West of Scotland Cancer Network

Haemato-oncology
Managed Clinical Network

Audit Report

Acute Leukaemia
Quality Performance Indicators

Clinical Audit Data:
01 July 2017 to 30 June 2020

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CONTENTS

1. INTRODUCTION **8**

2.1 NATIONAL CONTEXT 8

2.2 WEST OF SCOTLAND CONTEXT 9

3. METHODOLOGY **11**

4. RESULTS AND ACTION REQUIRED **11**

ACKNOWLEDGEMENT **33**

ABBREVIATIONS **34**

REFERENCES **35**

APPENDIX 1: META DATA **37**

APPENDIX 2: WOSCAN QPI REPORTING PROCESS **38**

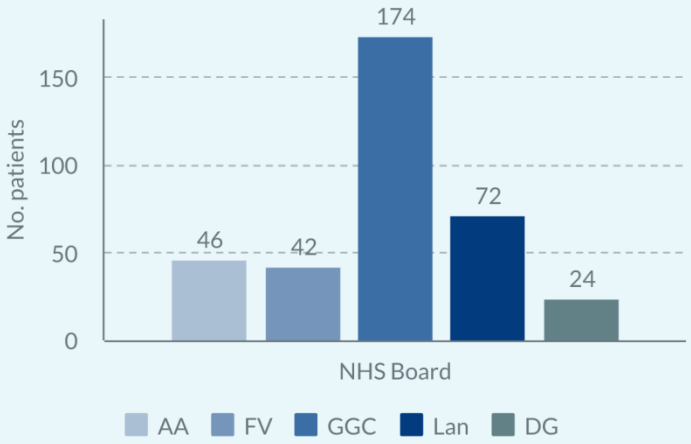
APPENDIX 3: NHS BOARD ACTION PLANS **39**

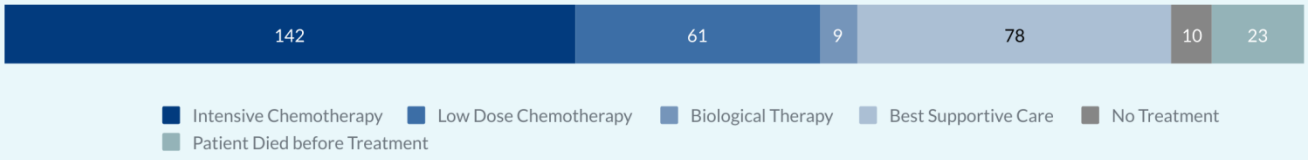
Acute Leukaemia QPI Overview

Patients diagnosed July 2017 - June 2020

Number of patients	358
Percent patients male	59%
Leukaemia subtype:	
Acute Myeloid Leukaemia	87%
Acute Lymphoblastic Leukaemia	11%

Where are patients diagnosed





Type of first treatment for patients with Acute Myeloid Leukaemia

Performance (%)

	Target	Performance 2017-20	difference from 2014-17
QPI 1: Complete Diagnostic Panel	90%	88%	↑
QPI 3: MDT Discussion	95%	87%	↓
QPI 5: Early Deaths (i) Patients with AML	16-60 years <8%	4%	↓
	over 60 years <18%	3%	↓
(ii) Patients with ALL	16-60 years <8%	0%	↓
QPI 7: Deaths in Remission	<10%	4%	↑
QPI 8: Clinical Trials with Curative Intent	60%	54%	↓
QPI 9: Tissue Typing for Transplant	90%	68%	↓
QPI 10: Intensive Chemotherapy in Older Adults (i)	30%	50%	↑
QPI 10: Intensive Chemotherapy in Older Adults (ii)	70%	54%	↓
QPI 11: Clinical Trials with Non Curative Intent	10%	4%	↓
QPI 12: Palliative Treatment	55%	37%	↓
QPI 13: Early Deaths in patients with Acute Promyelocytic Leukaemia	<25%	13%	
QPI 14: Clinical Trials and Research Study Access	15%	53%	

Key Achievements:

- All QPIs relating to clinical outcomes of patients were met at a regional level (QPIs 5, 7 and 13)
- There was a considerable improvement in performance against QPI 1

Areas for Improvement:

- Improving MDT processes to ensure timely MDT discussion of all patients
- Ensuring that patients who may be suitable for transplant have tissue typing at diagnosis

Executive Summary

Introduction

This report contains an assessment of the performance of West of Scotland (WoS) acute leukaemia cancer services using clinical audit data relating to patients diagnosed with acute leukaemia between 1st July 2017 and 30th June 2020.

In order to ensure the success of the national cancer QPIs in driving quality improvement in cancer care, QPIs will continue to be assessed for clinical effectiveness and relevance. The initial formal review of Acute Leukaemia QPIs took place in 2018. With six years of reporting now complete, a second cycle of review is currently underway. This clinically led review aims to identify potential refinements to the current QPIs and involves key clinicians from each of the Regional Cancer Networks.

Results

A summary of the Acute Leukaemia QPI performance for the 2017/18 – 2019/20 audit period is presented below, with a more detailed analysis of the results set out in the main report. Data are analysed by location of diagnosis and illustrate NHS Board performance against each target and overall regional performance for each performance indicator.

Performance Summary Overview

Key	
	Above or equal to QPI target
	Below QPI target
	no comparable data
-	< 5 patients in denominator
12% (1/2)	Performance (%) Numerator / Denominator

QPI	Performance by Board							
	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 where complete diagnostic panel undertaken.	90%	2017-2020	88.4% (145/164)	100% (7/7)	100% (20/20)	81.6% (71/87)	95.6% (43/45)	80.0% (4/5)
		2014-2017	49.4%	65.6%	25.0%	54.9%	33.3%	53.8%
QPI 3: MDT Discussion. Proportion of patients with acute leukaemia discussed at MDT meeting within 8 weeks of diagnosis.	95%	2017-2020	86.9% (299/344)	84.1% (37/44)	92.9% (39/42)	87.7% (143/163)	84.7% (61/72)	82.6% (19/23)
		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%	2017-2020	3.7% (3/81)	-	10.0% (1/10)	0% (0/41)	8.0% (2/25)	-
		2014-2017	7.0%	0%	0%	8.7%	18.2%	-
QPI 5(i): Early Deaths (> 60yrs) Proportion of patients with AML being treated with curative intent who die within 30 days of treatment.	< 18%	2017-2020	3.2% (2/62)	-	0% (0/7)	3.0% (1/33)	6.3% (1/16)	-
		2014-2017	10.7%	20.0%	-	7.0%	13.0%	0%
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%	2017-2020	0% (0/14)	-	-	0% (0/10)	-	-
		2014-2017	4.0%	-	-	0%	-	-
QPI 5(ii): Early Deaths (> 60yrs) Proportion of patients with ALL being treated with curative intent who die within 35 days of treatment.	< 20%	2017-2020	-	-	-	-	-	-
		2014-2017	20.0%	-	-	20.0%	-	-
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. (July 2018 – June 2019)	< 10%	2017-2020	4.0% (4/100)	0% (0/5)	0% (0/13)	3.7% (2/54)	10.0% (2/20)	0% (0/8)
		2014-2017	3.0%	0%	0%	4.3%	4.8%	0%

QPI	Target	Year	WoS	A&A	FV	GGC	Lan	D&G
QPI 8: Clinical Trials with Curative Intent. Proportion of patients with acute leukaemia who are treated with curative intent enrolled in a clinical trial.	60%	2017-2020	54.3% (50/92)	60.0% (3/5)	63.6% (7/11)	49.0% (25/51)	58.3% (14/24)	-
		2014-2017	57.6%	29.4%	30.0%	68.8%	61.5%	-
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%	2017-2020	67.5% (81/120)	83.3% (5/6)	100% (15/15)	57.8% (37/64)	65.6% (21/32)	-
		2014-2017	80.0%	76.2%	100%	85.7%	60.0%	66.7%
QPI 10(i): Intensive Chemotherapy in Older Adults. Proportion of patients with acute leukaemia aged 60 years of age and over with PS 0-1 who receive intensive chemotherapy.	30%	2017-2020	49.6% (63/127)	12.5% (2/16)	60.0% (9/15)	50.8% (31/61)	60.0% (18/30)	60.0% (3/5)
		2014-2017	41.4%	39.1%	12.5%	33.3%	58.6%	54.5%
QPI 10(ii): Intensive Chemotherapy in Older Adults. Proportion of patients with acute leukaemia aged 60 years of age and over who receive intensive chemotherapy enrolled in a clinical trial.	70%	2017-2020	53.7% (36/67)	-	50.0% (4/8)	45.7% (16/35)	66.7% (12/18)	-
		2014-2017	58.8%	72.7%	-	30.0%	88.5%	22.2%
QPI 11: Clinical Trials with Non Curative Intent. Proportion of patients with acute leukaemia who are treated with non-curative intent enrolled in a clinical trial.	10%	2017-2020	4.4% (7/158)	3.4% (1/29)	0.0% (0/19)	7.2% (5/69)	4.2% (1/24)	0% (0/17)
		2014-2017	12.0%	13.3%	8.7%	13.2%	14.3%	0%
QPI 12: Palliative Treatment. Proportion of patients with acute myeloid leukaemia who are suitable only for treatment with non-curative intent who receive an appropriate palliative SACT regimen.	55%	2017-2020	36.5% (38/104)	100% (11/11)	20.0% (3/15)	30.2% (16/53)	13.3% (2/15)	60.0% (6/10)
		2014-2017	46.9%	70.6%	31.6%	50.0%	45.0%	-
QPI 13. Early Deaths in Patients with APL. Proportion of patients aged 16 years and over with APL who die within 30 days of diagnosis.	< 25%	2017-2020	12.5% (2/16)	-	-	7.1% (1/14)	-	-
		2014-2017						
QPI 14: Clinical Trials & Research Study Access Proportion of patients diagnosed with acute leukaemia who are consented for a clinical trial / research study.	15%	2018-2019	52.8% (115/218)	29.2% (7/24)	58.3% (21/36)	38.6% (39/101)	40.9% (18/44)	69.2% (9/13)
		2014-2017						

Conclusions and Action Required

The results presented within this report illustrate that many of the QPI targets set have been challenging for Boards to achieve and some variance has been noted across Boards. 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 co-morbidities have influenced patient management.

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. Performance against QPIs focussing on enrolment of patients into clinical trials (QPIs 8, 10(ii) & 11) has been lower across Scotland during 2017-2020 as recruitment is dependent on the availability of suitable trials. Some of the key acute leukaemia trials closed during this period, which is likely to have impacted on performance against these QPIs, further exacerbated by the suspension of all trials in 2020 due to the COVID pandemic. 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:

- All boards to examine local processes and identify ways in which to improve timely MDT discussion.
- NHS Ayrshire & Arran to remind clinicians that all patients with acute leukaemia must be discussed at MDT.
- NHSGGC, NHS Lanarkshire and NHS Ayrshire & Arran to review process in place for ensuring tissue typing sent on patients with acute leukaemia aged between 16 and 65 being treated with curative intent.
- All Boards to record reasons tissue typing not performed in patients being treated with curative intent, preferably at MDT.
- NHS Ayrshire & Arran to review accuracy of performance status recording at MDT.
- All Boards to ensure recording of performance status for all acute leukaemia cases.

NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report. **Completed Action Plans should be returned to WoSCAN within two months of publication of this report.**

Please note actions have been categorised into groupings (for example surgery, oncology, pathology or data capture) for internal management purposes to allow regional trends to be identified and co-ordinate regional actions across multiple tumour groups where appropriate.

Progress against these plans will be monitored by the MCN Advisory Board and any service or clinical issue which the Advisory Board considers not to have been adequately addressed will be escalated to the NHS Board Territorial Lead Cancer Clinician and Regional Lead Cancer Clinician.

Additionally, progress will be reported annually to the Regional Cancer Advisory Group (RCAG) by NHS Board Territorial Lead Cancer Clinicians and MCN Clinical Leads, and nationally on a three-yearly basis to Healthcare Improvement Scotland as part of the governance processes set out in CEL 06 (2012).

1. Introduction

This report contains an assessment of the performance of West of Scotland (WoS) acute leukaemia cancer services relating to patients diagnosed in the region between 1st July 2017 and 30th June 2020. These audit data underpin much of the regional development/service improvement work of the Managed Clinical Network (MCN) and regular reporting of activity and performance is a fundamental requirement of an MCN to assure the quality of care delivered across the region.

In June 2017, the Regional Cancer Clinical Leads Group (RCCLG) supported the recommendation from the Haemato-oncology MCN Clinical Lead to publish results of acute leukaemia QPI audit report every three years, given the very low patient numbers. In intervening years performance summary reports are issued to WoS NHS Boards for management purposes only, identifying both local and regional actions. Outcomes from these actions are noted within this report.

In order to ensure success of the national cancer QPIs in driving quality improvement in cancer care across NHS Scotland, it is critical that QPIs continue to be clinically relevant and focus on areas which will result in improvements to the quality of patient care. A programme of formal review of all QPIs was implemented whereby all tumour specific QPIs were reviewed following three years of comparative reporting. Formal review of the Acute Leukaemia QPIs was undertaken in 2018, with the revised QPIs (v3.0) published in September 2018. With six years of reporting now complete, a second cycle of review is currently underway. This clinically led review aims to identify potential refinements to the current QPIs and involves key clinicians from each of the Regional Cancer Networks.

2. Background

The Haemato-oncology MCN was established in 2002 as a means of delivering equitable, high quality clinical care to all haemato-oncology patients across five NHS Boards; Ayrshire & Arran, Dumfries & Galloway, Forth Valley, Greater Glasgow and Clyde (GGC) and Lanarkshire covering a population of 2.65 million. Membership includes 50 consultant haemato-oncologists, 5 transplant consultants, 1 consultant in young adult and adolescent haematology, 2 clinical oncologists and a number of haemato-pathologists, in addition to other professional groups involved in the multi-disciplinary care of patients with blood cancer (haematological cancer).

The Haemato-oncology MCN continues to support and develop the clinical service for approximately 1300 haemato-oncology patients per annum. The effective management of these patients throughout the region continues to rely on co-ordinated delivery of treatment and care that requires close collaboration of professions from a range of specialties. Currently, there are seven local Multi-disciplinary Team (MDTs) meetings held across the West of Scotland (WoS) which complement the function of the Regional Haemato-oncology MDT.

MDT	Constituent Hospital
Ayrshire	University Hospital Crosshouse, University Hospital Ayr
Clyde	Royal Alexandra Hospital, Inverclyde Royal Hospital, Vale of Leven Hospital
Dumfries & Galloway	Dumfries and Galloway Royal Infirmary
Forth Valley	Forth Valley Royal Hospital
Lanarkshire	University Hospital Hairmyres, University Hospital Wishaw, University Hospital Monklands
North Glasgow	Beatson West of Scotland Cancer Centre, Transplant Team, Glasgow Royal Infirmary, Stobhill Hospital,
South Glasgow	Queen Elizabeth University Hospital, New Victoria Hospital

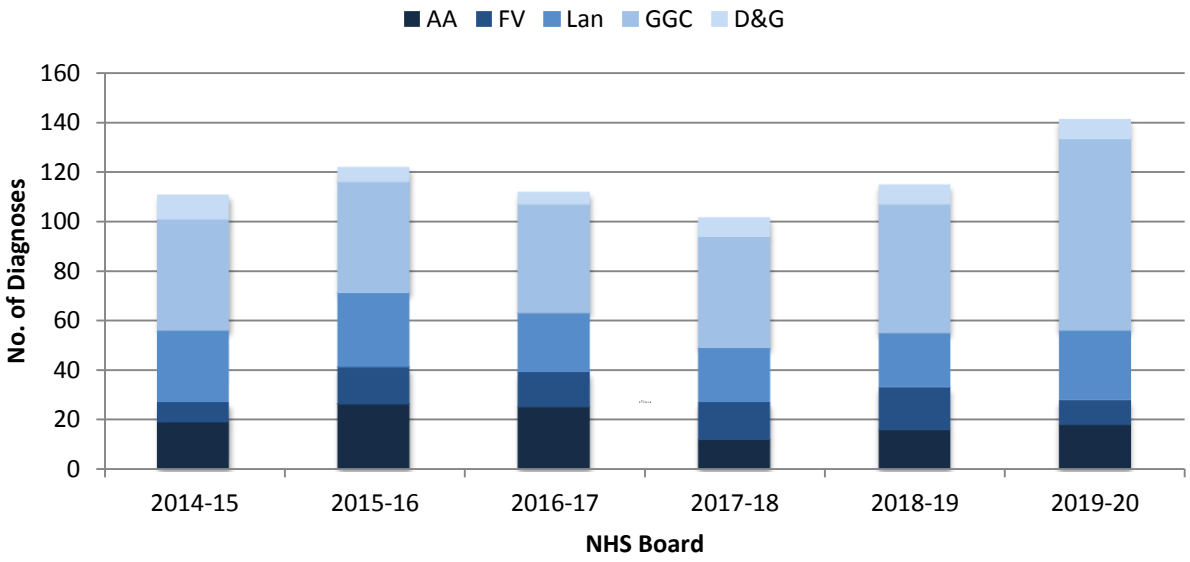
2.1 National Context

Acute myeloid leukaemia (AML) and acute lymphoblastic leukaemia (ALL) account for less than 1% of all new cancer cases diagnosed in Scotland. An average of 172 AML cases are diagnosed each year and approximately 66 ALL cases between 2014 and 2018[3].

Five year relative survival figures in Scotland for AML are 13% for males and 18% for females, which are similar to the European average of 15% for males and 18% for females. For ALL, relative survival rates are 37% for males and 42% for females compared to the European average of 39% for males and 40% for females[3].

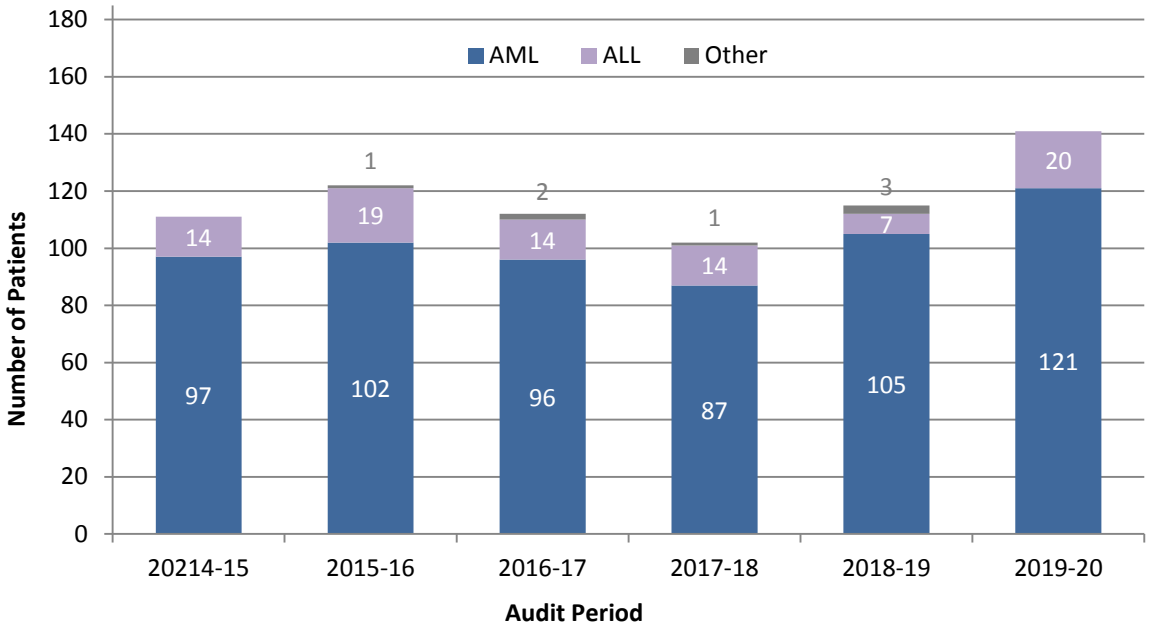
2.2 West of Scotland Context

A total of 358 new acute leukaemia cases were recorded through audit as diagnosed in the WoS between 1 July 2017 and 30 June 2020. The numbers of patients diagnosed within each NHS Board are presented below.



Number of Patients Diagnosed	2017-18	2018-19	2019-20	2017-20 combined
NHS Ayrshire & Arran	12	16	18	46
NHS Forth Valley	15	17	10	42
NHS Lanarkshire	22	22	28	72
NHSGGC	45	52	77	174
NHS Dumfries & Galloway	8	8	8	24
WoS	**102**	**115**	**141**	**358**

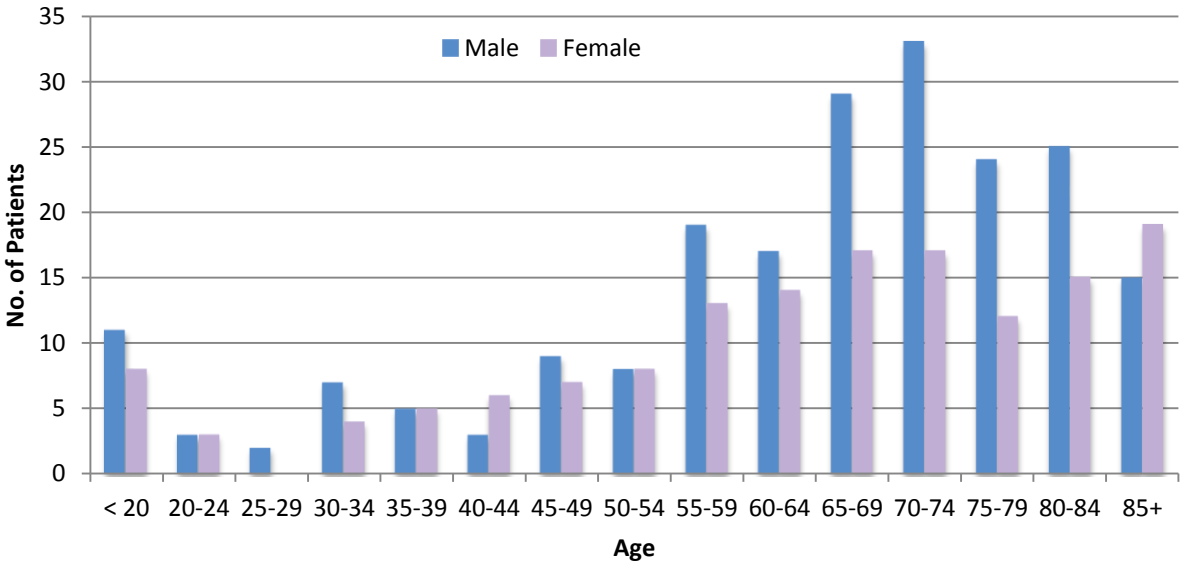
Breakdown by cancer subtype is shown below and illustrates that AML is the most common type of acute leukaemia in patients in the WoS.



