SOUTH EAST SCOTLAND CANCER NETWORK (SCAN) PROSPECTIVE CANCER AUDIT

Acute Leukaemia 2022 - 2023 COMPARATIVE AUDIT REPORT

PATIENTS DIAGNOSED IN BORDERS, FIFE, AND LOTHIAN

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CONTENTS

Document History

Version	Circulation	Date	Comments
Version 1	Lead clinicians sign off meeting	26/01/2024	Comments/actions Agreed
Version 2	SCAN Haematology Group lead clinicians	31/01/2024	Actions points and comments agreed. Chair's summary pending.
Version 3	SCAN Haematology Group	09/02/2024	No further comments were received
Final Version	SCAN Group SCAN Governance Framework SCAN Action Plan Board Leads	20/03/2024	Assessed for disclosure and Board breakdowns removed.
Web Version	Published to SCAN Website	June 2024	

Chair Summary

There remains an on-going issue with low numbers of patients entering clinical trials. This reflects a change in the treatment landscape for Acute Leukaemia where choice of treatment options is often complex and that any new clinical trials are likely only to be suitable for relatively small subgroups of patients. Based on this the QPI review group will be asked to consider changing the clinical trials recruitment target. The other area where the QPI target has consistently not been reached relates to tissue typing samples. On review of the individual patient data for some of those who failed to achieve this target is only by a matter of a few days. The QPI review group will be asked whether the window for the tissue typing sample reaching the testing laboratory could be extended which would hopefully improve achievement of this target but would importantly not lead to any negative clinical consequences. Finally, there was an increased number of early deaths in patients with AML <60 years and in patients with APML. This is a reflection of low number of patients diagnosed on a yearly and review of 5-year data provides a more reassuring picture on frequency of early treatment deaths.

Huw Roddie
SCAN Lead for Acute Leukaemia,
March 2024

Action Points from 2022-23

- QPI8 Recommend that this QPI is archived. Trials are not available for most patients.

- QPI9 Consider extending the target (from diagnosis to tissue typing) to 14 days.

- QPI10 recommend that this QPI is archived. Trials are not available for most patients.

- QPI12 Consider reducing the target as many patients are frail or have significant comorbidities.

Action Points from 2021-22
- QPI8 Trial status should be clearly recorded at the regional weekly MDM to allow more accurate reporting.

- QPI9 Tissue Typing samples taken will be recorded on APEX making dates more accessible.

SCAN Acute Leukaemia QPI Attainment Summary		% Target	2020-21		2021-22		2022-23	
QPI 1 Diagnostic Panel		90	N 34 / D 34	100%	N 26 / D 26	100%	N 25 / D 26	96.2%
QPI 3 Proportion of patients discussed at MDT		95	N 67 / D 74	90.5%	N 53 / D 55	96.4%	N 67 / D 71	94.4%
QPI 5 Patients treated with curative intent who die within 30/35 days of treatment	AML 16-60	<8		N/A	N 0 / D 9	0.0%	N 3 / D 14	21.4%
	AML >60 years	<18		N/A	N 0 / D 13	0.0%	N 0 / D 7	0.0%
	ALL 16-60 years	<8		N/A	N 0 / D 2	0.0%	N 0 / D 7	0.0%
	ALL > 60 years	<20		N/A	N 0 / D 1	0.0%	N 0 / D 0	0.0%
QPI 7 Patients treated with curative intent who die in first complete remission, within 1 year of diagnosis.		<10	N 0 / D 18	0.0%	N 1 / D 17	5.9%	N 0 / D 18	0.0%
QPI 8 Patients treated with curative intent, enrolled on a clinical trial (16-60 years)		25	N 5 / D 16	31.3%	N 3 / D 10	30.0%	N 0 / D 19	0.0%
QPI 9 Patients treated curatively who have tissue typing performed at diagnosis.		90		N/A	N 5 / D 12	41.7%	N 10 / D 21	47.6%
QPI 10 Intensive chemotherapy in older adults (over 60)	PS 0-1 receiving intensive chemotherapy	30		N/A	N 17 / D 32	53.1%	N 17 / D 29	58.6%
	Receiving intensive chemotherapy and enrolled in a clinical trial	25		N/A	N 5 / D 18	27.8%	N 1 / D 16	6.3%
QPI 12 Proportion of patients with AML treated with non-curative intent who receive appropriate SACT regimen		40		N/A	N 4 / D 11	36.4%	N 6 / D 26	23.1%
QPI 13 Proportion of patients with APL who die within 30 days of diagnosis		<25	N 0 / D 2	0.0%	N 0 / D 1	0.0%	N 1 / D 3	33.3%

