

West of Scotland Cancer Network

**Haemato-oncology
Managed Clinical Network**



Audit Report

Acute Leukaemia

Quality Performance Indicators

**Clinical Audit Data:
01 July 2020 to 30 June 2023**

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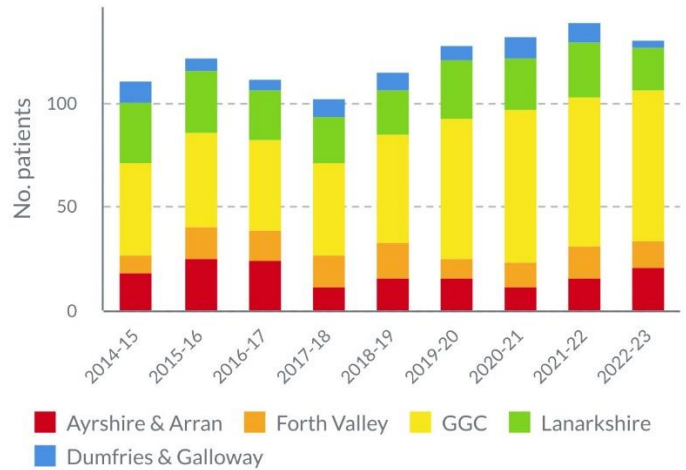
Acute Leukaemia Quality Performance Indicators: Data Overview

Patients diagnosed July 2020 - June 2023

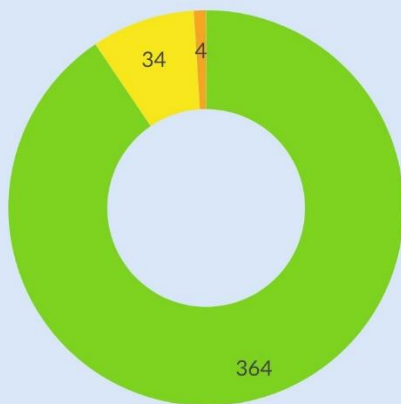
Number of patients over 3 years **402**

	Male	Female
Acute Myeloid Leukaemia (AML)	200 (50%)	164 (41%)
Acute Lymphoblastic Leukaemia (ALL)	20 (5%)	14 (3%)