*Other category includes not assessable and blastic plasmacytoid dendritic cell neoplasm.

Leukaemia Age and Gender Distribution

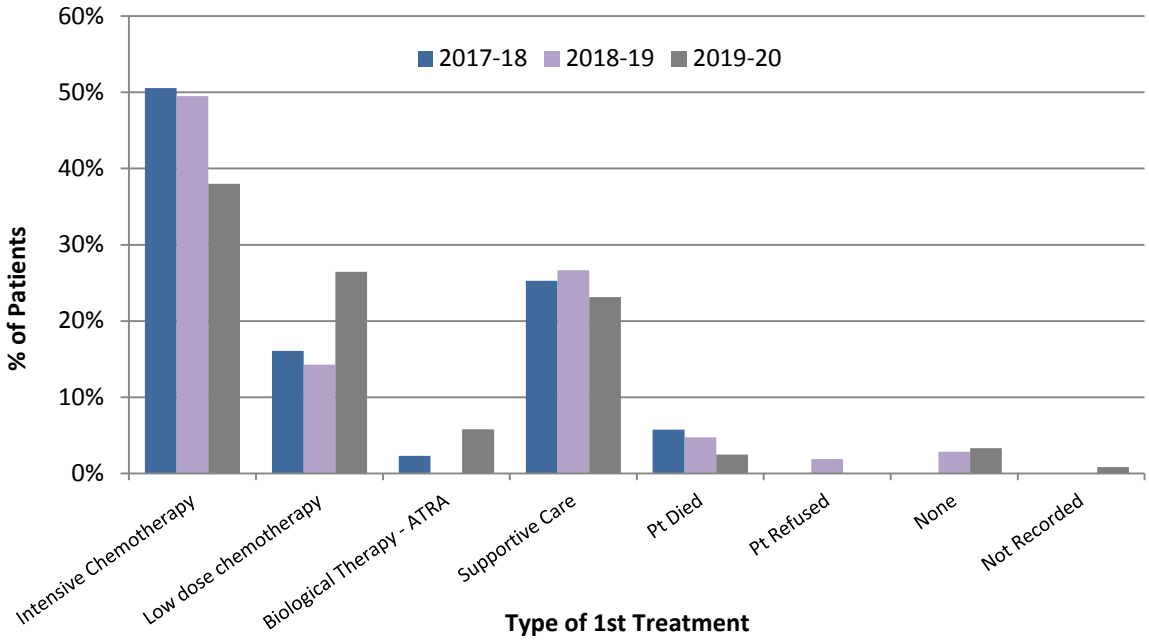
The figure below shows the distribution of patients diagnosed with Acute Leukaemia in 2017-20 by age and gender.



AML is recognised to be more common in males by all published epidemiological data (by a factor of 1.1-1.6). Epidemiological data also report a similar pattern in ALL with T-ALL in particular being more common in males. WoS data reflect this with 58.7% of patients being male.

Treatment

The type of first treatment administered to patients with AML is detailed below with 45% of patients receiving intensive chemotherapy and 20% of patients receiving low dose chemotherapy. In 2019-20 less patients had intensive chemotherapy and more had low dose chemotherapy, while numbers of patients are small and this difference could be due to chance, there were unique challenges in 2020 with the Covid-19 pandemic. This resulted in significant changes to the risk:benefit assessment of patients potentially receiving systemic chemotherapy and this likely has had some impact.



Type of first treatment	Intensive chemotherapy	Low dose chemotherapy	Biological Therapy ATRA	Supportive Care	No treatment*	Not Recorded
Number of Patients diagnosed 2017-2020	142	61	9	78	22	1

* Patient died before treatment, refused treatment or had no treatment for another reason

3. Methodology

Further detail on the audit and analysis methodology and data quality is available in the meta data within appendix 1.

Cancer patients under the age of 16 years are treated separately from the adult services. Although QPI audit data are collected for patients under 16, this group is excluded from published QPI figures due to the very low numbers. However regions may report these separately to their clinical groups for internal management purposes.

Due to the small numbers involved in each year of analysis, cumulative three year data results have been presented for all QPIs.

4. Results and Action Required

Results of the analysis of Acute Leukaemia QPIs are set out in the following sections. Data are presented by location of diagnosis and illustrate NHS Board performance against each target and overall regional performance for each performance indicator.

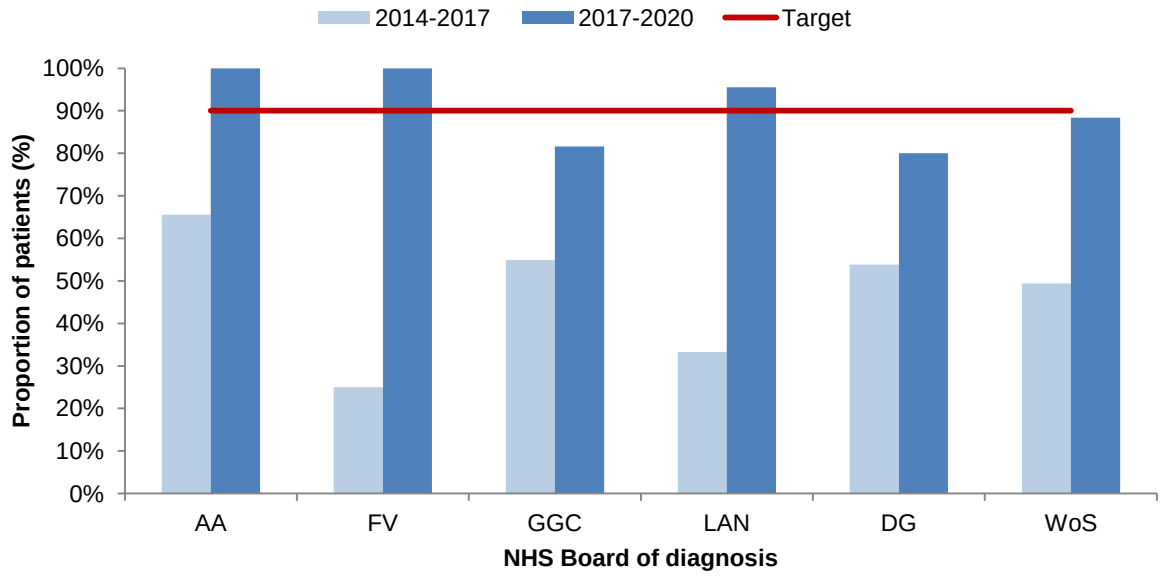
Where the number of cases meeting the denominator criteria for any indicator is between one and four, the percentage calculation has not been shown on any associated charts or tables. This is to avoid any unwarranted variation associated with small numbers and to minimise the risk of disclosure. Any charts or tables impacted by this restricted data are denoted with a dash (-). An asterisk (*) is used to specify a denominator of zero. Any commentary provided by NHS Boards relating to the impacted indicators will however be included as a record of continuous improvement.

Specific regional and NHS Board actions have been identified to address issues highlighted through the data analysis.

QPI 1: Complete Diagnostic Panel

Prior to patients undergoing intensive treatment for acute leukaemia the diagnosis must be established and prognostic markers obtained where relevant. Diagnosis and classification is as per World Health Organisation (WHO) 2008, and thus requires morphological, flow-cytometric, cytogenetic and (in selected cases) molecular analysis. Diagnostic material must be obtained and analysed or stored prior to treatment. By incorporating these different testing modalities into the diagnostic pathway, accurate diagnosis and sub classification is possible. A complete panel is required as findings from one test may alter the testing strategy for other techniques[1].

Title:	Patients with acute leukaemia should have complete diagnostic panel undertaken to inform appropriate management.
Numerator:	Number of patients with acute leukaemia undergoing treatment with curative intent where complete diagnostic panel undertaken.
Denominator:	All patients with acute leukaemia undergoing treatment with curative intent.
Exclusions:	No exclusions.
Target:	90%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	100%	7	7
FV	100%	20	20
GGC	81.6%	71	87
Lan	95.6%	43	45
D&G	80.0%	4	5
WoS	**88.4%**	**145**	**164**

Annual Performance		
2017-18	2018-19	2019-20
-	-	-
100%	100%	-
67.7%	96.6%	81.5%
83.3%	100%	100%
-	-	-
75.5%	**98.3%**	**90.6%**

Overall in the WoS 88.4% of patients diagnosed with acute leukaemia undergoing treatment with curative intent had complete diagnostic panel undertaken. This just falls short of the target of 90% for this measure but is a considerable improvement on performance during 2014-2017. This increase is largely considered to be due to improvements in recording of this information, particularly the storage of genetic material. NHS Forth Valley and NHS Lanarkshire achieved the QPI while the other Boards fell below this level of performance.

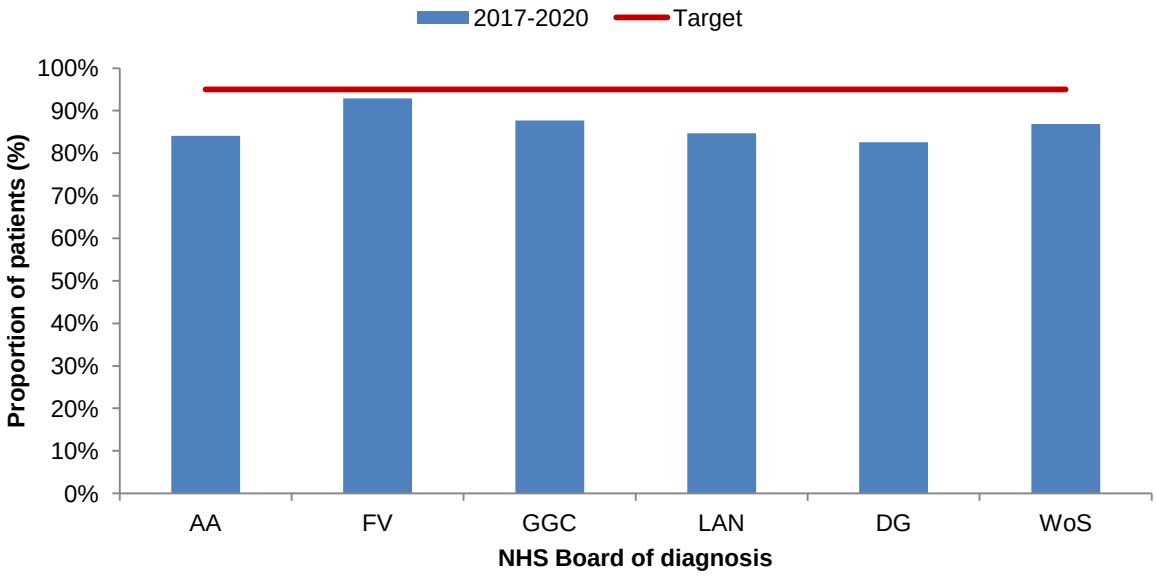
NHSGGC and NHS Dumfries & Galloway have reviewed patients not meeting this QPI and identified ongoing data collection issues regarding the storage of genetic material. NHSGGC have provided

clinical support to audit staff to improve collection of these data while in NHS Dumfries & Galloway additional information will be recorded at the MDT to help improve data collection. In light of the improvement in performance over this 3 year audit period and the ongoing actions of Boards not meeting the QPI to improve data collection, this QPI is anticipated to be met in future years.