Introduction and Methods
Cohort
This report covers patients newly diagnosed with Acute Leukaemia in Borders, Fife, and Lothian Health Board areas between 1st July 2022 and 30th June 2023. Management and audit of patients with Acute Leukaemia in Dumfries & Galloway is via the West of Scotland Cancer Network. The results contained within this report have been presented by NHS board of diagnosis.

Dataset and Definitions
The QPIs have been developed collaboratively with the three Regional Cancer Networks, Information Services Division (ISD), and Healthcare Improvement Scotland. QPIs will be kept under regular review and be responsive to changes in clinical practice and emerging evidence.
The overarching aim of the cancer quality work programme is to ensure that activity at NHS board level is focused on areas most important in terms of improving survival and patient experience whilst reducing variance and ensuring safe, effective and person-centered cancer care.
Following a period of development, public engagement and finalisation, each set of QPIs is published by Healthcare Improvement Scotland[1].

Accompanying datasets and measurability criteria for QPIs are published on the ISD website[2]. NHS boards are required to report against QPIs as part of a mandatory, publicly reported, programme at a national level.

The QPI dataset for Acute Leukaemia was implemented from 01/07/2014. As part of the National Cancer Quality Programme a systematic national review process has been developed whereby all tumour specific QPIs published are subject to formal review following 3 years analysis of comparative QPI data. The second Formal Review of the Acute Leukaemia QPIs was undertaken in June 2021.
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The following QPIs have been updated:

QPI	Change	Year for reporting
1	Addition of MOLANALYSIS to measurability	2020-21
5	Change to MODE1-4 in dataset to include Remission Inducing SACT and Palliative SACT. Chemotherapy intensive and Chemotherapy low dose removed.	2021-22
8	Change in target to 25%	2020-21
9	Addition of new data field TTSAMPDATE. Exclude APML.	2021-22
10	Replace intensive chemotherapy with remission inducing SACT in measurability. Target reduced in spec ii to 25%	2021-22
12	Change to MODE1-4 in dataset to include Remission Inducing SACT and Palliative SACT. Chemotherapy intensive and Chemotherapy low dose removed . Target reduced to 40%	2021-22

The following QPI has been archived: QPI 11

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[1] QPI documents are available at www.healthcareimprovementscotland.org
[2] Datasets and measurability documents are available at www.PHSscotland.org

The standard QPI format is shown below:

QPI Title:	Short title of Quality Performance Indicator (for use in reports etc.)	
Description:	Full and clear description of the Quality Performance Indicator.	
Rationale and Evidence:	Description of the evidence base and rationale which underpins this indicator.	
Specifications:	Numerator:	Of all the patients included in the denominator those who meet the criteria set out in the indicator.
	Denominator:	All patients to be included in the measurement of this indicator.
	Exclusions:	Patients who should be excluded from measurement of this indicator.
	Not recorded for numerator:	Include in the denominator for measurement against the target. Present as not recorded only if the patient cannot otherwise be identified as having met/not met the target.
	Not recorded for exclusion:	Include in the denominator for measurement against the target unless there is other definitive evidence that the record should be excluded. Present as not recorded only where the record cannot otherwise be definitively identified as an inclusion/exclusion for this standard.
	Not recorded for denominator:	Exclude from the denominator for measurement against the target. Present as not recorded only where the patient cannot otherwise be definitively identified as an inclusion/exclusion for this standard.
Target:	Statement of the level of performance to be achieved.	