Where are patients diagnosed

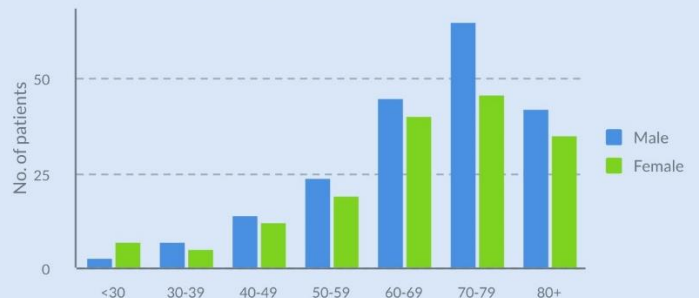


Acute Leukaemia Subtype

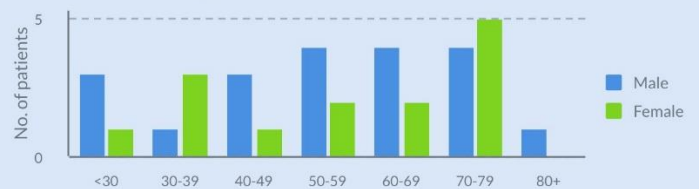


■ Acute Myeloid Leukaemia
■ Acute Lymphoblastic Leukaemia ■ other

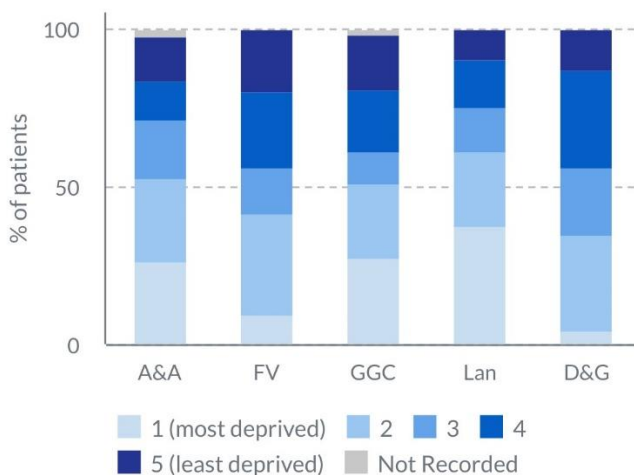
Age of patients with AML



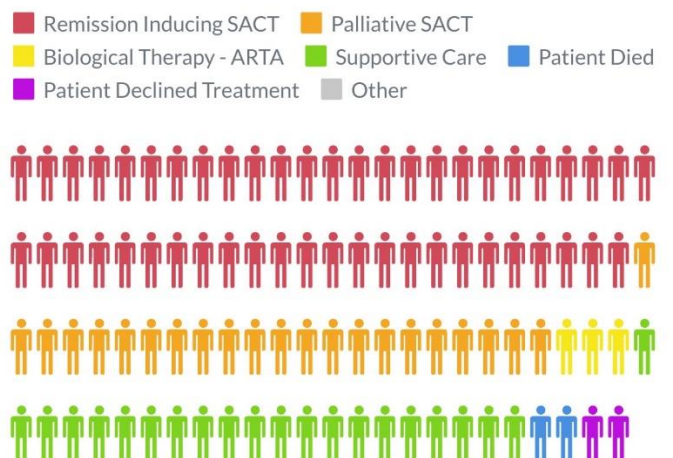
Age of patients with ALL



Deprivation Index of Patients



First Treatment



Executive Summary

This report contains an assessment of the performance of West of Scotland (WoS) acute leukaemia services relating to patients diagnosed within the region between 1 July 2020 and 30 June 2023. Cancer audit has underpinned much of the regional development and service improvement work of the MCN and the regular reporting of activity and performance have been fundamental in assuring the quality of care delivered across the region.

The results presented within this report illustrate that some of the QPI targets set have been challenging for Boards to achieve. However, given the small numbers included within the measurement of the majority of indicators, percentages should be compared with caution. Where QPI targets were not met, NHS Boards have provided detailed commentary. In the main these indicate valid clinical reasons or that, in some cases, patient choice or comorbidities have influenced patient management. Note that QPI measures that have been met by all NHS Boards are included in the summary results table but not within the body of the report.

Those QPIs assessing clinical outcomes of patients such as mortality following diagnosis or treatment were largely met (QPIs 5, 7 and 13) and there has been a considerable improvement in performance against QPI 1 (complete diagnostic panel). Performance against QPIs focussing on enrolment of patients into clinical trials (QPIs 8 & 10(ii)) has been lower across Scotland during 2020-2023 as recruitment is dependent on the availability of suitable trials. Some of the key national acute leukaemia clinical trials closed during this time period. Currently there are no phase 3 clinical trials available for patients with acute leukaemia. The clinical research environment is challenging across the UK, particularly following the closure of the NCRI (National Cancer Research Institute). As, and when, first line trials of acute leukaemia become available, these QPIs will challenge us to enable equitable access to all patients across the region. The report does highlight a number of areas for improvement of the acute leukaemia services within the WoS, most notably the timely discussion of all patients at the MDT and tissue typing at diagnosis for patients aged 16 to 65 years having treatment with curative intent.

The Haemato-oncology MCN will actively participate in the forthcoming Acute Leukaemia QPI Formal Review process, to ensure appropriate quality outcome measures are identified for this group of rare and complex tumours.

Actions required:

- **The MCN Clinical Lead will contact all Board lead clinicians to reiterate the importance of patients being discussed at an MDT in a timely manner, and will clarify that this includes all patients, including secondary leukaemia patients and those being managed palliatively.**
- **NHS Lanarkshire to ensure that patients discussed at ward level review are referred to the MDT.**
- **NHSGGC to review the reasons for delays to MDT discussion, assess MDT resourcing and take steps to ensure timely discussion of all patients with acute leukaemia by the MDT.**
- **NHS Ayrshire & Arran to ensure that MDT outcomes are recorded for all patients and that records are accessible to audit teams.**
- **MCN to suggest review of the timescales within which tissue typing is required for QPI 9 at the upcoming Formal Review in light of changes in clinical practice relating to timing of tissue typing and commencement of treatment.**
- **All NHS Boards to ensure Performance Status is recorded for all patients.**

- **MCN to suggest review of the target for QPI 12 at the next Formal Review in light of increasing use of remission inducing SACT in patients who would historically have received palliative SACT.**

A summary of actions has been included within the Action Plan Report accompanying this report and templates have been provided to Boards. **Completed Action Plans should be returned to WoSCAN in a timely manner to allow the plans to be reviewed at the Regional Cancer Oversight Group.**

Performance Summary Overview

Key	
	below QPI target
	no comparable data
-	< 5 patients in denominator
12% (1/2)	Performance (Numerator / Denominator)