QPI 3: MDT Discussion

Evidence suggests that patients with cancer managed by a multi-disciplinary team have a better outcome. There is also evidence that the multidisciplinary management of patients increases their overall satisfaction with their care[1].

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%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	84.1%	37	44
FV	92.9%	39	42
GGC	87.7%	143	163
Lan	84.7%	61	72
D&G	82.6%	19	23
WoS	**86.9%**	**299**	**344**

Annual Performance		
2017-18	2018-19	2019-20
100%	68.8%	87.5%
80.0%	100%	100%
93.3%	94.2%	78.8%
95.5%	68.2%	89.3%
100%	75.0%	71.4%
93.1%	**85.2%**	**83.5%**

This QPI was amended following the initial formal review, and as such comparable data are not available for 2014-2017.

Of the 344 patients across the region with acute leukaemia diagnosed 2017-2020, 299 were discussed at the MDT within eight weeks of diagnosis. This equates to 86.9% of patients; below the 95% QPI target. Performance was similar across all Boards in the WoS, with none meeting the target over the 3 year period.

All NHS Boards have reviewed the 45 patients not meeting this QPI, 11 of these were discussed more than 8 weeks after diagnosis while the others were not discussed at MDT. For the patients discussed more than 8 weeks after diagnosis, the changes in practice noted below for individual Boards should improve performance in future years although it is noted that some acute leukaemia patients need extensive molecular and cytogenetic results and sometimes Next Generation Sequencing (NGS) data

to inform the MDT discussion. If these cases are discussed too early and before this information comes available then the MDT discussion will not be fully informed and potentially an incorrect treatment plan may be decided.

Of those not discussed, a small number of patients died soon after diagnosis, before they were able to be discussed at MDT (this was noted in NHSGGC, NHS Ayrshire & Arran and NHS Forth Valley) and some had been discussed by the MDT for pre-existing haematological disorders prior to their diagnosis of acute leukaemia. Both NHS Lanarkshire and NHS Dumfries & Galloway noted that some patients had been discussed informally but not at MDT. Both Boards have subsequently implemented new procedures to ensure that patients are flagged for MDT discussion as soon as they are diagnosed with acute leukaemia. In addition, within NHSGGC, a new system has been introduced in the North Glasgow MDT in recent months to ensure all patients are discussed and NHS Ayrshire & Arran will remind clinicians that all patients with acute leukaemia must be discussed at MDT.

Performance in NHS Dumfries & Galloway was also impacted by the absence of an MDT co-ordinator during part of the audit period, however this issue is now resolved.

Actions:

- All boards to examine local processes and identify ways in which to improve timely MDT discussion
- NHS Ayrshire & Arran to remind clinicians that all patients with acute leukaemia must be discussed at MDT

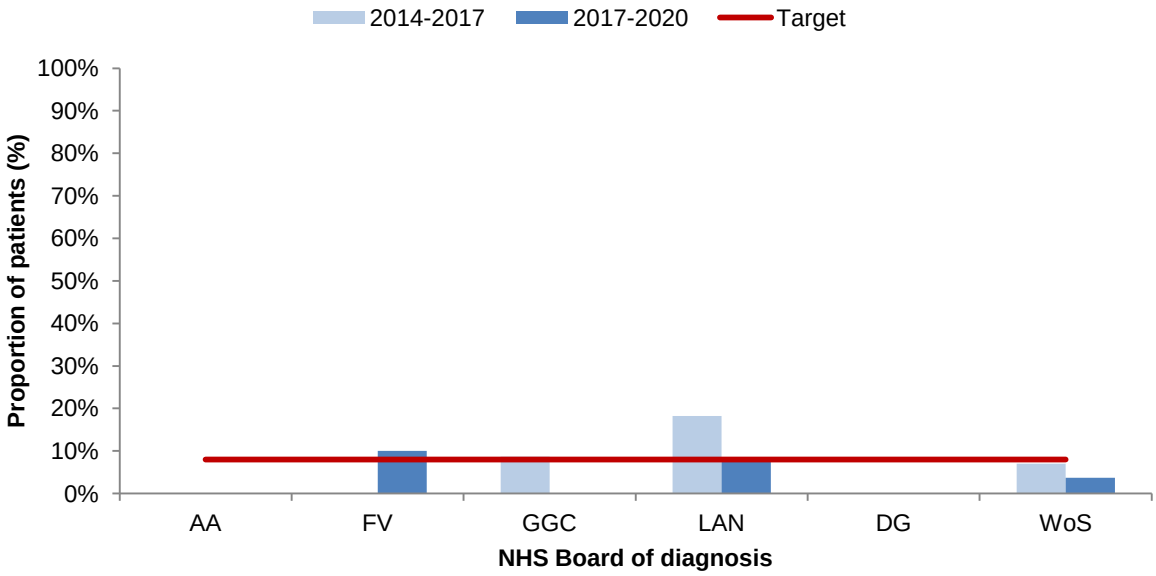
QPI 5: Early Deaths

Early death can be defined using the time point of 30/35 days following treatment as response status is normally evaluated within this timeframe. Differing time points are utilised for AML and ALL given different treatment regimens. Treatment related mortality is a marker of the quality and safety of the whole service provided by the MDT. Outcomes of treatment, including treatment related morbidity and mortality should be regularly assessed[1].

Specification (i)

Title:	Mortality rate following diagnosis of acute leukaemia.
Numerator:	Number of patients with AML being treated with curative intent who die within 30 days of treatment.
Denominator:	All patients with AML being treated with curative intent.
Exclusions:	No exclusions.
Target:	Patients aged between 16 and 60 years < 8% Patients over 60 years of age < 18%

Patients Aged 16 – 60 years

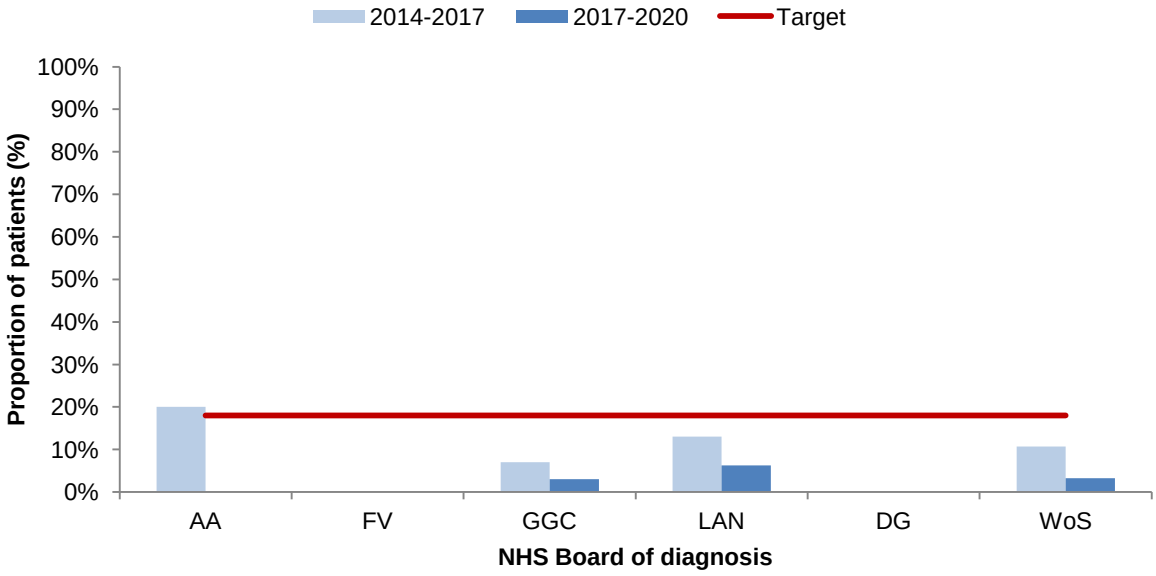


2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	-	-	-
FV	10.0%	1	10
GGC	0%	0	41
Lan	8.0%	2	25
D&G	-	-	-
WoS	**3.7%**	**3**	**81**

Annual Performance		
2017-18	2018-19	2019-20
-	-	-
-	0%	-
0%	0%	0%
0%	14.3%	10.0%
-	*	*
0%	**3.3%**	**7.4%**

For AML patients aged between 16 and 60, 3 deaths within 30 days of curative treatment were recorded for patients diagnosed during 2017-2020, resulting in a WoS performance of 3.7% and meeting the target of less than 8%. Only NHS Forth Valley did not achieve the QPI target with a performance of 10.0% however, the number of patients included in the denominator is low and this result is the death of a single patient; mortality was 0% in NHS Forth Valley for patients diagnosed 2014-2017. Cases for these three patients have been reviewed and the deaths were due to expected complications in this patient population. No clinical concerns were raised during these reviews.

Patients over 60 years of age



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	-	-	-
FV	0%	0	7
GGC	3.0%	1	33
Lan	6.3%	1	16
D&G	-	-	-
WoS	**3.2%**	**2**	**62**

Annual Performance		
2017-18	2018-19	2019-20
-	*	-
-	0%	*
0%	0%	8.3%
-	14.3%	0%
-	-	-
0%	**4.3%**	**5.0%**

Two deaths within 30 days of treatment were recorded in the WoS for AML patients aged 60 years and above diagnosed 2017-2020, resulting in a mortality rate of 3.2% and falling well within the target of less than 18%. All NHS Boards met the target over this 3 year period. Both deaths following treatment were reviewed by the treating team; one patient died of recognised complications of bone marrow failure while one died of COVID-19, unrelated to their acute leukaemia diagnosis. No clinical issues were raised during these reviews.

Specification (ii)

Title:	Mortality rate following diagnosis of acute leukaemia.
Numerator:	Number of patients with ALL being treated with curative intent who die within 35 days of treatment.
Denominator:	All patients with ALL being treated with curative intent.
Exclusions:	No exclusions.
Target:	Patients aged between 16 and 60 years < 8% Patients over 60 years of age < 20%

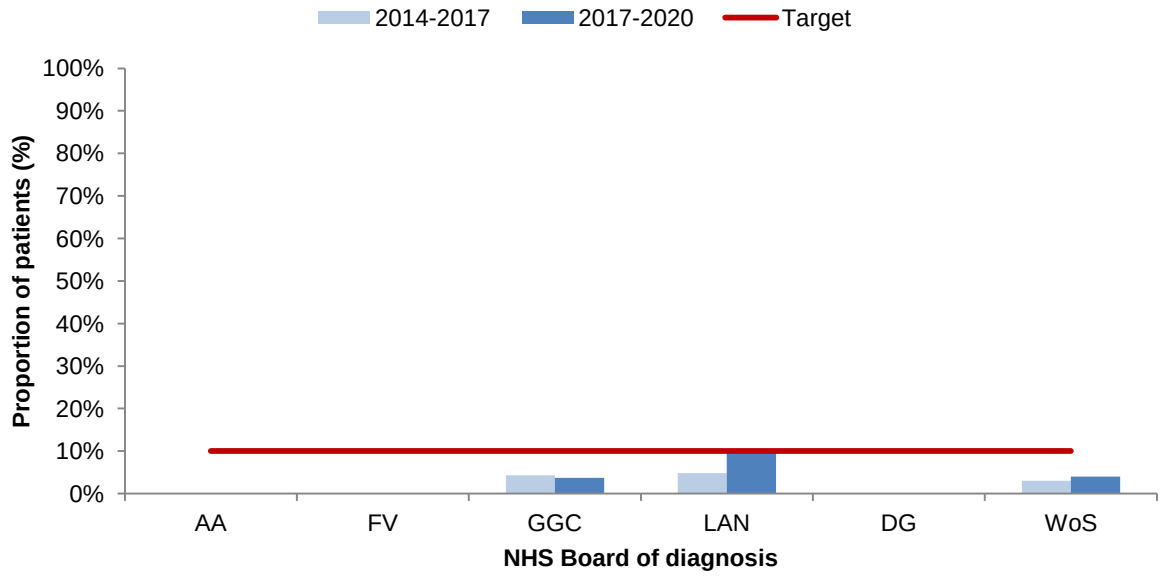
Due to the very small number of patients diagnosed with ALL in 2017-20 and being treated with curative intent, results for this specification are not provided in graphs or tables. None (0%) of the 14 patients aged 16 to 60 nor any of the four patients aged over 60 died within 35 days of treatment, comfortably meeting the targets of less than 8% and less than 20% respectively.