Audit Process

Data was analysed by the audit facilitators in each NHS board according to the measurability document provided by PHS Scotland. Lothian and Borders data was collated by Valerie Findlay, SCAN Cancer Information Analyst for Haematology, Fife data was collected by Michelle Macdonald, Audit Facilitator for Fife.

Data capture is focused round the process for the weekly multidisciplinary meetings ensuring that data covering patient referral, investigation and diagnosis is being picked up through the routine process.

Lothian and Fife have now ceased routine use of case notes with Oncology data obtained either from electronic clinical record systems including downloads from ARIA (within radiotherapy department) or ChemoCare for chemotherapy data.

Each of the 3 health boards provides chemotherapy data but radiotherapy is provided centrally in Edinburgh Cancer Centre. Patients living closer to Dundee may opt to have oncology treatment outwith the SCAN region. Collecting complete audit data for these patients remains a challenge.

The process remains dependent on audit staff for capture and entry of data, and for data quality checking

Data was recorded by all health boards using E-case.

Lead Clinicians and Audit Personnel

SCAN Region	Hospital	Lead Clinician	Audit Support
NHS Borders	Borders General Hospital	Dr H Saadi	Valerie Findlay
NHS Fife	Queen Margaret Hospital/Victoria Hospital	Dr K Davidson	Michelle Macdonald
SCAN & NHS Lothian	St Johns Hospital Western General Hospital	Dr H Roddie	Valerie Findlay

Data Quality

Estimate of Case Ascertainment

An estimate of case ascertainment (the percentage of the population with Acute Leukaemia recorded in the audit) is made by comparison with the Scottish Cancer Registry five year average data from 2017 to 2021. High levels of case ascertainment provide confidence in the completeness of the audit recording and contribute to the reliability of results presented. Levels greater than 100% may be attributable to an increase in incidence. Allowance should be made when reviewing results where numbers are small and variation may be due to chance.

Number of cases recorded in audit	SCAN
ALL	10
AML	61
Total	71

Estimate of case ascertainment:	SCAN
Cases from Audit	71%
Cancer Registry 5 year Average	64%
Case Ascertainment %	111%

Cancer Registry data (2017-21) IR2023-01023

With the aim of explaining differences between cancer registry data and audit data, Acute Leukaemia registrations for 2018 were extracted from the ACaDMe Confidential datamart and compared with Audit data from the same period. The main discrepancies are due to differences between incidence and diagnosis date and unconfirmed diagnosis. As numbers are small any discrepancy can disproportionately skew the average figures

Quality Assurance

All hospitals in the region participate in a Quality Assurance (QA) programme provided by the National Services Scotland Information Services Division (ISD). QA of the Acute Leukaemia data was carried out in Jan 2018 and overall accuracy percentage results are shown below.

	Borders	Fife	Lothian	Scotland
Accuracy of data recording (%)	N/A	89.4	98.6	96.1

90 records were assessed throughout mainland Scotland excluding NHS Borders where patient numbers were considered too small. This represented 34% of Acute Leukaemia patients in the QPI cohort who were diagnosed between 1st July 2015 and 30th June 2016 and for which 261 records were submitted to PHS

Overall, the accuracy of recording was high at 96.1% apart from two NHS Boards where the accuracies fell below the ISD recommended minimum standard of 90%. However, it should be noted that only a small sample of five records was assessed from each of these NHS Boards and different interpretation by Cancer Registry Staff mean that the performance is not a true reflection of audit practice in SCAN and around the country.

Clinical Sign-Off

This report compares data from reports prepared for individual hospitals and signed off as accurate following review by the lead clinicians from each service. The collated SCAN results are reviewed jointly by the lead clinicians, to assess variances and provide comments on results:

- Individual health board results were reviewed and signed-off locally.
- Collated results were presented and discussed at the Acute Leukaemia Sign off meeting on 26/01/2024
- Final report circulated to SCAN Haematology Group and Clinical Governance Groups on 23/03/2024
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Actions for Improvement

After final sign off, the process is for the report to be sent to the Clinical Governance groups with action plans for completion at Health Board level.