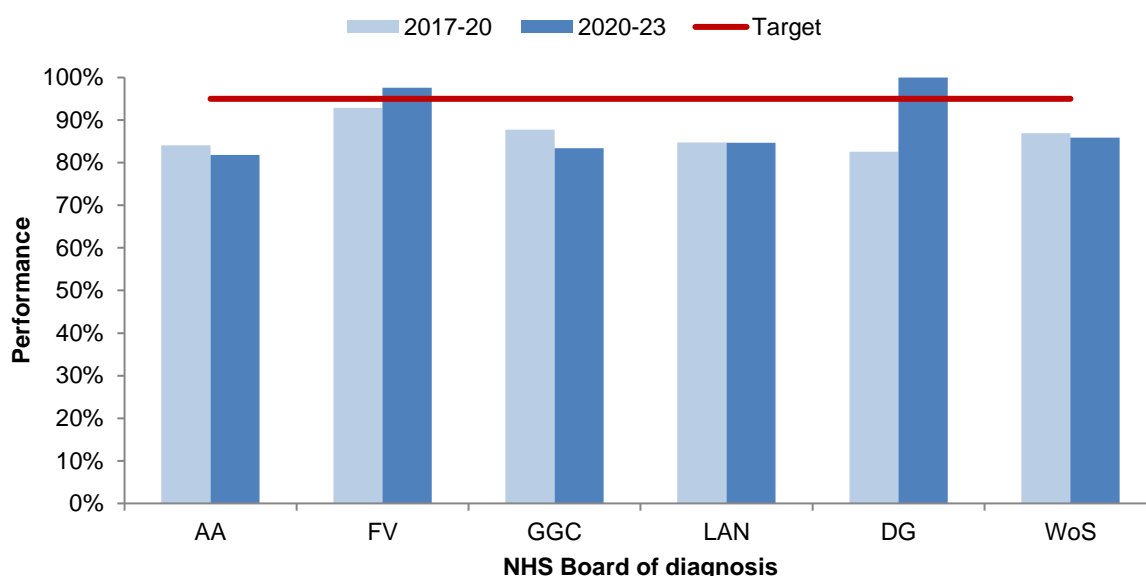
QPI	Target	Year	WoS	A&A	FV	GGC	Lan	D&G
QPI 1: Complete Diagnostic Panel. Proportion of patients with acute leukaemia undergoing treatment with curative intent who have complete diagnostic panel undertaken.	90%	2020-2023	98% (166/170)	100% (19/19)	95% (18/19)	98% (82/84)	98% (39/40)	100% (8/8)
		2017-2020						
		2014-2017						
QPI 3: MDT Discussion. Proportion of patients with acute leukaemia discussed at MDT meeting within 8 weeks of diagnosis.	95%	2020-2023	86% (341/397)	82% (36/44)	98% (40/41)	83% (181/217)	85% (61/72)	100% (23/23)
		2017-2020	87%	84%	93%	88%	85%	83%
		2014-2017						
QPI 5(i): Early Deaths (16yrs – 60yrs) Proportion of patients with AML being treated with curative intent who die within 30 days of treatment.	< 8%	2020-2023*	0% (0/52)	0% (0/10)	0% (0/5)	0% (0/25)	0% (0/8)	0% (0/4)
		2017-2020						
		2014-2017						
QPI 5(i): Early Deaths (> 60yrs) Proportion of patients with AML being treated with curative intent who die within 30 days of treatment.	< 18%	2020-2023*	8% (3/40)	-	-	10% (2/21)	0% (0/12)	-
		2017-2020						
		2014-2017						
QPI 5(ii): Early Deaths (16yrs – 60yrs) Proportion of patients with ALL being treated with curative intent who die within 35 days of treatment.	< 8%	2020-2023*	0% (0/15)	-	-	0% (0/6)	-	-
		2017-2020						
		2014-2017						
QPI 5(ii): Early Deaths (> 60yrs) Proportion of patients with ALL being treated with curative intent who die within 35 days of treatment.	< 20%	2020-2023*	0% (0/5)	-	-	-	-	-
		2017-2020						
		2014-2017						

QPI	Target	Year	WoS	A&A	FV	GGC	Lan	D&G
QPI 7: Deaths in Remission Proportion of patients with acute leukaemia undergoing treatment with curative intent who achieve first CR and die within 1 year of diagnosis, whilst in CR. (reported 1 year in arrears)	< 10%	2020-2023	0% (0/100)	0% (0/9)	0% (0/11)	0% (0/47)	0% (0/29)	0% (0/4)
		2017-2020	4%	0%	0%	4%	10%	0%
		2014-2017	3%	0%	0%	4%	5%	0%
QPI 8: Clinical Trials with Curative Intent Proportion of patients with acute leukaemia who are treated with curative intent enrolled in a clinical trial.	25%	2020-2023	21% (21/99)	40% (6/15)	29% (4/14)	9% (4/45)	16% (3/19)	67% (4/6)
		2017-2020	54%	60%	64%	49%	58%	-
		2014-2017	58%	29%	30%	69%	62%	-
QPI 9: Tissue Typing for Transplant 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.	90%	2020-2023*	60% (49/82)	86% (12/14)	80% (4/5)	50% (21/42)	63% (10/16)	40% (2/5)
		2017-2020						
		2014-2017						
QPI 10(i): Remission Inducing SACT in Older Adults Proportion of patients with acute leukaemia over 60 years of age and over with PS 0-1 who receive remission inducing SACT.	30%	2020-2023*	55% (71/130)	25% (4/16)	50% (5/10)	55% (41/74)	72% (18/25)	60% (3/5)
		2017-2020						
		2014-2017						
QPI 10(ii): Remission Inducing SACT in Older Adults Proportion of patients with acute leukaemia over 60 years of age and over receiving remission inducing SACT who are treated within a clinical trial.	25%	2020-2023*	5% (4/80)	-	0% (0/5)	2% (1/49)	5% (1/19)	-
		2017-2020						
		2014-2017						
QPI 12: Palliative Treatment Proportion of patients with AML who are not suitable for treatment with remission inducing SACT who receive an appropriate palliative SACT regimen.	40%	2020-2023*	43% (34/80)	78% (7/9)	46% (6/13)	36% (15/42)	33% (4/12)	-
		2017-2020						
		2014-2017						
QPI 13. Early Deaths in Patients with APL Proportion of patients with APL who die within 30 days of diagnosis.	< 25%	2020-2023	0% (0/14)	-	-	0% (0/6)	-	-
		2017-2020	13% (2/16)	-	-	7% (1/14)	-	-
		2014-2017						