Treatment related mortality is a proxy marker for patient selection, treatment decisions and day to day care. The results for QPI 5 illustrate that there are no concerns across these areas in WoSCAN.

QPI 7: Deaths in Remission

Outcomes of treatment, including treatment related mortality should be regularly assessed. This QPI measures the quality of supportive care provision and management of complications in patients treated with curative intent who achieve morphological remission following consolidation therapy[1].

Title:	Remission deaths for patients with acute leukaemia receiving treatment with curative intent.
Numerator:	Number of patients with acute leukaemia undergoing treatment with curative intent who achieve first complete remission and die within 1 year of diagnosis, whilst in complete remission.
Denominator:	All patients with acute leukaemia undergoing treatment with curative intent who achieve first complete remission.
Exclusions:	Patients undergoing bone marrow / stem cell transplant
Target:	**<1**0%



2016-2019 combined results			
Board	Performance	Numerator	Denominator
AA	0%	0	5
FV	0%	0	13
GGC	3.7%	2	54
Lan	10.0%	2	20
D&G	0%	0	8
WoS	**5.0%**	**4**	**100**

Annual Performance		
2016-17	2017-18	2018-19
-	-	-
-	0%	0%
6.7%	4.5%	0%
16.7%	0%	12.5%
0%	-	-
6.5%	**2.9%**	**2.9%**

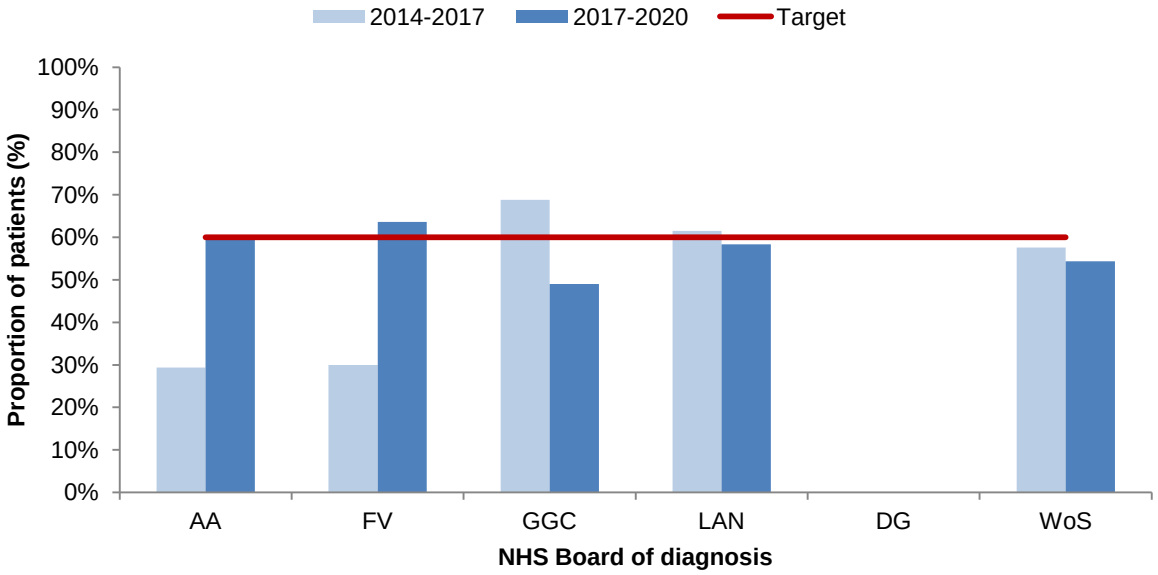
To accurately report this QPI and ensure that all patients are included where a year has elapsed since their diagnosis, the patients reported here were diagnosed between 1 July 2016 and 30 June 2019.

In the WoS, 4 of 100 patients with acute leukaemia diagnosed 2016-2019 who underwent treatment with curative intent and achieved first complete remission died within 1 year of diagnosis, whilst in complete remission. This represented 4.0% of patients; meeting the <10% target level. All Boards met the QPI during this audit period. Patients within NHS Lanarkshire who died in remission have been reviewed and no concerns with clinical practice were identified.

QPI 8: Clinical Trials with Curative Intent

Clinical trials are necessary to demonstrate the efficacy of new therapies and other interventions. Furthermore evidence suggests improved patient outcomes from participation in clinical trials. Non-participation in clinical trials does not affect quality of care[1].

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 aged 16-60 with acute leukaemia who are treated with curative intent enrolled in a clinical trial.
Denominator:	All patients aged 16-60 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:	**60**%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	60.0%	3	5
FV	63.6%	7	11
GGC	49.0%	25	51
Lan	58.3%	14	24
D&G	-	-	-
WoS	**54.3%**	**50**	**92**

Annual Performance		
2017-18	2018-19	2019-20
-	-	-
-	80.0%	-
81.3%	50.0%	13.3%
100%	57.1%	22.2%
-	*	*
90.0%	**57.6%**	**13.8%**

Overall in the WoS, 54.3% of patients aged 16-60 years with acute leukaemia treated with curative intent were enrolled in a clinical trial. This is only slightly short of the 60% target for this measure. Variations between NHS Boards are difficult to interpret due to the small numbers of patients included with the measures, although there seems to have been a decline in performance in recent years.

Review of performance against this QPI indicated that for many patients suitable clinical trials were not available at the time of treatment, or trials that were available were not able to offer all treatment options.

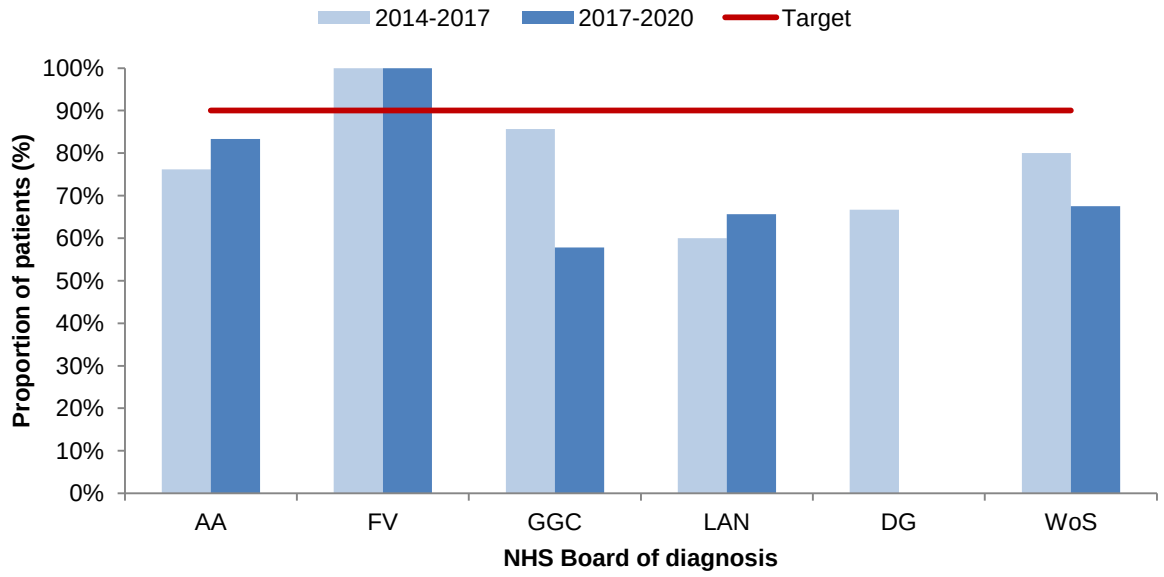
AML19 was suspended by the study sponsor on 9th Dec 2019; as such recruitment for patients in the 16-60 year age group was not possible for 4 months prior to the pandemic lockdown. Further, all

recruitment to acute leukaemia clinical trials was suspended from March 2020 due to the impact of the COVID pandemic coupled with redeployment of haemato-oncology research nurses to COVID clinical trials. These factors impacted significantly on recruitment figures for 2019-2020.

QPI 9: Tissue Typing for Transplant

Human Leukocyte Antigen (HLA) typing should be performed in all patients with newly diagnosed acute leukaemia for whom allogeneic Haematopoietic Stem Cell Transplantation would be considered[1].

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:	No exclusions.
Target:	**90**%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	83.3%	5	6
FV	100%	15	15
GGC	57.8%	37	64
Lan	65.6%	21	32
D&G	-	-	-
WoS	**67.5%**	**81**	**120**

Annual Performance		
2017-18	2018-19	2019-20
-	-	-
100%	100%	-
77.8%	52.0%	47.6%
77.8%	27.3%	91.7%
-	-	*
80.6%	**55.6%**	**69.2%**

Of the 120 patients aged between 16 and 65 years diagnosed with acute leukaemia during 2017-2020 and treated with curative intent, 81 had a specimen sent to the lab for tissue typing at diagnosis. This has resulted in an aggregated 3 year WoS performance of 67.5%, below the target of 90% and lower than performance during 2014-2017.

NHSGGC, NHS Lanarkshire and NHS Ayrshire & Arran noted that transplant would not be an appropriate treatment option in some patients not meeting this QPI. In such cases the MDT may agree that tissue typing should not be undertaken, but this needs to be documented. There were a number of patients within NHSGGC where the reasons for not undertaking tissue typing had not been recorded. In addition, some patients had tissue typing carried out more than 7 days after diagnosis (and therefore did not meet the QPI).

