinical trials are included in all targets.
- Unless otherwise specified, targets apply to patients of all ages at a trust, including paediatric and TYA patients.

SACT CQUIN baselines

The baseline period from which improvement will be measured is quarter four, FY 2016/17 (i.e. Jan – Mar 2017).

NHSE commissioners requested trusts submit transition plans. Transition plans should have been developed and agreed close to the end of quarter two, FY 17/18 (i.e. 30th September 2017). If you require any additional information please contact your local commissioners.

Targets are set out in this document and can be reviewed alongside baseline data for trusts. Baseline data is available on CancerStats2. If you are not yet registered for CancerStats2 please sign up from the home page.

Reports to support CQUIN evaluation

The PHE SACT team produce MO CQUIN reports that provide baseline data and monthly trust performance across all SACT improvement areas. The report covers the entire CQUIN period and is available on CancerStats2. Data is updated on a monthly basis. SACT users are encouraged to register on the CancerStats2 homepage to access these reports.

A static SACT data compliance report showing trust performance against the SACT targets October 2017 – March 2018 is available on the SACT website; however users are encouraged to refer to CancerStats2 for the most up to date figures.

Key updates and clarifications since guidance was first published

Flexibility of the targets

- All trusts should be working towards full achievement of the targets set for these SACT requirements. But, for trusts with a much lower baseline position it may be more challenging to do this. It's therefore reasonable to agree an interim target for this financial year with full achievement being reached in the 2018/19 financial year. Adaptations to targets will have been agreed with local commissioners who should be contacted for more information.
- The targets are challenging and so where reasonable there will be flexibility in the assessment of whether targets have been met. If you have concerns about meeting your targets please contact the SACT dataset helpdesk (sact@phe.gov.uk) and local commissioners.

Target revision

After careful review and consideration two of the original SACT data requirements included in the MO CQUIN guidance (April 2017) have been removed (Area 2: CDF patient data and data item completeness; Area 3: Providing a separate outcomes extract). Improvements in these areas will be followed up through other routes.

This targets listed in this document are the revised requirements to assess trust CQUIN performance. Numbering reflects the original improvement areas to avoid confusion (Area 2 and 3 are no longer included).

Relevant to improvement area 1

- Some trusts have had errors on uploads from new GP practice and GMC codes. The PHE team will be updating these lists more regularly to try and avoid this. If any errors are caused by new codes let the team know before finalising your upload and they'll be added to the validation list.

Relevant to improvement areas 1 and 4

- Performance status validations in CTYA have been amended to allow the both the WHO or Lansky scale to be used in 16-19 year olds
    - This is due to issues trusts were having providing WHO performance status scores for all patients 16+

Relevant to improvement area 4:

- The data completeness targets will only include new regimens starting in the relevant periods to remove the impact on completeness of older regimens with cycles still being delivered.
- Treatment intent is no longer covered by the targets due to an error in the baseline data supplied that wrongly suggested all trusts had 100% completeness
    - The target to supply no records with unknown intent does still apply

Relevant to improvement area 1, 5 and 6:

In June 2018 the SACT upload portal was updated with the following changes:

- Critical errors and regimen mapping must be resolved before records can be submitted.
- The approval step is no longer required before record submission.

Targets for these areas were included in the MO CQUIN to ensure that Trusts were prepared for this transition. Reports present performance against these targets for the CQUIN period, but will not be updated beyond June 2018.

Support from the PHE SACT team

The PHE SACT team will provide support and information where possible to help trusts make these improvements, contact SACT@phe.gov.uk if you have any questions.

Improvement area 1: Capture all treatment activity in the SACT dataset across all administration routes

a) Correct all critical errors before approving trust SACT data upload files.

When a SACT data file is uploaded through the SACT portal validations are applied and critical errors displayed to the uploader.

A critical error can be caused by invalid data or missing data for certain key data items shown in the table 1.

June 2017 validations were updated to include additional checks. Since then four new data items, shown below, must have data present for all SACT records to avoid critical errors. A summary of the SACT data validations (SACT summary business rules) is on the SACT website.

Records that contain critical errors cannot be added to the SACT dataset.

- In the old SACT portal (to Jun 2018), data upload files containing 20% or more critical errors are rejected.
- In the new SACT portal (Jun 2018 onwards), data upload files are rejected if they contain any critical errors.

Performance against this target is only relevant for the old SACT portal and will only be reported to May 2018.