* QPI Formal Review changes implemented in 2021 therefore results based on 2 year data 2021-2023

QPI 3: MDT Discussion

Title:	Patients with acute leukaemia should be discussed by a MDT at diagnosis.
Numerator:	Number of patients with acute leukaemia discussed at the MDT within 8 weeks of diagnosis.
Denominator:	All patients with acute leukaemia.
Exclusions:	No exclusions.
Target:	95%



2020-2023 combined results			
Board	Performance	Numerator	Denominator
AA	81.8%	36	44
FV	97.6%	40	41
GGC	83.4%	181	217
Lan	84.7%	61	72
D&G	100%	23	23
WoS	85.9%	341	397

Annual Performance		
2020-21	2021-22	2022-23
100%	81.3%	72.2%
100%	93.8%	100%
84.9%	85.9%	79.5%
88.0%	85.2%	80.0%
100%	100%	-
89.2%	87.1%	81.3%

All NHS Boards have reviewed the 56 patients not meeting this QPI; 31 of these were discussed more than 8 weeks after diagnosis, 16 others were not discussed at MDT while for nine patients the date of MDT was not recorded. While WoSCAN performance against this measure was very similar during 2017-20 and 2020-23, the reasons for the QPI not being met differed between the two periods. The percentage of patients not being discussed at MDT dropped from 10% in 2017-20 to 4% in 2020-23, with a corresponding rise in the proportion of patients being discussed at MDT more than 8 weeks after diagnosis.

All newly diagnosed patients with acute leukaemia should be discussed at an MDT; in recent years all NHS Boards within WoSCAN have taken steps to ensure that patients are referred to MDT, and this is likely to have resulted in the improvement seen in the proportion of patients being discussed. Nevertheless, 16 patients were not discussed at MDT across NHSGGC and NHS Lanarkshire in 2020-23. Within NHS Lanarkshire it was noted that some patients were discussed at the ward level review but not referred to MDT; measures have now been implemented in NHS Lanarkshire to ensure that patients discussed at these reviews are subsequently referred to the MDT. Within NHSGGC only 1 patient was not discussed at MDT during 2022-23, suggesting that changes to MDT referral processes may have been successful.

While more patients were discussed at MDT during 2020-23, a higher proportion were discussed more than 8 weeks after diagnosis, with the greatest numbers for patients diagnosed in 2022-23 (17 patients; 14 from NHSGGC). While some patients not meeting the QPI were diagnosed with acute leukaemia as a transformation of pre-existing disease and others had synchronous tumours or were for supportive care only, these patients should still be discussed at the MDT within 8 weeks of diagnosis.

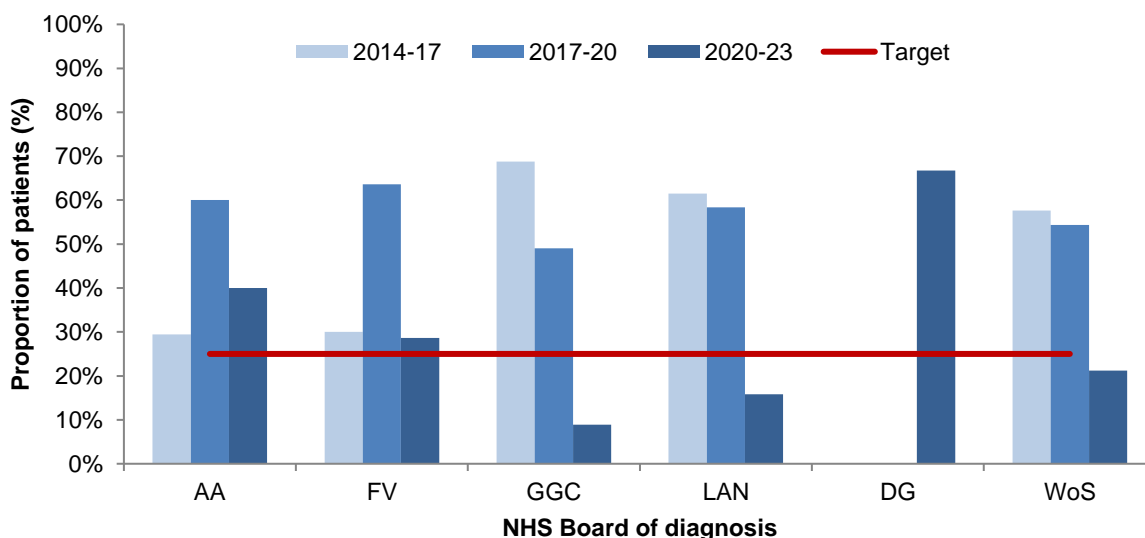
For nine patients the date of MDT discussion was not recorded, six of these within NHS Ayrshire & Arran. A review of the local process for patients being referred to MDT is currently underway in NHS Ayrshire & Arran, as part of this the Board should ensure that MDT records are accessible to audit staff, including where patients are discussed at regional MDT.

