

NHS Greater Glasgow and Clyde	Paper No. 23/34
Meeting:	NHSGGC Board Meeting
Meeting Date:	27 June 2023
Title:	NHSGGC Public Health Screening Annual Report 2021-2022
Sponsoring Director/Manager:	Dr Emilia Crighton, Interim Director, Public Health
Report Author:	Dr Emilia Crighton, Interim Director of Public Health Mrs Uzma Rehman, Programme Manager, Pregnancy Newborn and Vision Screening Ms Heather Jarvie, Programme Manager, Adult Screening Dr Alison Potts, Acting Screening Co-ordinator for adult programmes, Specialty Registrar in Public Health

1. Purpose

The purpose of this report is to present the NHS Greater Glasgow and Clyde Board members with information about NHS Greater Glasgow and Clyde (NHS GGC) screening programmes for the period 1 April 2021 to 31 March 2022.

2. Executive Summary

NHSGGC's Public Health Directorate is responsible for co-ordinating and monitoring screening programmes across Greater Glasgow and Clyde and Argyll & Bute (part of NHS Highland).

The purpose of screening is to detect early disease or risk factors among people who have not yet developed symptoms. Early management should result in better outcomes. Screening programmes do not detect all cases of disease and will be positive among some people who do not have the disease. They therefore contribute to early detection but do not obviate the need for investigating symptomatic patients.

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The report includes local analysis undertaken to explore variations in uptake for additional populations with protected characteristics including age, ethnicity, learning disability and mental health, and by Health and Social Care Partnership

NHSGGC Screening Programmes Activity Summary 2021-22

Screening Programme	Total Eligible Population	Total Number Screened	HIS Target	% Uptake 2021/22
Abdominal Aortic Aneurysm Screening (AAA)	6,979	5,365	75%	76.9%
Bowel Screening (2020-2022)	299,813	183,751	60%	61.3%
Breast Screening (2019-2022)	149,542	106,182	70%	71.0%
Cervical Screening (number screened within 5.5 yrs)	356,281	232,652	80%	65.3%
Diabetic Eye Screening (DES)	69,133	57,600	80%	83.3%
Pr Pregnancy Screening:				
• Infectious Diseases in Pregnancy	13,965	13,954	95%	99.9%
• Trisomies Screening	11,353	10,547	No Target	96.3%
• Haemoglobinopathies	11,353	11,332	99.9%	99.8%
N Newborn screening:				
• Newborn bloodspot	10,929	10,837	95%	99.2%
• Newborn hearing	10,868	10,798	98%	99.3%

Ongoing Priority Actions for 2023-24

- Carry out Equality Impact Assessment of the screening programmes.
- Implement annual health check for people with learning disabilities that includes screening.
- Continue supporting ethnic minorities to participate in screening programmes.

3. Recommendations

The Board is asked to consider the following recommendations:

- Note the screening programmes activity report;
- Support the actions on reducing inequalities screening.

4. Response Required

This paper is presented for **awareness**.

5. Impact Assessment

The impact of this paper on NHSGGC's corporate aims, approach to equality and diversity and environmental impact are assessed as follows:

- **Better Health** **Positive impact**
The plan supports the quality ambitions of [The Healthcare Quality Strategy for NHS Scotland](#): mutually beneficial partnerships between patients, their families and those *delivering healthcare services which respect individual needs and values and which* demonstrate compassion, continuity, clear communication and shared decision making.
- **Better Care** **Neutral impact**
- **Better Value** **Neutral impact**
- **Better Workplace** **Neutral impact**
- **Equality & Diversity** **Positive impact**
Addressing inequalities in screening will contribute to The [Equality Act \(2010\)](#) and to The [Keys to Life](#) strategy for improving the lives of people with learning disabilities and autism.
- **Environment** **Neutral impact**

6. Engagement & Communications

The issues addressed in this paper were subject to the following engagement and communications activity:

The report was shared with all Adult, Pregnancy & Newborn Steering Group members for comment and feedback.