The report is placed on the SCAN website with completed action plans once it has been fully signed-off and checked for any disclosive material.

QPI 1: Complete Diagnostic Panel   Target=90%

Numerator = Number of patients with acute leukaemia undergoing treatment with curative intent where complete diagnostic panel is undertaken.

Denominator = All patients with acute leukaemia undergoing treatment with curative intent (no exclusions).

Target 90%	SCAN
2022-23 cohort	71
Ineligible for this QPI – not fit for curative treatment	45
Numerator	25
Not recorded for the numerator	0
Denominator	26
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**96.2%**

Comments The target was met by all eligible healthboards

**QPI1 Complete Diagnostic Panel
Acute Leukaemia 2018-23**
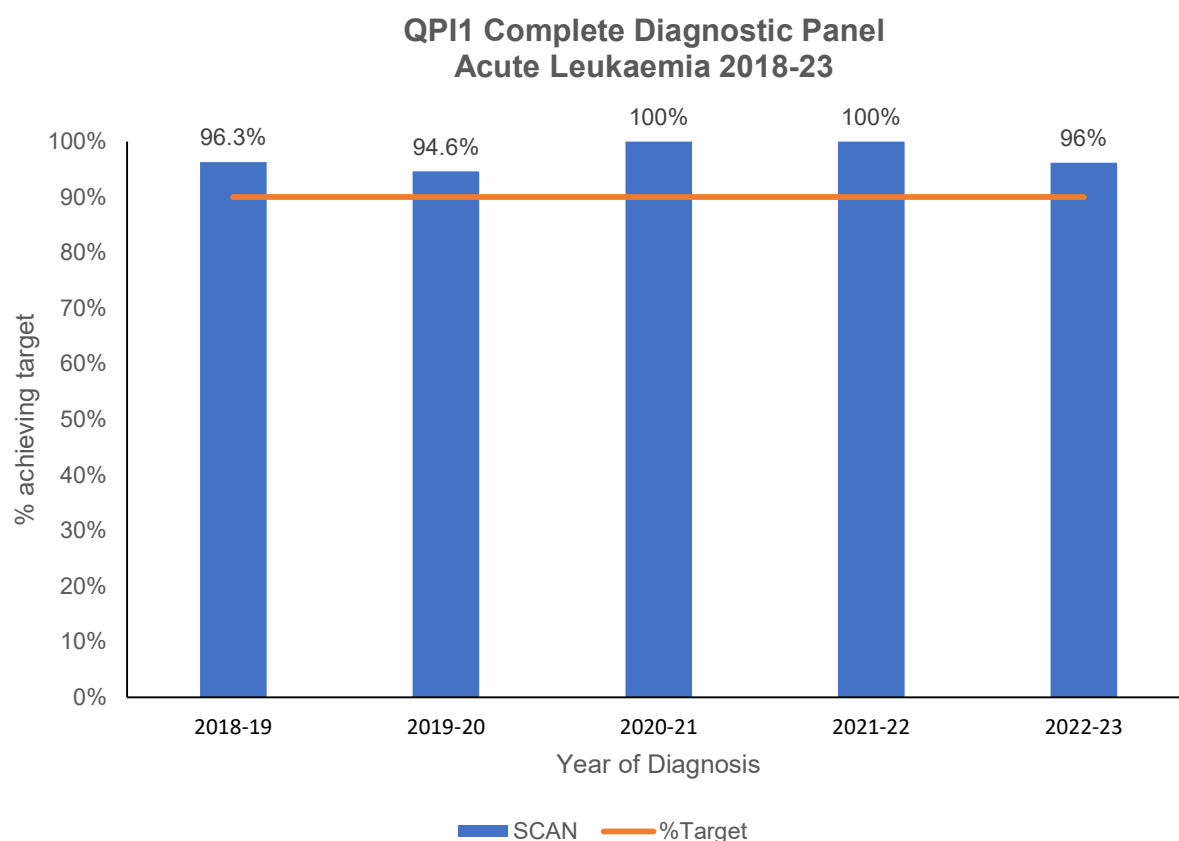
QPI 3: MDT Discussion   Target=95%

Numerator = Number of patients with acute leukaemia discussed at the MDT meeting within 8 weeks of diagnosis.