Actions required:

- **The MCN Clinical Lead will contact all Board lead clinicians to reiterate the importance of patients being discussed at an MDT in a timely manner, and will clarify that this includes all patients, including secondary leukaemia patients and those being managed palliatively.**
- **NHS Lanarkshire to ensure that patients discussed at ward level review are referred to the MDT.**
- **NHSGGC to review the reasons for delays to MDT discussion, assess MDT resourcing and take steps to ensure timely discussion of all patients with acute leukaemia by the MDT.**
- **NHS Ayrshire & Arran to ensure that MDT outcomes are recorded for all patients and that records are accessible to audit teams.**

QPI 8: Clinical Trials with Curative Intent

Title:	Patients with acute leukaemia under 60 years of age who are suitable for treatment with curative intent should be considered for participation in available clinical trials, wherever eligible.
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 and patients over 60 years of age.
Target:	25%



2020-2023 combined results			
Board	Performance	Numerator	Denominator
AA	40.0%	6	15
FV	28.6%	4	14
GGC	8.9%	4	45
Lan	15.8%	3	19
D&G	66.7%	4	6
WoS	21.2%	21	99

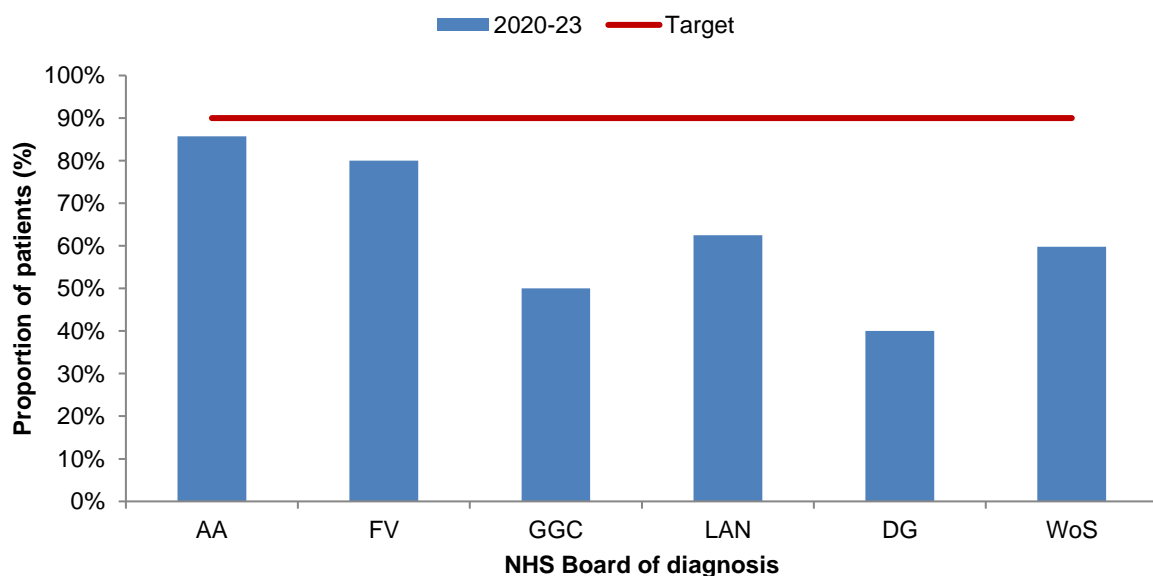
Annual Performance		
2020-21	2021-22	2022-23
-	60.0%	12.5%
42.9%	20.0%	-
14.3%	11.8%	0%
28.6%	12.5%	-
-	-	-
34.4%	18.9%	10.0%

Review of patients not meeting this QPI indicated that for the majority there were no trials available and for others the patients were not eligible for the available trials. In 2022-23, only three patients were able to be recruited into a clinical trial; these were all transplant related.

The MCN Clinical Trials Subgroup supports clinical trial activity across the region. Disease-specific clinical trials maps are updated regularly and the group engages in regional discussion to review patient recruitment, identify gaps in the trials portfolio and highlight major forthcoming trials to facilitate early set-up of studies. Despite this activity, performance against this QPI is dependent on suitable trials being open. Some of the key national acute leukaemia clinical trials closed during this time period. Currently there are no phase 3 clinical trials available for patients with acute leukaemia. The clinical research environment is challenging across the UK, particularly following the closure of the NCRI (National Cancer Research Institute). As, and when, first line trials of acute leukaemia become available, the QPI will challenge Boards to enable equitable access to all patients across the region.