7. Governance Route

This paper has been previously considered by the following groups as part of its development:

- The Steering Groups for AAA; Breast Screening; Bowel Screening; Cervical; DES; Pregnancy; Newborn Bloodspot; Newborn Hearing and Child Vision meet quarterly for monitoring purposes and also address any issues within the programme.
- **Review of Actions to Reduce Health Inequalities:** Review priorities, efficacy, and additional actions required, including impact of COVID-19 on inequalities in screening and on partner organisations capacity to contribute.
- Corporate Management Team
- Population Health and Wellbeing Committee

8. Date Prepared & Issued

Prepared on 23 December 2022

Issued on 20 June 2023

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1. Introduction

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The report includes local analysis undertaken to explore variations in uptake for additional populations with protected characteristics including age, ethnicity, learning disability¹ and mental health, and by Health and Social Care Partnership (HSCP) area. Screening

¹ Sourced from Learning Disability Register September 2018, therefore will not capture LD registrations after this date.

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2. Summary: NHSGGC Public Health Screening Programme Annual Report 2021 – 2022

(NB: Full report available at [NHSGGC: PHSU/Reports](#))

Pregnancy Screening

Antenatal haemoglobinopathies screening for sickle cell and thalassaemia aims to identify couples who are at risk of having an affected child and thereby offer them information on which to base reproductive choices. **Communicable diseases in pregnancy screening** aims to identify infection and ensure a plan for treatment and management of affected individuals and their babies is put in place at the earliest opportunity. Screening allows undiagnosed infection to be identified and treatment to be given, which can reduce the risk of mother to child transmission, improve the long-term outcome and development of affected children, and ensure that women, their partners and families are offered appropriate referral, testing and treatment. **Trisomies and other congenital anomalies screening** aims to detect Down's syndrome (T21), Edwards' syndrome (T18), or Patau's syndrome (T13) and other congenital anomalies in the antenatal period. This provides women and their partners with informed choice regarding

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continuation of pregnancy. It also allows, where appropriate, management options (such as cardiac surgery or delivery in a specialist unit) to be offered in the antenatal period.

Pregnancy screening programmes are offered universally to all pregnant women during antenatal visits. During 2021/22, 11,353 NHSGGC residents booked to attend antenatal clinics and 10,249 (90.3%) of first antenatal booking appointments were offered before or equal to 12 weeks and 6 days gestation.

The ethnic origin of pregnant women was identified as follows, Scottish 7,558 (66.6%), Other British 544 (4.8%), Pakistani 651 (5.7%), Indian 299 (2.6%), African and Other African 587 (5.2%), Chinese 92 (0.8%) and 105 (0.9%) of any other ethnic group

A number of data sources were used in producing this report; BadgerNet; Trakcare and both local and national laboratory reports.

Gestational Diabetes Mellitus (GDM) and Obesity

Within NHSGGC, the assessment of pregnant women and risks associated with GDM are based on a BMI ≥ 35 , previous macrosomic baby (weighing >4 kg at birth), family history of diabetes, previous gestational diabetes and mother's ethnic origin. Just over a third of pregnant women 4,241 (37.8%) were recorded as having 'any risk' of GDM and were eligible to be offered an OGTT at 24-28 weeks gestation.

At the time of their booking appointment, 4,467 (39.3%) of pregnant women had a normal weight, 1,808 (15.9%) were overweight and 3,375 (29.7%) obese. The total number of women who were within the severely obese categories with BMI >35 was 1,306 (11.5%). The BMI was not recorded for 192 women (1.8%).

Haemoglobinopathies Screening

Of the 11,353 women booked for their first antenatal booking, 11,332 (99.8%) were offered haemoglobinopathies screening and 10 refused. The blood is checked for risk of thalassaemia for all women who consented

The Family Origin Questionnaire (FOQ) is completed as part of routine early antenatal risk assessment. For low prevalence areas like NHSGGC, it provides the basis for testing for haemoglobin variants and in the interpretation of results and the need for partner testing.

Across NHSGGC, 9,614 (84.7%) samples had a completed FOQ recorded on BadgerNet and this varied across sites with the Princess Royal Maternity only completing the FOQ for 78.5% of pregnant women.