Denominator = All patients with acute leukaemia (no exclusions).

Target 95%	SCAN
2022-23 cohort	71
Ineligible for this QPI	0
Numerator	67
Not recorded for the numerator	0
Denominator	71
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	94.4%

Comments SCAN met the target

QPI3 MDT Discussion
Acute Leukaemia SCAN 2018-23

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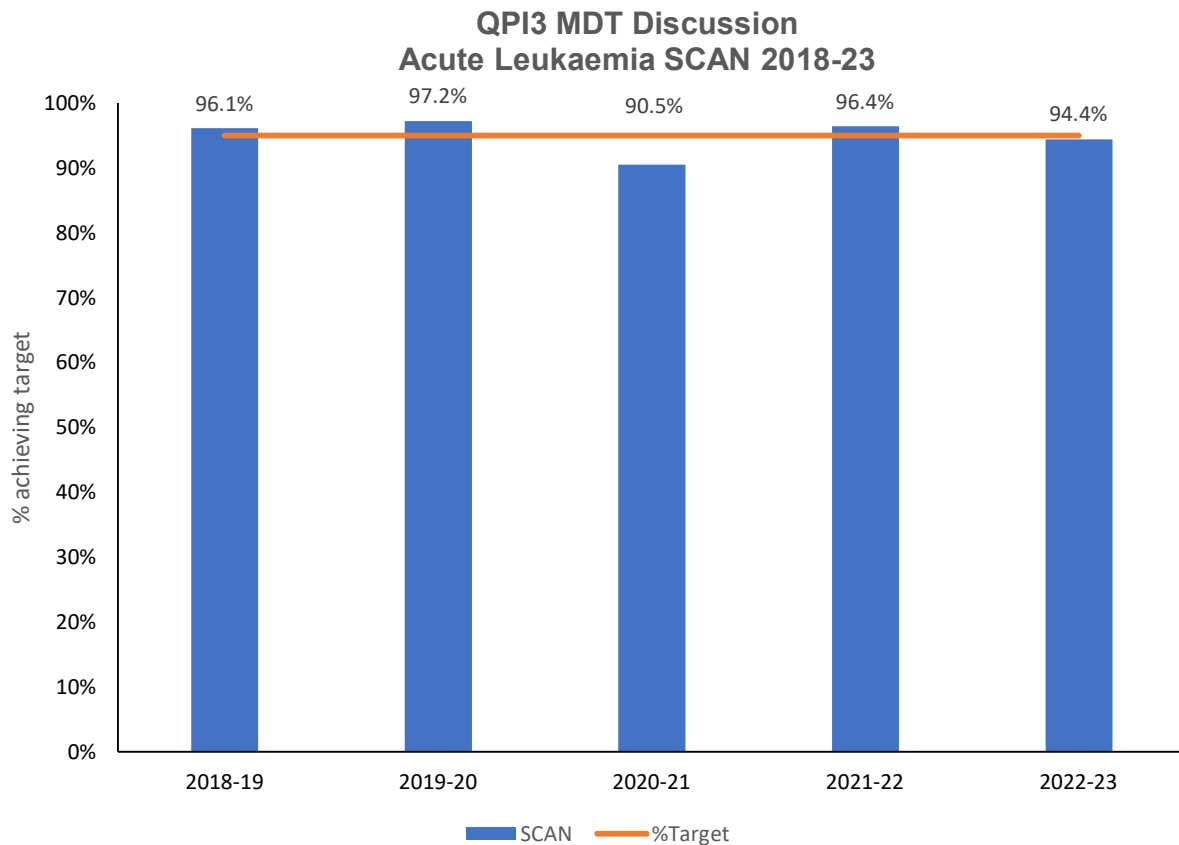
QPI 5i (a) - AML Early Deaths in patients aged 16- 60 years   Target <8%

Numerator = Proportion of patients with Acute Myeloid Leukaemia being treated with curative intent who die within 30 days of treatment

Denominator = All patients with Acute Myeloid Leukaemia being treated with curative intent (no exclusions)

Target <8%	SCAN
2022-23 cohort	71
Ineligible for this QPI	57
Numerator	3
Not recorded for the numerator	0
Denominator	14
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**21.4%**

Comment: SCAN did not meet the target, 3 patients died during treatment.
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QPI 5i (b) - AML Early Deaths in patients aged > 60 years   Target <18%

Numerator = Proportion of patients with Acute Myeloid Leukaemia being treated with curative intent who die within 30 days of treatment.