QPI 9: Tissue Typing for Transplant

Title:	Patients with acute leukaemia treated with curative intent should have a specimen sent to the lab for tissue typing at diagnosis.
Numerator:	Number of 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 (APML)
Target:	90%



2020-2023 combined results*			
Board	Performance	Numerator	Denominator
AA	85.7%	12	14
FV	80.0%	4	5
GGC	50.0%	21	42
Lan	62.5%	10	16
D&G	40.0%	2	5
WoS	59.8%	49	82

Annual Performance		
2020-21	2021-22	2022-23
	60.0%	100%
	-	-
	37.5%	66.7%
	63.6%	60.0%
	-	-
	48.9%	74.3%

* Figures based on 2021-2023 data due to Formal Review changes implemented from 2021-22

Changes in the way that this QPI is calculated at the last Formal Review mean that patients only meet the QPI if tissue typing is undertaken within 7 days of diagnosis. Review of the 33 patients not meeting this QPI concluded that only three of these patients did not have tissue typing undertaken, one of whom died within a day of diagnosis. The vast majority did have tissue typing, but more than 7 days after diagnosis. Further analysis indicated that 85% of patients diagnosed in 2021-23 had tissue typing within 4 weeks of diagnosis and 96% within 8 weeks.

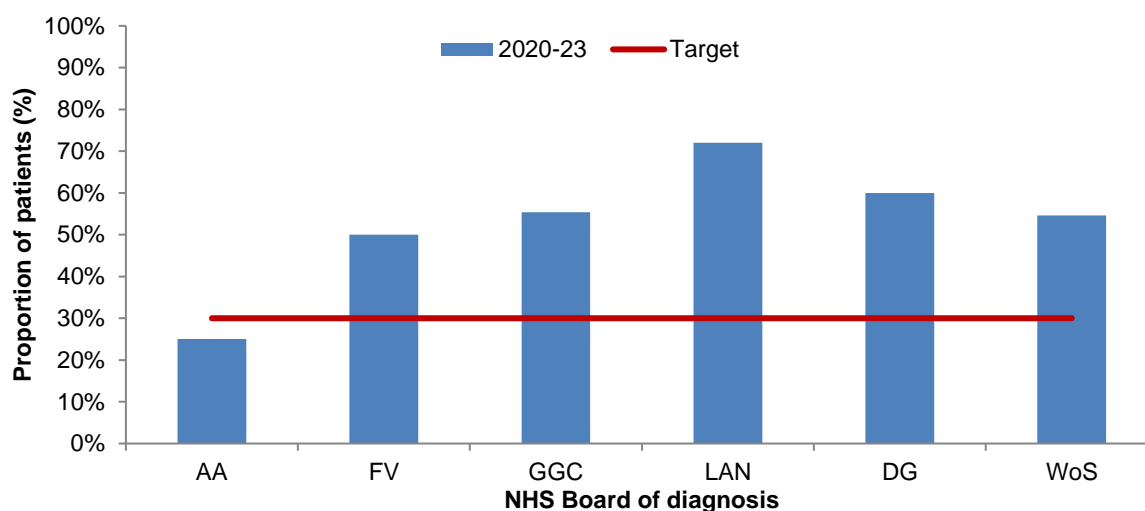
Tissue typing should be undertaken before treatment is started, however the 7 day timescale does not allow for the increasing use of molecular sub-typing to inform both treatment decisions and the need for tissue typing (as good risk patients are not considered for transplant in first remission and therefore do not require tissue typing). This QPI will require review to ensure that the definition is in line with modern diagnostic techniques. No clinical action is required.

Action required:

- **MCN to suggest review of the timescales within which tissue typing is required for QPI 9 at the upcoming Formal Review in light of changes in clinical practice relating to timing of tissue typing and commencement of treatment.**

QPI 10: Remission Inducing SACT in Older Adults

Title (i):	Patients with acute leukaemia over 60 years of age should be offered remission inducing SACT, within the context of a clinical trial wherever possible, as this provides quality of life and survival benefit.
Numerator:	Number of patients with acute leukaemia 60 years of age and over with PS 0-1 who receive remission inducing SACT.
Denominator:	All patients with acute leukaemia 60 years of age and over with PS 0-1.
Exclusions:	No exclusions.
Target:	30%



2020-2023 combined results*				Annual Performance		
Board	Performance	Numerator	Denominator	2020-21	2021-22	2022-23
AA	25.0%	4	16		12.5%	37.5%
FV	50.0%	5	10		50.0%	-
GGC	55.4%	41	74		52.5%	58.8%
Lan	72.0%	18	25		92.3%	50.0%
D&G	60.0%	3	5		-	-
WoS	54.6%	71	130		54.3%	55.0%

* Figures based on 2021-2023 data due to Formal Review changes implemented from 2021-22

Changes in the way that this QPI is calculated at the last Formal Review to look at remission inducing SACT rather than intensive chemotherapy mean that results cannot be compared to those prior to 2021.