Table 1 – SACT data items where validation errors can cause critical errors

Dataset area	Item no.	Dataset item	Values must be present?	Other checks on values supplied
Demographics and Consultant	1	NHS number	Yes	Must be a valid NHS number
	2	Date of birth	Yes	Date must be before date of death
	3	Gender – current	Yes (new)	Either 1 and 2 or M and F
	5	Patient postcode	Yes	Must be valid postcode format
	9	Organisation code of provider	Yes	Must be a valid NHSE code
Clinical Status	10	Primary diagnosis (ICD-10)	Yes	must be supplied as per NHS data dictionary standard
	16	Regimen name (OPCS 4.6)	Yes	Local names will need to be mapped to a national name
Programme and Regimen	19	Performance status at start of regimen		• For ages 0-15 must be full Lansky code including leading 0. • For ages 16 – 19 should be WHO code with no leading 0 but Lansky with leading zeros will also be accepted • For ages 20+ WHO code with no leading 0
	21	Date decision to treat		Must be before or same as regimen start date
	22	Start date of regimen	Yes	Must be before or same as start date of final treatment cycle
Cycle	26	Cycle number	Yes	Must be a number
	27	Start date of cycle	Yes (new)	Must be before or same as administration date
Drug Details	31	Drug name	Yes (new)	
	34	Administration date	Yes (new)	Must be before or same as date of death
Outcome	37	Start date of final treatment cycle		Must be after or same as start date of regimen
	42	Date of death		Must be after or same as administration date

Fixing critical errors and resubmitting trust data will increase the volume of SACT treatment activity reported to the dataset each month and will contribute to achieving the targets outlined in section 1.b around reporting all treatment activity.

What is being monitored?	Relevant areas of improvement	Final targets
This requirement will be monitored with data on the proportion of records on trust's final data submission that contain critical errors each month (until implementation of the new SACT portal). The CancerStats2 MO CQUIN data submissions report provides performance data on this metric.	Trusts should introduce processes to: • Support staff uploading and approving data to correct errors. • Avoid removing SACT records with critical errors from upload files. • Identify recurring errors and implement solutions to avoid them.	Across all trust SACT data files uploaded from October 2017 to March 2018 there must be 0% critical errors remaining on the final SACT data submissions.

Improvement area 1: Capture all treatment activity in the SACT dataset across all administration routes

b) Ensure all activity is reported in SACT data uploads

What is being monitored?	Relevant areas of improvement	Final targets
Patient numbers reported in the SACT dataset (see Appendix A for SACT data inclusions) have been compared to those reported in the Secondary Uses Service (SUS) dataset. (see Appendix B for SUS data inclusions) If activity is lower in SACT than SUS then that is a strong indication that certain patients are missing from the SACT dataset. To make the data comparable certain treatments and patient groups that would not be expected in both datasets have been excluded. However, we do not expect activity reported in these datasets to match exactly. This is due to differences in the treatments included in them and complexities with the coding of certain information. The CancerStats2 MO CQUIN data submissions report provides performance data on this target and splits data by consultant speciality (see Appendix C for consultant speciality codes).	Trusts should introduce processes to: • Prescribe all cycles of SACT treatment, including oral treatment, through e-prescribing as per the National Standard Contract. Ensure these are also included in your SACT data uploads. • Validate trust treatment activity levels reported through SACT uploads with clinical and business intelligence teams and against any other relevant information sources • Identify any disease or treatment types for which data quality and completeness needs improvement and bring together relevant teams to implement solutions	All trusts should review their data and the improvement areas set out here to establish whether ascertainment could be increased. Across all trust SACT data files uploaded from October 2017 to March 2018 the number of patients reported in SACT should be equal to or greater than 95% of the patient numbers reported in SUS Where this is not the case trusts must identify which patient cohorts are being underreported and put processes in place to increase ascertainment in SACT. This requirement should be reviewed through a combination of; I. Patient numbers in SACT being increased – at least above the -5% threshold II. A review of whether all required actions set out in the trusts data improvement plans have been taken to increase ascertainment. a) Where there appears to be underreporting in SACT by consultant speciality then either the underreporting or coding issues should be rectified

Improvement area 2: Deleted

Improvement area 3: Deleted

Improvement area 4: Improve completeness and quality of key treatment and clinical data items

We are aware that height and weight is not routinely required in order to prescribe flat dose and oral treatments. Improvement targets for height and weight apply to all treatments to ensure any significant changes in weight are picked up and in order to support the review of outcomes such as 30-day mortality and examine whether dosing could be improved.

These data items are therefore all of high importance for research on outcomes from SACT treatment

What is being monitored?	Relevant areas of improvement	Final targets

Data items for which high levels of completeness and quality are required are;
• Performance status at start of regimen
• Treatment Intent (regimen level)
• Height and weight at start of regimen for;
  ○ Regimens with an IV element for which these are required
  ○ Regimens only including flat dose and/or oral treatments
Bisphosphonates, hormones (except abiraterone and enzalutamide) and non-SACT treatments are excluded from targets for all of these data items (Appendix D provides further details of
	• Identify any disease or treatment types for which data quality and completeness needs improvement and bring together relevant teams to implement solutions
	• Discuss with your business intelligence and clinical teams how best to routinely collect and validate these data items
	• Review whether any of the required data are being recorded but are not being reported in your SACT data uploads.
		For treatment activity occurring in Jan – March 2018 and uploaded in the relevant months the following targets will apply;
		a) Performance status at start of regimen: at least 95% completeness
		b) 0% regimens recorded as code 9 - 'Not recorded' for treatment intent or performance status
		c) Height* and weight at start of regimen – regimens that include an IV treatment: at least 98% completeness
		d) Height* and weight - Regimens only including flat dose and/or oral treatments: at least 90% completeness
		* Children aged 0–18 are excluded from these targets due to differences in clinical practice.