Denominator = All patients with Acute Myeloid Leukaemia over 60 years of age being treated with curative intent (no exclusions).

Target <18%	SCAN
2022-23 cohort	71
Ineligible for this QPI	64
Numerator	0
Not recorded for the numerator	0
Denominator	7
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**0.0%**

Comment SCAN met the target.

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QPI 5ii (a) Early Deaths ALL 16-60 years   Target <8%

Numerator = proportion of patients with Acute Lymphoblastic Leukaemia being treated with curative intent who die within 35 days of treatment.

Denominator = All patients with ALL 16-60 years being treated with curative intent (no exclusions).

Target <8%	SCAN
2022-23 cohort	71
Ineligible for this QPI	64
Numerator	0
Not recorded for the numerator	0
Denominator	7
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**0.0%**

Comments: SCAN met the target

QPI 5ii (b) Early Deaths ALL >60 years   Target <20%

Numerator = Proportion of patients with Acute Lymphoblastic Leukaemia   being treated with curative intent who die within 35 days

Denominator = All patients with ALL >60 years being treated with curative intent (no exclusions)

Target <20%	SCAN
2022-23 cohort	71
Ineligible for this QPI	71
Numerator	0
Not recorded for the numerator	0
Denominator	0
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	NA

Comments: SCAN did not have any eligible patients for this QPI

QPI 7 Deaths in Remission   Target <10%

Numerator = Number of patients with acute leukaemia undergoing treatment with curative intent who achieve first complete remission (CR) and die within 1 year of diagnosis, whilst in CR.

Denominator = All patients with acute leukaemia undergoing treatment with curative intent who achieve first CR.

Exclusions = Patients undergoing bone marrow /stem cell transplant

Target <10%	SCAN
2022-23 cohort	55
Ineligible for this QPI	37
Numerator	0
Not recorded for the numerator	0
Denominator	18
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**0.0%**

Comments: SCAN met the target.
This QPI is reported 1 year in arrears using data collected during 2021-2022
SCAN met the target.

% Performance in previous years	SCAN
2014-15	0.0%
2015-16	0.0%
2016-17	0.0%
2017-18	7.7%
2018-19	0.0%
2019-20	0.0%
2020-21	0.0%
2021-22	0.0%

QPI 8 Clinical Trials with Curative Intent   Target 25%

Numerator = Number of patients with acute leukaemia who are treated with curative intent enrolled in a clinical trial.

Denominator = All patients with acute leukaemia who are treated with curative intent

Exclusions = Patients who refuse entry into a clinical trial, patients over 60 years of age.

Target 25%	SCAN
2022-23 cohort	71
Ineligible for this QPI	52
Numerator	0
Not recorded for the numerator	4
Denominator	19
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**0.0%**

Comments:. SCAN did not meet the target.

Action point: Recommend that this QPI is archived. Trials are not available for most patients.