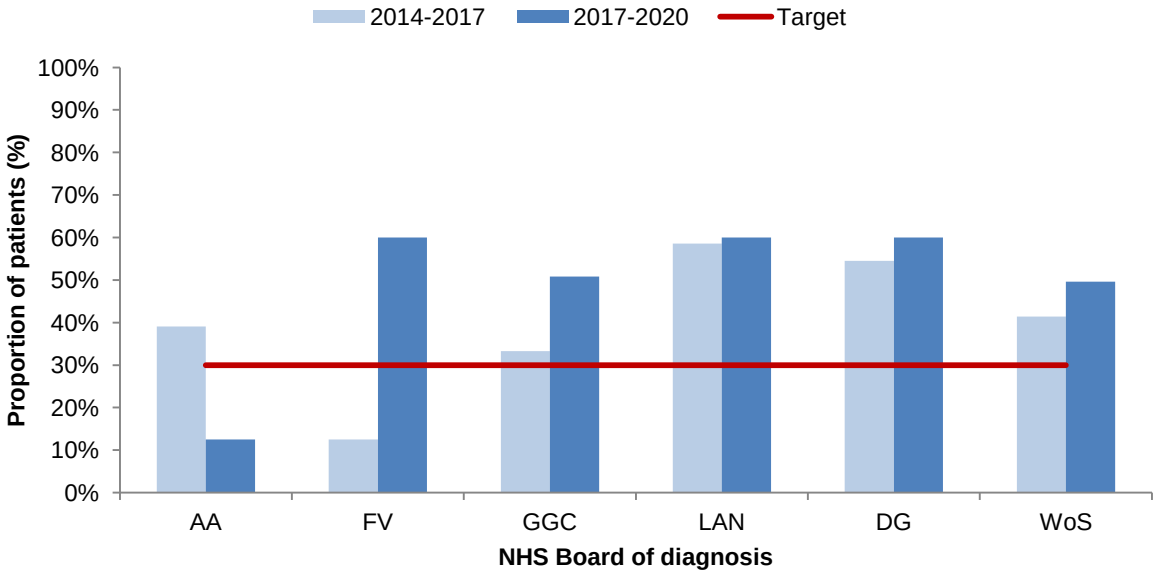
Actions:

- NHSGGC, NHS Lanarkshire and NHS Ayrshire & Arran to review process in place for ensuring tissue typing is sent on patients with acute leukaemia aged between 16 and 65 being treated with curative intent
- All Boards to record reasons tissue typing not performed in patients being treated with curative intent, preferably at MDT

QPI 10: Intensive Chemotherapy in Older Adults

Patients with acute leukaemia over 60 years of age should be offered intensive chemotherapy, within the context of a clinical trial wherever possible, as this provides quality of life and survival benefit. Older age should not be a reason to withhold intensive therapy. Evidence suggests that intensive chemotherapy provides better quality of life and longer survival than supportive care only regardless of chronologic age[1].

Title (i):	Patients with acute leukaemia over 60 years of age should be offered intensive chemotherapy, 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 intensive chemotherapy.
Denominator:	All patients with acute leukaemia 60 years of age and over with PS 0-1.
Exclusions:	No exclusions.
Target:	30%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	12.5%	2	16
FV	60.0%	9	15
GGC	50.8%	31	61
Lan	60.0%	18	30
D&G	60.0%	3	5
WoS	**49.6%**	**63**	**127**

Annual Performance		
2017-18	2018-19	2019-20
20.0%	0%	16.7%
40.0%	85.7%	-
63.2%	50.0%	40.9%
50.0%	88.9%	46.2%
-	-	-
51.3%	**58.1%**	**40.0%**

Overall in WoS, of the 127 patients with acute leukaemia aged 60 years and over with a performance status of 0-1, 63 received intensive chemotherapy, resulting in a performance of 49.6% which meets the 30% QPI target. NHS Ayrshire & Arran were the only Board not to meet the target, however numbers are low which will have a greater effect on percentage values.

Review of performance by NHS Ayrshire & Arran indicated that many patients had significant comorbidities and were not suitable for intensive treatment; during the 2019-20 audit period all 5 patients not meeting the QPI were significantly unwell at diagnosis and all died within a short time of

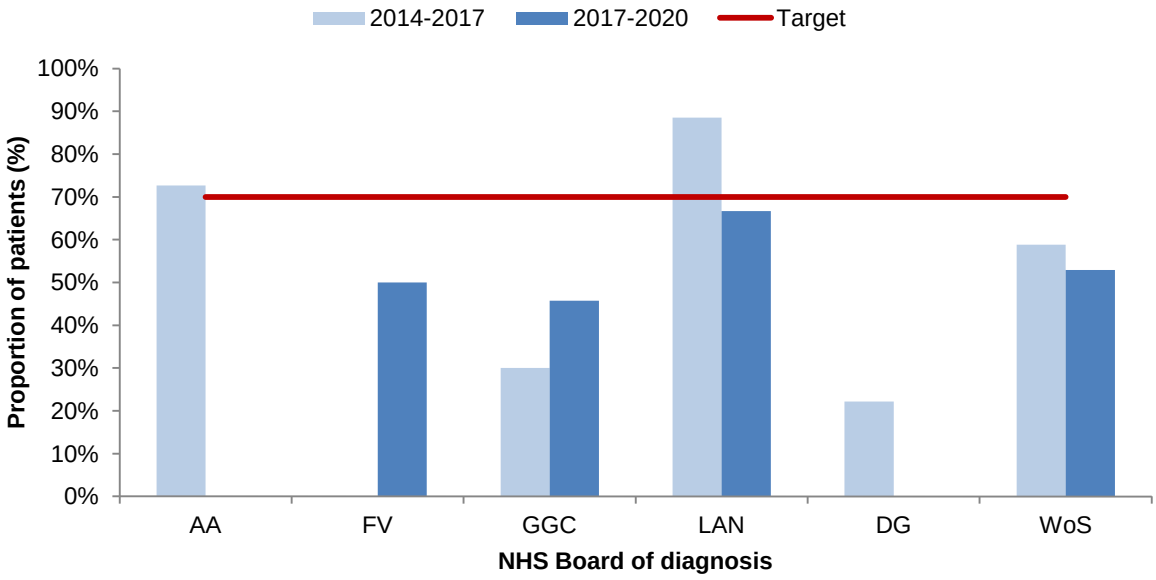
diagnosis. Some issues with the accuracy of recording of performance status at MDT were noted, resulting in inaccuracies in reporting against this QPI.

Across all NHS Boards some patients were excluded from this QPI as performance status was not recorded.

Actions Required:

- NHS Ayrshire & Arran to review accuracy of performance status recording at MDT
- All Boards to ensure recording of performance status for all acute leukaemia cases

Title (ii):	Patients with acute leukaemia over 60 years of age should be offered intensive chemotherapy, 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 intensive chemotherapy enrolled in a clinical trial.
Denominator:	All patients with acute leukaemia 60 years of age and over who receive intensive chemotherapy.
Exclusions:	Patients who refuse entry into a clinical trial.
Target:	70%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	-	-	-
FV	50.0%	4	8
GGC	45.7%	16	35
Lan	66.7%	12	18
D&G	-	-	-
WoS	**53.7%**	**36**	**67**

Annual Performance		
2017-18	2018-19	2019-20
-	*	-
-	60.0%	-
66.7%	54.5%	16.7%
-	62.5%	50.0%
-	-	-
70.0%	**61.5%**	**28.6%**

It should be noted that despite the 3 year aggregated results numbers remain low across all Boards which will have a greater effect on percentage values. Overall in the WoS, 53.7% of patients with acute leukaemia aged over 60 years receiving intensive chemotherapy were enrolled in a clinical trial in 2017-20. This falls short of the target of 70% for this measure and no individual NHS Boards met the target.

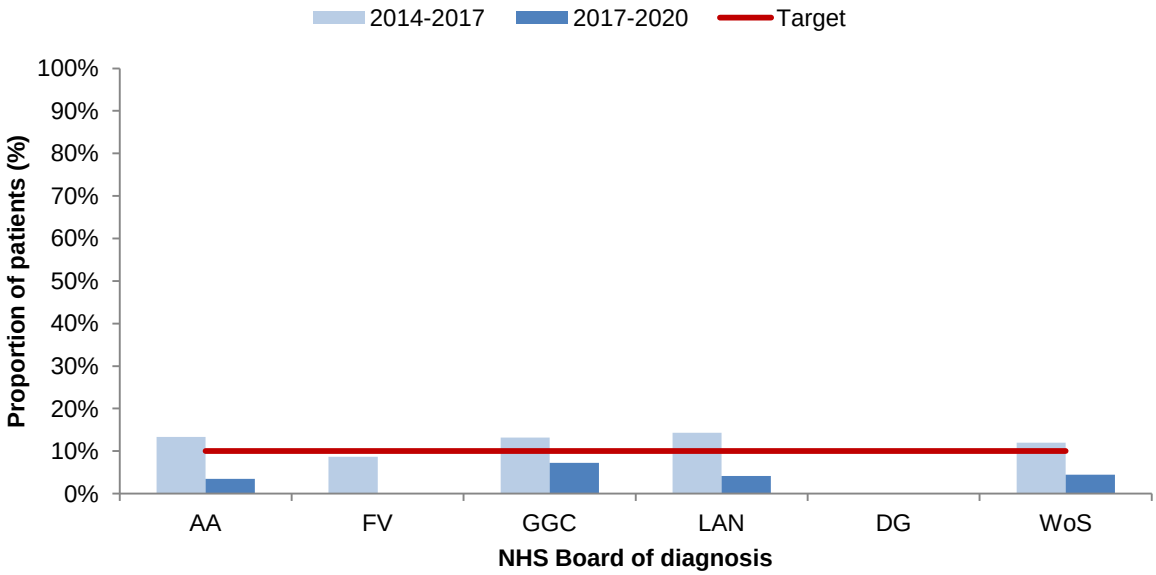
Review of patients not meeting this QPI indicated that for many patients no suitable clinical trials were available or patients did not meet the specific requirements of the trials, for example due to comorbidities. For others patients were considered to be best treated by treatments not available within a trial setting (NHSGGC and NHS Lanarkshire) or due to emergency presentation (NHSGGC).

As with QPI 8, all recruitment to acute leukaemia clinical trials was suspended from March 2020 due to the impact of the COVID pandemic coupled with redeployment of haemato-oncology research nurses to COVID clinical trials, impacting significantly on recruitment figures for 2019-2020.

QPI 11: Clinical Trials with Non Curative Intent

Clinical trials are necessary to demonstrate the efficacy of new therapies and other interventions. Furthermore evidence suggests improved patient outcomes from participation in clinical trials. Non-participation in clinical trials does not affect quality of care[1].

Title:	Patients with acute leukaemia who are suitable only for treatment with non-curative intent should be considered for participation in available clinical trials, wherever eligible.
Numerator:	Number of patients with acute leukaemia who are treated with non-curative intent enrolled in a clinical trial.
Denominator:	All patients with acute leukaemia who are treated with non-curative intent.
Exclusions:	Patients who refuse entry into a clinical trial.
Target:	10%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	3.4%	1	29
FV	0%	0	19
GGC	7.2%	5	69
Lan	4.2%	1	24
D&G	0%	0	17
WoS	**4.4%**	**7**	**158**

Annual Performance		
2017-18	2018-19	2019-20
0%	10.0%	0%
0%	0%	-
8.3%	15.0%	2.7%
11.1%	0%	0%
0%	0%	0%
4.5%	**8.3%**	**1.5%**

Overall in the WoS, of the 158 patients with acute leukaemia treated with non curative intent during 2017-20, 7 were enrolled in a clinical trial, resulting in a performance of 4.4%; below the QPI target of 10%. No NHS Board met the target for this QPI in 2017-20.

Review of patients not entered into trial indicated that for many suitable trials were not available locally while others were not eligible for trials available or were only fit for best supportive care.

NHS Forth Valley had no trials open for some of the audit period, although AML 18 was open for part of this time.