What is being monitored?	Relevant areas of improvement	Final targets
exclusions). The CancerStats2 MO CQUIN data completeness report provides performance data on this target.		

Improvement area 5: Complete mapping of local to national treatment regimens within required timeframes

Trusts are able to maintain local regimen names, which will then be reported in their SACT data. To support this there is a requirement for trusts to map local regimen names to a national standard.

There may be queries raised on trust regimen mapping by the pharmacy advisors that support the SACT team.

It's important that the mapping is completed and queries resolved otherwise it is not possible to identify SACT regimens for reporting and analysis.

Following implementation of the new portal (June 2018), all regimen mapping must be completed before data submission. Performance against this target will only be reported for the old portal to May 2018.

What is being monitored?	Relevant areas of improvement	Final targets
Monthly regimen mapping data are provided on the CancerStats2 MO CQUIN data submissions report These snapshots were taken on the first working day of each month and report the; • Number of unmapped regimens • Number of unresolved queries If a new SACT data file has already been uploaded for the following month before the snapshot is taken there is no requirement for new regimens in that file to be mapped at that point.	• Ensure that the regimens available to select in your e-prescribing system are all valid and that all prescribers use them. • Ensure there is clear ownership of the responsibility for regimen mapping within the trust • Ensure there are processes in place to support the resolution of queries on the regimen names used both for internal teams and to resolve queries raised by the SACT team.	a) No unmapped regimens at the end of each month from October onwards i.e. mapping for the file uploaded by October 15th and approved by end October should be completed by the end of November. b) No unresolved queries of the end of the month following an upload. i.e. any queries on the mapping completed in November must be resolved by the end of December c) Any outstanding mapping of regimens from earlier months must be completed by the end of October with queries resolved by the end of November

Improvement area 6: Submit and approve SACT data within the required timeframes

To ensure data reporting, checking and analysis process can be completed in a timely manner SACT data submission and approval should be completed within the required timeframes. These requirements were set out in the upload calendar provided through the SACT website.

What is being monitored?	Relevant areas of improvement	Final targets
All sites that upload data within a trust must submit and approve their data within the required timeframes for a trust to meet the target. Late uploads and approvals are provided in the SACT data submissions report on CancerStats2 and the SACT data compliance report on the SACT website Late approvals are only reported to May 2018. From this date the approval step is not required.	Ensure there is clear ownership of the responsibility for uploading and approving data across all sites submitting data for each trust.	SACT data files uploaded from October 2017 to March 2018 from all sites within a trust must be; a) Uploaded by the 15th of each month b) Approved by the end of each month

Appendix A: Area 1 SACT exclusions (for SUS comparison)

The following regimens and patients have been excluded from the SACT data:

Anagrelide	Flutamide
Anastrozole,	Fulvestrant
Anastrozole + Exemestane	Goserelin
Anastrozole + Goserelin	Goserelin + Leuprorelin
Anastrozole + Letrozole	Goserelin + Tamoxifen
Anastrozole + Tamoxifen	Ibandronic Acid
Bicalutamide	Letrozole
Bicalutamide + Goserelin	Letrozole + Pamidronate
Bicalutamide + Leuprorelin	Leuprorelin
Bicalutamide + Tamoxifen	Medroxyprogesterone
Bicalutamide + Zoledronic Acid	Megestrol
Cyproterone	Megestrol + Tamoxifen
Cyproterone + Goserelin	Pamidronate
Cyproterone + Leuprorelin	Progesterone
Degarelix	Stilboestrol
Degarelix + Bicalutamide	Tamoxifen
Denosumab	Tamoxifen + Triptorelin
Exemestane	Zoledronic Acid

- Regimens identified as not systemic anti-cancer therapies, such as anti-emetics and vitamin B12 injections, have also been excluded.
- This in effect means that any patient who only receives any of the above treatments will be excluded from the analysis.
- Patients receiving other treatments that are not listed above, including regimens that could not be assigned to a known group, have been included in the analysis
- Patients identified as being diagnosed with bladder cancer (ICD10 primary diagnosis: C67, D30.3-D30.4 or D41.3-D41.4) and treated by a urologist (consultant code 101) have been excluded from SACT and SUS. This was to exclude bladder washouts, which aren't captured in SUS.