**QPI8 Clinical Trials with Curative Intent
Acute Leukaemia 2018-23**
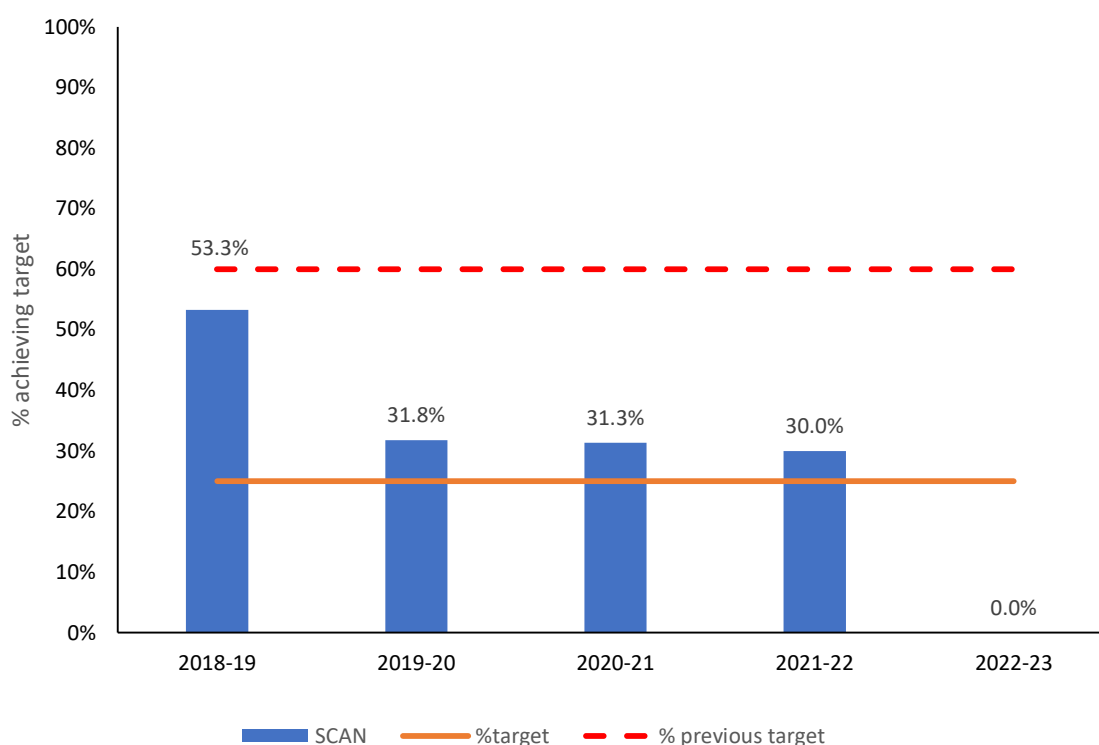
QPI 9 Tissue Typing for Transplant   Target 90%

Numerator = Proportion of acute leukaemia patients with acute leukaemia between 16 and 65 treated with curative intent with a specimen sent to the lab for tissue typing at diagnosis

Denominator = All patients with acute leukaemia between 16 and 65 being treated with curative intent.

Exclusions: Patients with Acute Promyelocytic Leukaemia (APL)

Target 90%	SCAN
2022-23 cohort	71
Ineligible for this QPI	50
Numerator	10
Not recorded for the numerator	2
Denominator	21
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	47.6%

Comment: SCAN did not meet the target

Not all healthboards had eligible patients for inclusion in this QPI. In most cases tissue typing was requested but in a timeframe outwith the scope of the QPI. There were 3 cases where tissue typing was not done. All cases were consultant reviewed and delays considered to have had no clinical implications.

Action point: Consider extending the target (from diagnosis to tissue typing) to 14 days.

QPI 10 (i) Intensive Chemotherapy in Older Adults   Target 30%

Numerator = Number of patients with acute leukaemia 60 years of age and over with PS 0-1 who receive intensive chemotherapy

Denominator = All patients with acute leukaemia 60 years of age and over with PS 0-1 (no exclusions).

Target 30%	SCAN
2022-23 cohort	71
Ineligible for this QPI	42
Numerator	17
Not recorded for the numerator	0
Denominator	29
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**58.6%**

Comment: SCAN met the target

QPI 10(ii) Intensive Chemotherapy in Older Adults   Target 25%

Numerator = Number of patients with acute leukaemia 60 years of age and over who receive intensive chemotherapy enrolled in a clinical trial.

Denominator = All patients with acute leukaemia 60 years of age and over who receive remission inducing SACT (no exclusions)

Target 70%	SCAN
2022-23 cohort	71
Ineligible for this QPI	53
Numerator	1
Not recorded for the numerator	2
Denominator	16
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	**6.3%**

Comment: SCAN did not meet the target. There are no suitable trials currently open to recruitment in SCAN.