Within NHS Ayrshire & Arran it was noted following reporting of the 2017-18 data that some patients could perhaps have been suitable for entry into clinical trials. A clinical trials nurse subsequently

attended the Haematology MDTs on a regular basis for some time to ensure up to date information on available clinical trials was on hand and as a reminder to consider trial entry in appropriate patients. The trials team no longer attend the Haematology MDT due to redeployment of clinical trials staff during COVID-19, although they are now available to support trial entry.

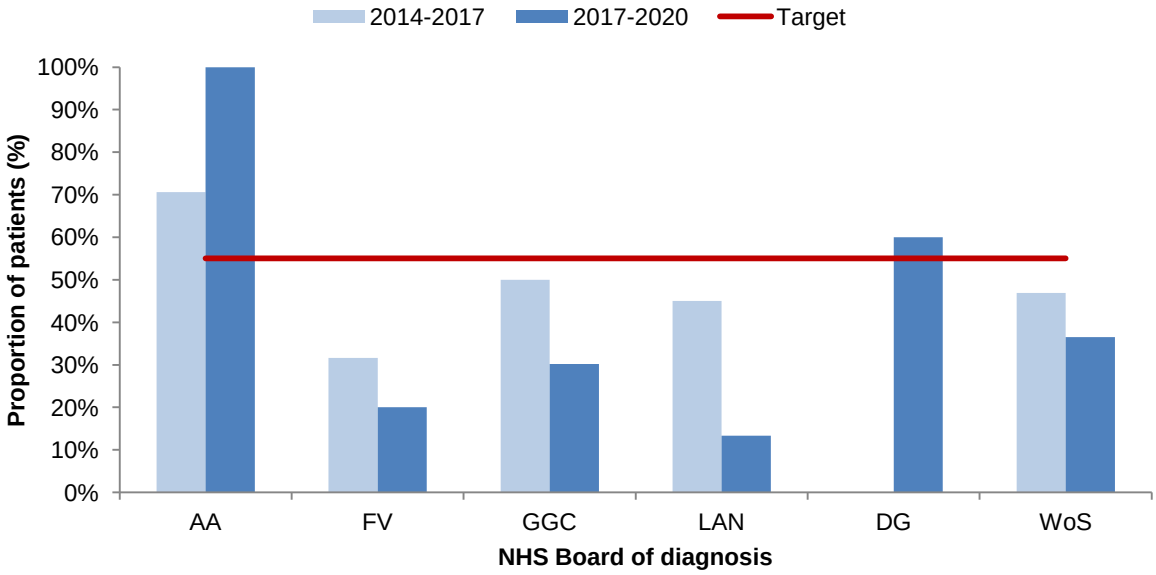
NHS Dumfries & Galloway have no clinical trials open and therefore only patients treated outwith the Board will be offered trials unless they are willing to travel to participate which is uncommon in this patient group due to age, co-morbidities and distance to regional centres.

As with QPI 8 and QPI 10(ii), all recruitment to acute leukaemia clinical trials was suspended from March 2020 due to the impact of the COVID pandemic coupled with redeployment of haemato-oncology research nurses to COVID clinical trials, impacting significantly on recruitment figures for 2019-2020.

QPI 12: Palliative Treatment

For patients with acute leukaemia who are deemed ineligible for treatment with curative intent by the multi-disciplinary team, treatment with palliative systemic anti-cancer therapy (SACT) is recommended to optimise disease control while avoiding serious treatment-related toxicities. Evidence suggests palliative chemotherapy in this indication has an associated quality of life benefit for patients.[1]

Title:	Patients with AML who are suitable only for treatment with non-curative intent should be considered for treatment with an appropriate systemic anti-cancer (SACT) regimen.
Numerator:	Number of patients with AML who are suitable only for treatment with non-curative intent who receive an appropriate palliative SACT regimen.
Denominator:	All patients with AML who are suitable only for treatment with non-curative intent.
Exclusions:	Patients who refuse chemotherapy treatment and patients with adverse cytogenetics.
Target:	55%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	100%	11	11
FV	20.0%	3	15
GGC	30.2%	16	53
Lan	13.3%	2	15
D&G	60.0%	6	10
WoS	**36.5%**	**38**	**104**

Annual Performance		
2017-18	2018-19	2019-20
-	-	100%
37.5%	0%	-
25.0%	26.7%	33.3%
16.7%	-	20.0%
-	60.0%	-
33.3%	**31.3%**	**42.2%**

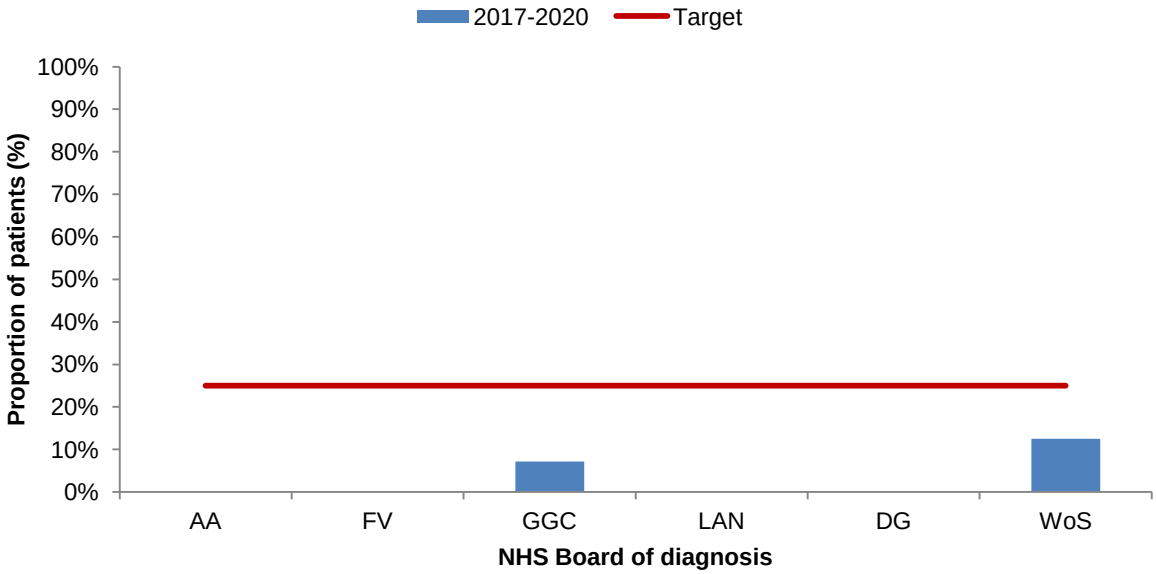
Of the 104 patients with AML who were suitable for treatment with non curative intent, 38 received low dose chemotherapy equating to 36.5% performance against the 70% target.

Review of patients not meeting this QPI indicates that nearly all were only fit for supportive care due to performance status and / or comorbidities and treatment decisions were considered to be appropriate for these patients. Performance against this QPI may reflect the fact that a greater proportion of older patients received intensive (curative) therapy in 2019-20 with performance against QPI 10(i) well above target at a regional level.

QPI 13: Early Deaths in Patients with Acute Promyelocytic Leukaemia

Early death is defined as death within 30 days of diagnosis. Preventing early death in patients with APL is an important factor as there is a high probability of cure for these patients following the initial management phase[1].

Title:	Mortality rate following diagnosis of Acute Promyelocytic Leukaemia (APL).
Numerator:	Number of patients with APL who die within 30 days of diagnosis.
Denominator:	All patients with APL.
Exclusions:	No exclusions.
Target:	< 25%



2017-2020 combined results			
Board	Performance	Numerator	Denominator
AA	*	0	0
FV	*	0	0
GGC	7.1%	1	14
Lan	-	-	-
D&G	*	0	0
WoS	**12.5%**	**2**	**16**

Annual Performance		
2017-18	2018-19	2019-20
*	*	*
*	*	*
-	-	14.3%
-	*	-
*	*	*
20.0%	**-**	**12.5%**

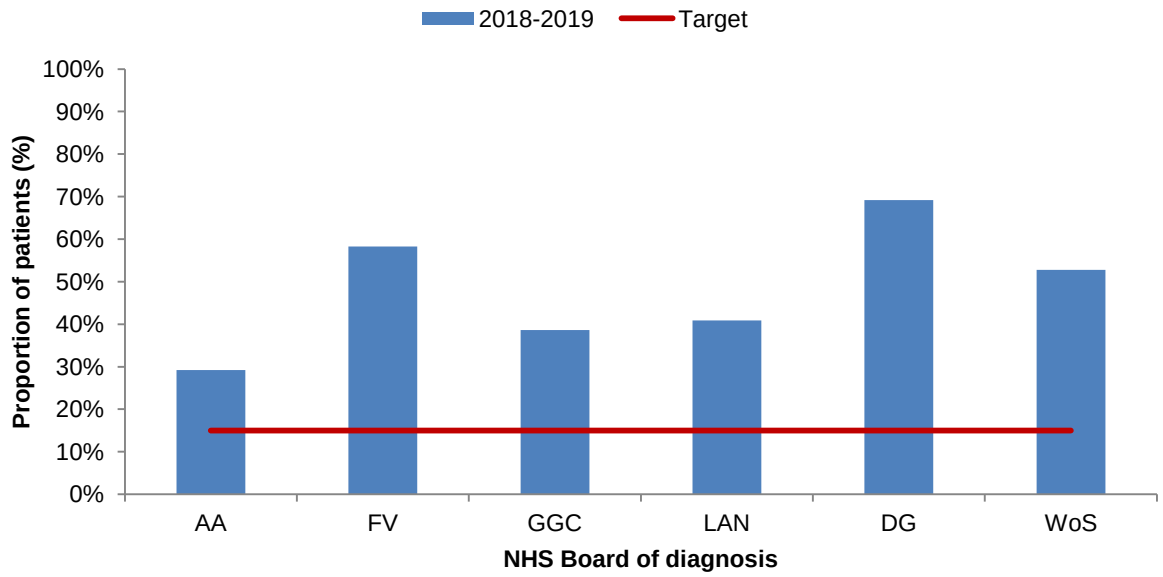
Only 16 patients were diagnosed with APL in 2017-20; of these 2 died within 30 days of diagnosis. This represents 12.5% of all patients and therefore lies well within the target of less than 25%. Due to the small numbers of patients included within this QPI then comparisons between Boards are not possible. This QPI was developed at the initial Formal Review and therefore there is no comparable data for patients diagnosed before 2017.

QPI 14 - Clinical Trials and Research Study Access

Clinical trials are necessary to demonstrate the efficacy of new therapies and other interventions. Evidence suggests improved patient outcomes when hospitals are actively recruiting patients into clinical trials. Clinicians are therefore encouraged to enter patients into well designed trials and to collect longer-term follow-up data[1].

The clinical trials QPI is measured utilising Scottish Cancer Research Network (SCRN) data and PHS incidence data, as is the methodology currently utilised by the Chief Scientist Office (CSO) and National Cancer Research Institute (NCRI). Utilising SCRN data allows for comparison with CSO published data and ensures capture of all clinical trials recruitment, not solely first line treatment trials, as contained in the clinical audit data. Given that a significant proportion of clinical trials are for relapsed disease this is felt to be particularly important in driving quality improvement[1].