Appendix B: Secondary Uses Service (SUS) data

OPCS codes included in the SUS dataset patient numbers

Intravenous Chemotherapy	X352
Intramuscular Chemotherapy	X373
Subcutaneous Chemotherapy	X384
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 1	X701
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 2	X702
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 3	X703
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 4	X704
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 5	X705
Other Specified Procurement Of Drugs For Chemotherapy For Neoplasm In Bands 1-5	X708
Unspecified Procurement Of Drugs For Chemotherapy For Neoplasm In Bands 1-5	X709

Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 6	X711
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 7	X712
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 8	X713
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 9	X714
Procurement Of Drugs For Chemotherapy For Neoplasm For Regimens In Band 10	X715
Other Specified Procurement Of Drugs For Chemotherapy For Neoplasm In Bands 6-10	X718
Unspecified Procurement Of Drugs For Chemotherapy For Neoplasm In Bands 6-10	X719
Delivery Of Complex Chemotherapy For Neoplasm Including Prolonged Infusional Treatment At First Attendance	X721
Delivery Of Complex Parenteral Chemotherapy For Neoplasm At First Attendance	X722
Delivery Of Simple Parenteral Chemotherapy For Neoplasm At First Attendance	X723
Delivery Of Subsequent Element Of Cycle Of Chemotherapy For Neoplasm	X724
Other Specified Delivery Of Chemotherapy For Neoplasm	X728
Unspecified Delivery Of Chemotherapy For Neoplasm	X729
Delivery Of Exclusively Oral Chemotherapy For Neoplasm	X731
Other Specified Delivery Of Oral Chemotherapy For Neoplasm	X738
Unspecified Delivery Of Oral Chemotherapy For Neoplasm	X739
Other Specified Other Chemotherapy Drugs	X748
Unspecified Other Chemotherapy Drugs	X749

Appendix C: Consultant speciality codes

Consultant speciality	Consultant speciality codes and any other inclusion criteria
Oncology	370 or 800
Haematology	303 or 823
Other	Any other consultant speciality code, including missing or non-valid codes
Paediatrics	420 or aged 0-15 at start of regimen
TYA	Aged 16-23 at start of regimen

Appendix D: Area 4 completeness inclusions

Achieve high completeness and quality for the following key data items across all administration routes

Diagnostic Group	Primary diagnosis codes (ICD10)
Brain/CNS	C47, C69-C72
Breast	C50
Gynae	C51-C58
Head and Heck	C00-C14, C30-C32
Leukaemia	C91-C95, C962, C964, C968
Lower GI	C18-C21
Lung	C33-C34, C37-C39, C45
Lymphoma	C81-C86, C88, C913-C914, C916-C917, C919
Myeloma	C90, D472, E85
Sarcoma	C40-C41, C46, C49
Skin	C43-C44
Upper GI	C15-C17, C22-C25

Urology	C60-C68
Other	Any valid ICD10 C or D code not listed in the groupings above

Treatment intent & Performance Status at start of regimen - data completeness

Values included in completeness	Only valid values listed in the NHS data dictionary count towards completeness
Treatment exclusions	Bladder washouts, Bisphosphonates, hormones (except abiraterone and enzalutamide) and non-SACT treatments (e.g. enemas and vitamin B12 injections)

Treatment intent & Performance Status at start of regimen - recording of unknown

Values included in unknown category	Code 9 - Not known / Not Recorded
Treatment exclusions	Bladder washouts, Bisphosphonates, hormones (except abiraterone and enzalutamide) and non-SACT treatments (e.g. enemas and vitamin B12 injections)

Height and weight at start of regimen

Exclusions from both categories of height and weight metrics listed below	Regimens that were not mapped from a local to nationally recognised regimen name are excluded as it's not possible to identify the regimen administered
	Bladder washouts, Bisphosphonates, hormones (except abiraterone and enzalutamide) and non-SACT treatments (e.g. enemas and vitamin B12 injections)

IV height and weight

Summary of exclusion criteria	All SACT regimens that include a treatment administered by IV that also requires height and weight to prescribe
All excluded treatments are:	Fluconazole, folinic acid, fulvestrant, gonadorelin, goserelin, ibandronate, lenograstim, letrozole, leuprorelin, magnesium aspartate, medroxyprogesterone, megestrol, methylprednisolone, ondasterone, pamidronate, pomidronate, posaconazole, predisolone, prednisolone, prednisone, sodium chloride, steroid, stilboestrol, tamoxifen, zoledronic acid
	Records where the individual drug administered couldn't be identified, including certain trial records

Flat dose and oral height and weight

Summary of inclusion criteria	All SACT regimens except for those that include an IV treatment that required height and weight to prescribe
	All SACT regimens that only include treatments administered by any route other than IV. Regimens only including flat dose IV regimens are also included