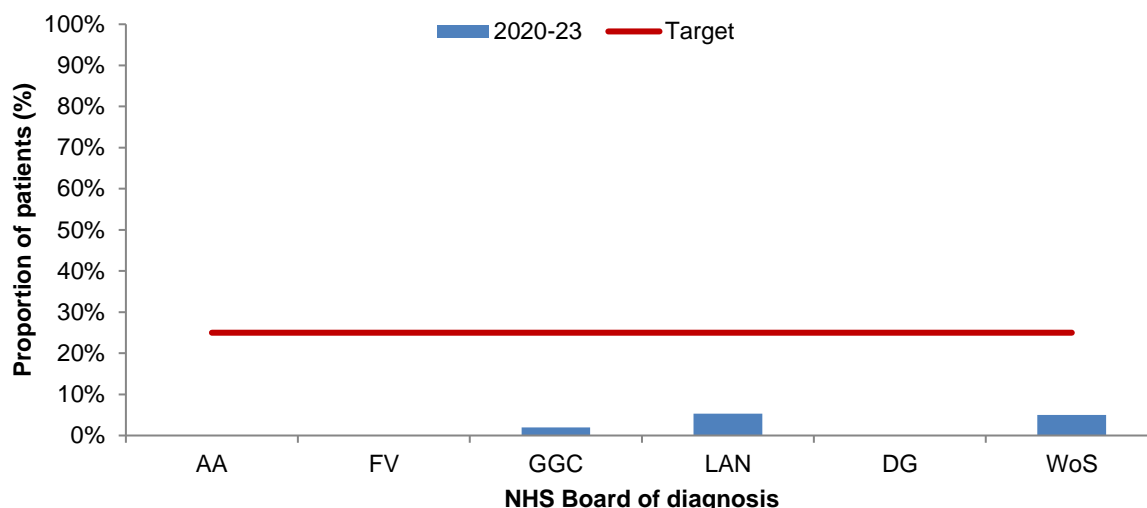
The QPI was met by all NHS Boards except NHS Ayrshire & Arran; review of the 12 patients within the Board not meeting this QPI indicated that all received clinically appropriate treatment; high average age of patients precluded remission-inducing SACT for many. Only one patient was less than 70 years old and comorbidities precluded intensive chemotherapy for this patient. NHS Ayrshire & Arran does consider remission inducing SACT for all older patients but comorbidities often preclude this. Further, three patients had progression from MDS to AML whilst on therapy for 2021-22, such patients are not generally considered for remission inducing SACT due to very low likelihood of response.

It was noted that Performance Status was not recorded for 14 patients over the age of 60 (7%). These patients will be inappropriately excluded from the measurement of performance against this QPI. All NHS Boards should ensure recording of Performance Status for all patients to enable complete reporting of this measure.

Action Required:

- **All NHS Boards to ensure Performance Status is recorded for all patients.**

Title (ii):	Patients with acute leukaemia over 60 years of age should be offered remission inducing SACT, within the context of a clinical trial wherever possible, as this provides quality of life and survival benefit.
Numerator:	Number of patients with acute leukaemia 60 years of age and over who receive remission inducing SACT enrolled in a clinical trial.
Denominator:	All patients with acute leukaemia 60 years of age and over who receive remission inducing SACT.
Exclusions:	Patients who refuse entry into a clinical trial.
Target:	25%



2020-2023 combined results*				Annual Performance		
Board	Performance	Numerator	Denominator	2020-21	2021-22	2022-23
AA	-	-	-	-	-	-
FV	0%	0	5	-	-	-
GGC	2.0%	1	49	-	0%	3.7%
Lan	5.3%	1	19	-	0%	16.7%
D&G	-	-	-	-	-	-
WoS	5.0%	4	80	-	5.0%	5.0%

* Figures based on 2021-2023 data due to Formal Review changes implemented from 2021-22

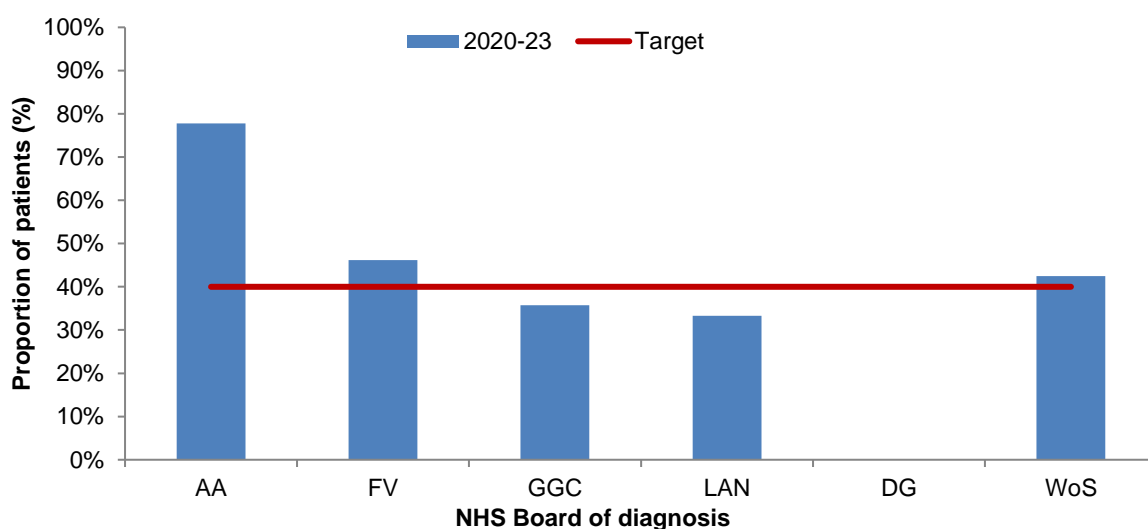
Changes in the way that this QPI is calculated at the last Formal Review to look at patients receiving remission inducing SACT rather than intensive chemotherapy mean that results cannot be compared to those prior to 2021.