Action: recommend that QPIs involving trials are considered for removal at the next Formal Review (May 2024)

QPI 12 Palliative Treatment Target 40%

Numerator: Number of patients with acute myeloid leukaemia who are suitable only for treatment with non curative intent who receive palliative chemotherapy with either low dose cytarabine or azacytidine.
Denominator: All patients with acute myeloid leukaemia who are suitable only for treatment with non-curative intent.
Exclusions: Patients who refuse chemotherapy treatment, patients with adverse cytogenetics.

Target 40%	SCAN
2022-23 cohort	71
Ineligible for this QPI	45
Numerator	6
Not recorded for the numerator	0
Denominator	26
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	23.1%

Comments: SCAN did not meet the target. Patients were often frail or had multiple comorbidities and unable to be treated with SACT. In such cases best supportive care was given.

Action Point: Consider reducing the target as many patients are frail or have significant comorbidities.

QPI 13 Early Deaths in Patients with Acute Promyelocytic Leukaemia (APL)

Target <25%

Numerator = Number of patients with APL who die within 30 days of diagnosis
Denominator = All patients with APL (no exclusions)

Target <25%	SCAN
2022-23 cohort	71
Ineligible for this QPI	68
Numerator	1
Not recorded for the numerator	0
Denominator	3
Not recorded for exclusions	0
Not recorded for denominator	0
% Performance	33.3%

Comments: SCAN did not meet the target. 1 patient died on day of diagnosis.

% Performance in previous years	SCAN
2017-18	33.3%
2018-19	No eligible patients
2019-20	25.0%
2020-21	0.0%
2021-22	0.0%

Age Distribution

Age Range	SCAN
2022-23 cohort	71
<50 years	10
50-59 years	11
60- 69 years	11
70-79 years	23
>80 years	16

Summary of Sex and Age Distribution - Acute Leukaemia 2022- 2023

Age in years	Gender	SCAN
16-19	M	0
	F	1
20-24	M	0
	F	0
25-29	M	1
	F	1
30-34	M	0
	F	0
35-39	M	0
	F	1
40-44	M	2
	F	2
45-49	M	1
	F	1
50-54	M	1
	F	2
55-59	M	4
	F	4
60-64	M	5
	F	1
65-69	M	5
	F	0
70-74	M	5
	F	3
75-79	M	12
	F	3
80-84	M	7
	F	4
>85	M	4
	F	1
Total		71

Appendix

Acute Leukaemia QPI Attainment Summary 2021-22		% Target	SCAN		
QPI 1 Diagnostic Panel		90	N	26	100%
			D	26	
QPI 3 Proportion of patients discussed at MDT		95	N	53	96.4%
			D	55	
QPI 5 Patients treated with curative intent who die within 30/35 days of treatment	AML 16-60	<8	N	0	0.0%
			D	9	
	AML >60 years	<18	N	0	0.0%
			D	13	
	ALL 16-60 years	<8	N	0	0.0%
			D	2	
	ALL > 60 years	<20	N	0	0.0%
			D	1	
QPI 7 Patients treated with curative intent who die in first complete remission, within 1 year of diagnosis.		<10	N	1	5.9%
			D	17	
QPI 8 Patients treated with curative intent , enrolled on a clinical trial (16-60 years)		25	N	3	30.0%
			D	10	
QPI 9 Patients treated curatively who have tissue typing performed at diagnosis.		90	N	5	41.7%
			D	12	
QPI 10 Intensive chemotherapy in older adults (over 60)	PS 0-1 receiving intensive chemotherapy	30	N	17	53.1%
			D	32	
	Receiving intensive chemotherapy and enrolled in a clinical trial	25	N	5	27.8%
			D	18	
QPI 12 Proportion of patients with AML treated with non curative intent who receive appropriate SACT regimen		40	N	4	36.4%
			D	11	
QPI 13 Proportion of patients with APL who die within 30 days of diagnosis		<25	N	0	0.0%
			D	1	