QPI Title:	All patients should be considered for participation in available clinical trials wherever eligible.
Numerator:	Number of patients diagnosed with acute leukaemia consented for a clinical trial / research study.
Denominator:	All patients diagnosed with acute leukaemia.
Exclusions:	No exclusions.
Target:	15%



2018-2019 combined results			
Board	Performance	Numerator	Denominator
AA	29.2%	7	24
FV	58.3%	21	36
GGC	38.6%	39	101
Lan	40.9%	18	44
D&G	69.2%	9	13
WoS	**52.8%**	**115**	**218**

Annual Performance	
2018	2019
27.3%	30.8%
36.8%	82.4%
55.8%	25.9%
69.6%	9.5%
57.1%	83.3%
72.8%	**34.8%**

The target is to enrol a minimum of 15% of patients into clinical trials or research studies. Overall in the WoS this was achieved with 52.8% of patients recruited in 2018-2019. Comparable data are not available for previous years due to changes in the definition of the QPI. These results demonstrate the widespread commitment across the region to increase recruitment to clinical trials.

The Haemato-oncology MCN Clinical Trials Subgroup continues to strive towards embedding trials into day-to-day clinical practice to support the development of new treatments and improve patient outcomes. Acute leukaemia clinical trials maps are regularly updated on the WoSCAN intranet to ensure that all clinicians across the region are aware of current and pending clinical trials.

This QPI uses data from SCRN and reports by calendar year. Therefore, unlike other QPIs within this report, this QPI only reports trial recruitment to December 2019 and therefore will not have been impacted by the suspension of trials during 2020 due to COVID-19 like some of the other QPIs.

A list of active Acute Leukaemia clinical trials in 2019 is shown below:

Trial Name	Patients consented in WoSCAN in 2019
ALL-RIC	Y
AML 18	Y
AML 19	Y
CALLS - CML and ALL Low Level Mutation Study	Y
LI1	Y
MyeChild 01	Y
PHAZAR	Y
Post-transplant Gilteritinib maintenance in acute myeloid leukaemia	Y
TCB-000-001	Y
UKALL 14	Y
ALLCAR19	Y
Daratumumab in paediatric and young adults with ALL/LL	N
Inotuzumab Ozogamicin for treatment of paediatric BCP-ALL	N
MDSBio	N

5. Next Steps

The MCN will actively take forward regional actions identified and NHS Boards are asked to develop local Action/Improvement Plans in response to the findings presented in the report. A summary of actions for each NHS Board has been included within the Action Plan templates in Appendix 3.

Acknowledgement

This report has been prepared using clinical audit data provided by the following NHS Boards in the WoSCAN area:

NHS Ayrshire & Arran
NHS Forth Valley
NHS Greater Glasgow and Clyde
NHS Lanarkshire
NHS Dumfries & Galloway

We would like to thank all members and active participants in the cancer network for their continued support of the MCN, and the many hospitals that are committed to making the audit succeed. We also acknowledge the efforts of the clinical effectiveness staff, nurses, and other service users for their work in ensuring the data are available to enable analysis to take place each year. Without their considerable efforts this level of progress would not be possible.

Abbreviations

ALL	Acute Lymphoblastic Leukaemia
AML	Acute Myeloid Leukaemia
APL	Acute Promyelocytic Leukaemia
ATRA	All Trans-Retinoic Acid
CSO	Chief Scientist Office
eCASE	Electronic Cancer Audit Support Environment
ECOG	Eastern Cooperative Oncology Group
HIS	Healthcare Improvement Scotland
HLA	Human Leukocyte Antigen
ISD	Information Services Division
MCN	Managed Clinical Network
MDT	Multidisciplinary Team
MRD	Minimal Residual Disease
NCQSG	National Cancer Quality Steering Group
NCRI	National Cancer Research Institute
NHSGGC	NHS Greater Glasgow and Clyde
QPI	Quality Performance Indicator
RCAG	Regional Cancer Advisory Group
RCCLG	Regional Cancer Clinical Leads Group
SACT	Systemic Anti Cancer Therapy
SCI	Scottish Care Information
SCRN	Scottish Cancer Research Network
WHO	World Health Organisation
WoS	West of Scotland
WoSCAN	West of Scotland Cancer Network

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1. Acute leukaemia Clinical Quality Performance Indicators. Available at: http://www.healthcareimprovementscotland.org/our_work/cancer_care_improvement/cancer_qpis/quality_performance_indicators.aspx

2. Public Health Scotland. Cancer Incidence in Scotland (to December 2018). April 2020. https://beta.isdscotland.org/media/4312/2020-04-28-cancer-incidence-report.pdf

3. Cancer Research UK. Statistics by Cancer Type. February 2017. Statistics by cancer type | Cancer Research UK

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Appendix 1: Meta Data

<table>
<tr><td>Report Title</td><td>Cancer Audit Report: Acute Leukaemia Quality Performance Indicators</td></tr>
<tr><td>Time Period</td><td>Patients diagnosed between 01 July 2017 to 30 June 2020</td></tr>
<tr><td>Data Source</td><td>Electronic Cancer Audit Support Environment (eCASE). A secure centralised web-based database which holds cancer audit information in Scotland.</td></tr>
<tr><td>Data extraction date</td><td>2200 hrs on 14 April 2021</td></tr>
<tr><td>Methodology</td><td>Analysis was performed centrally for the region by the WoSCAN Information Team. The timescales agreed took into account the patient pathway to ensure that a complete treatment record was available for the majority of patients.

Initial results were provided to Boards to check for inaccuracies, inconsistencies or obvious gaps and a subsequent download taken upon which final analysis was carried out.

The final data analysis was disseminated for NHS Board verification in line with the regional audit governance process to ensure that the data was an accurate representation of service in each area. Please see info graphic in appendix 2 for a more detailed look at the reporting process.</td></tr>
<tr><td>Data Quality</td><td>Audit data completeness can be assessed by estimating the proportion of expected patients that have been identified through audit compared to the number reported by the National Cancer registry (provided by ISD, National Services Division), this is known as case ascertainment. Figures should only be used as a guide as it is not possible to compare the same exact cohort from each data source. Note that a 5 year average is taken for cancer registry cases to take account of annual fluctuations in incidence within NHS Boards.

<table>
<tr><th>Health Board of diagnosis</th><th>2017-20 Audit Data</th><th>Average Cases from Cancer registry (2014-2018) per yr</th><th>Case Ascertainment</th></tr>
<tr><td>Ayrshire & Arran</td><td>46</td><td>18.2</td><td>84.2%</td></tr>
<tr><td>Forth Valley</td><td>42</td><td>15.6</td><td>89.7%</td></tr>
<tr><td>GGC</td><td>174</td><td>48.2</td><td>120.3%</td></tr>
<tr><td>Lanarkshire</td><td>72</td><td>24.6</td><td>97.6%</td></tr>
<tr><td>Dumfries & Galloway</td><td>24</td><td>9.4</td><td>85.1%</td></tr>
<tr><td>WoS Total</td><td>141</td><td>116.0</td><td>102.9%</td></tr>
</table>
</td></tr>
</table>

Appendix 2: **WoSCAN QPI Reporting Process**

DIAGNOSIS

Patient is diagnosed, treatment pathway initiated.

DATA COLLECTED

NHS board cancer audit staff collect, verify & input relevant cancer audit information into eCase*.

**eCase - electronic Cancer Audit Support Environment , a dynamic secure centralised web-based database.*

FINAL SSRS DOWNLOAD

Final data download by **WoScan information team**.

***SSRS - SQL Server Reporting Services. reporting tool to analyse clinical cancer audit data..*

DATA SIGN OFF

Final data reports sent to **NHS board cancer audit staff** & **clinical effectiveness leads** to review with **clinicians** to populate performance summary report with clincal comments & sign data off.

Boards have 4 weeks to complete performance summary reports providing reasons for why QPI targets not met..

AUDIT REPORT PUBLISHED

Includes regional analysis, board comments & action plan template for **NHS boards** to complete.

ACTION PLANS DEVELOPED

Regional/NHS Board action plans for the year ahead completed by **NHS boards**, reviewed by **MCN Manager/lead clinicians** to identify priority areas.

Boards have 2 months to generate action plans from when audit report published.

PROGRESS MONITORED

Progress monitored through **NHS board leads** at MCN advisory boards and regular updates are provided to RCAG.

NHS Board responsibility WoScan information team responsibility

Appendix 3: NHS Board Action Plans

A summary of actions for each NHS Board has been included within the Action Plan templates in Appendix 1. Completed Action Plans should be returned to WoSCAN within two months of publication of this report.

Action / Improvement Plan

Health Board:	NHS Ayrshire & Arran
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	**Action Required**	**Health Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
3	All boards to examine local processes and identify ways in which to improve timely MDT discussion (category: MDT)						
3	NHS Ayrshire & Arran to remind clinicians that all patients with acute leukaemia must be discussed at MDT (category: MDT)						
9	NHSGGC, NHS Lanarkshire and NHS Ayrshire & Arran to review process in place for ensuring tissue typing sent on patients with acute leukaemia aged between 16 and 65 being treated with curative intent (category: other)						
9	All Boards to record reasons tissue typing not performed in patients being treated with curative intent, preferably at MDT (category: clinical documentation)						
10	NHS Ayrshire & Arran to review accuracy of performance status recording at MDT (category: clinical documentation)						
10	All Boards to ensure recording of performance status for all acute leukaemia cases (category: clinical documentation)						

Action / Improvement Plan

Health Board:	NHS Forth Valley
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	**Action Required**	**Health Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
3	All boards to examine local processes and identify ways in which to improve timely MDT discussion (category: MDT)						
9	All Boards to record reasons tissue typing not performed in patients being treated with curative intent, preferably at MDT (category: clinical documentation)						
10	All Boards to ensure recording of performance status for all acute leukaemia cases (category: clinical documentation)						

Action / Improvement Plan

Health Board:	NHS Greater Glasgow and Clyde
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	**Action Required**	**Health Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
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3	All boards to examine local processes and identify ways in which to improve timely MDT discussion (category: MDT)						
9	NHSGGC, NHS Lanarkshire and NHS Ayrshire & Arran to review process in place for ensuring tissue typing sent on patients with acute leukaemia aged between 16 and 65 being treated with curative intent (category: other)						
9	All Boards to record reasons tissue typing not performed in patients being treated with curative intent, preferably at MDT (category: clinical documentation)						
10	All Boards to ensure recording of performance status for all acute leukaemia cases (category: clinical documentation)						

Action / Improvement Plan

Health Board:	NHS Lanarkshire
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	Action Required	Health Board Action Taken	Timescales		Lead	Progress/Action Status	Status (see key)
			Start	End			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
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10	All Boards to ensure recording of performance status for all acute leukaemia cases (category: clinical documentation)						

Action / Improvement Plan

Health Board:	NHS Dumfries & Galloway
Action Plan Lead:	
Date:	

KEY (Status)	
1	Action fully implemented
2	Action agreed but not yet implemented
3	No action taken (please state reason)

No	**Action Required**	**Health Board Action Taken**	**Timescales**		**Lead**	**Progress/Action Status**	**Status (see key)**
			Start	**End**			
	Action	*Detail specific actions that will be taken by the NHS Board.*	*Insert date*	*Insert date*	*Insert name of responsible lead for each specific action.*	*Provide detail of action in progress, change in practices, problems encountered or reasons why no action taken.*	*Insert No. from key above*
3	All boards to examine local processes and identify ways in which to improve timely MDT discussion (category: MDT)						
9	All Boards to record reasons tissue typing not performed in patients being treated with curative intent, preferably at MDT (category: clinical documentation)						
10	All Boards to ensure recording of performance status for all acute leukaemia cases (category: clinical documentation)						