Review of patients not meeting this indicator showed that for the majority there were no trials available and for others the patients were not eligible for the available trials. Despite ongoing work within the region to support recruitment into clinical trials, as for QPI 8, the ability of NHS Boards to meet this QPI is dependent on suitable trials being open.

Some of the key national acute leukaemia clinical trials closed during this time period. Currently there are no phase 3 clinical trials available for patients with acute leukaemia. As, and when, first line trials of acute myeloid leukaemia become available, the QPI will challenge Boards to enable equitable access to all patients across the region.

QPI 12: Palliative Treatment

Title:	Patients with AML who are not suitable for treatment with remission inducing SACT should be considered for treatment with an appropriate palliative SACT regimen.
Numerator:	Number of patients with AML who are not suitable for treatment with remission inducing SACT who receive an appropriate palliative SACT regimen.
Denominator:	All patients with AML who are not suitable for treatment with remission inducing SACT.
Exclusions:	Patients who decline SACT and patients with adverse cytogenetics.
Target:	40%



2020-2023 combined results*				Annual Performance		
Board	Performance	Numerator	Denominator	2020-21	2021-22	2022-23
AA	77.8%	7	9		60.0%	-
FV	46.2%	6	13		71.4%	16.7%
GGC	35.7%	15	42		25.0%	50.0%
Lan	33.3%	4	12		-	44.4%
D&G	-	-	-		-	-
WoS	42.5%	34	80		37.2%	48.6%

* Figures based on 2021-2023 data due to Formal Review changes implemented from 2021-22

Changes in the way that this QPI is calculated at the last Formal Review to look at patients not receiving remission inducing SACT, rather than intensive chemotherapy, mean that results cannot be compared to those prior to 2021. Clinical review of the 46 patients not meeting this QPI indicated that, for the majority, patients did not receive palliative treatment as they were not fit or had comorbidities that precluded treatment. In addition, one patient was asymptomatic and two patients died before treatment. With recent increases in the use of remission inducing SACT regimens such as venetoclax / azacitidine in patients who may previously have received palliative SACT, the denominator will increasingly focus on patients who are not fit for any treatment; as such the target for this QPI requires review.

The number of patients included within this QPI for individual NHS Boards is relatively small and as such additional years of data are required to enable us to understand whether there is any variation in performance across WoS against this revised QPI.

Action Required:

- **MCN to suggest review of the target for QPI 12 at the next Formal Review in light of increasing use of remission inducing SACT in patients who would historically have received palliative SACT.**

Appendix 1: Meta Data

Report Title	Cancer Audit Report: Acute Leukaemia Quality Performance Indicators																														
Time Period	Patients diagnosed between 1 July 2020 and 30 June 2023																														
QPI Version	Acute Leukaemia QPIs v4.1																														
Data extraction date	2200 hrs on 24 January 2024																														
Data Quality	<table border="1"> <thead> <tr> <th>Health Board of diagnosis</th> <th>Total no. of patients diagnosed 2020-2023</th> <th>Average no. Cases from Cancer registry (2017-2021)</th> <th>Case Ascertainment</th> </tr> </thead> <tbody> <tr> <td>Ayrshire & Arran</td> <td>49</td> <td>15.4</td> <td>106.1%</td> </tr> <tr> <td>Forth Valley</td> <td>41</td> <td>15.6</td> <td>87.6%</td> </tr> <tr> <td>GGC</td> <td>217</td> <td>45</td> <td>93.0%</td> </tr> <tr> <td>Lanarkshire</td> <td>72</td> <td>25.8</td> <td>160.7%</td> </tr> <tr> <td>Dumfries & Galloway</td> <td>23</td> <td>8.2</td> <td>93.5%</td> </tr> <tr> <td>WoS Total</td> <td>402</td> <td>110</td> <td>121.8%</td> </tr> </tbody> </table>			Health Board of diagnosis	Total no. of patients diagnosed 2020-2023	Average no. Cases from Cancer registry (2017-2021)	Case Ascertainment	Ayrshire & Arran	49	15.4	106.1%	Forth Valley	41	15.6	87.6%	GGC	217	45	93.0%	Lanarkshire	72	25.8	160.7%	Dumfries & Galloway	23	8.2	93.5%	WoS Total	402	110	121.8%
Health Board of diagnosis	Total no. of patients diagnosed 2020-2023	Average no. Cases from Cancer registry (2017-2021)	Case Ascertainment																												
Ayrshire & Arran	49	15.4	106.1%																												
Forth Valley	41	15.6	87.6%																												
GGC	217	45	93.0%																												
Lanarkshire	72	25.8	160.7%																												
Dumfries & Galloway	23	8.2	93.5%																												
WoS Total	402	110	121.8%																												

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