Infectious diseases

Uptake across NHSGGC was greater than 99% for all the screening tests. Screening identified <5 women infected with HIV (all were previously known) and 40 infected with HBV (31 were previously known) and 7 women infected with syphilis.

Trisomies and other congenital anomalies screening

Of the 11,353 women booked at antenatal clinics, 10,547 (96.3%) were tested either for the 1st or 2nd Trimester during 2021-22. 256 (3.2%) high chance results were recorded for the 1st Trimester and 104 (4.4%) for the 2nd Trimester Down's syndrome screening.

Amniocentesis

Of the 221 amniocentesis samples analysed 37 abnormalities were detected (16.7%) and of these 30 had a diagnosis of Trisomy 21 (Down's syndrome).

Chorionic Villus Biopsies (CVS)

79 chorionic villus biopsies were analysed and 21 abnormalities were detected (26.6%) and 17 had a diagnosis of Trisomy 21 (Down's syndrome).

Congenital anomalies screening

10,038 (88.4%) pregnant women consented for a fetal anomaly scan. 9,999 (99.6%) of scans were performed and 541 (5.4%) anomalies were detected.

Newborn Bloodspot Screening

Newborn bloodspot screening identifies babies who may have rare but serious conditions. Most babies screened will not have any of the conditions, but for the small numbers that do, the benefits of screening are enormous. Early treatment can improve health and prevent severe disability or even death. Every baby born in Scotland is eligible for and routinely offered screening. Newborn babies are screened for phenylketonuria; congenital hypothyroidism; cystic fibrosis; sickle cell haemoglobinopathy, medium chain acyl-CoA dehydrogenase deficiency (MCADD), maple syrup urine disease (MSUD), isovaleric acidaemia (IVA), glutaric aciduria type 1 (GA1), homocystinuria (HCU).

The total number of babies eligible for screening was 10,929 and of these, 10,837 (99.2%) babies were screened. The uptake of Newborn Bloodspot screening was greater than 96.1% across all HSCP areas and deprivation categories.

The breakdown of the ethnicity groups for babies tested within NHSGGC shows that 7,609 (68.8%) of babies screened were UK White; 839 (7.6%) South Asian; 437 (4.0%) African or African Caribbean; 250 (2.3%) Other non- European; 449 (4.1%) Southern and Other European and 102 (0.9%) North Europe (white). The number from Any Mixed Background was 778 (7.0%) and ethnicity was not stated for 486 (4.4%).

Following screening 10 babies were diagnosed with congenital hypothyroidism (CHT), <5 babies were diagnosed with PKU (phenylketonuria) and 7 tested positive for cystic fibrosis. The results for Haemoglobinopathy showed that although <5 babies were diagnosed with haemoglobinopathy variants, 79 babies were identified as haemoglobinopathy carriers.

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The phrase less than five has been used in line with NHS Scotland information governance which is intended to protect privacy and avoid identifying individuals.

Ethnicity of Babies born in NHSGGC – 5 years

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
African or African-Caribbean	4.2%	4.0%	3.4%	3.3%	4%
South Asian (Asian)	11.9%	9.5%	7.6%	7.7%	7.6%
South East Asian (Asian)	2.8%	1.8%	1.5%	1.3%	1%
Other non-European (other)	2.5%	3.0%	2.7%	2.6%	2.3%
Southern & other European (White)	5.83%	5.2%	4.6%	3.9%	4.1%
United Kingdom (White)	75.0%	63.1% ⁰	67.9%	68.7%	68.8%
North Europe (White)	1.24%	1.3%	1.04%	0.9%	0.9%
Any Mixed Background	5.3%	6.3%	6.15%	6.8%	7%

Universal Newborn Hearing Screening

Universal Newborn Hearing screening can detect early permanent congenital hearing impairment in babies as mild and unilateral losses. Of the 10,798 eligible babies, 10,868 were screened, an uptake of 99.3% across all HSCP areas.

1,325 (12%) babies required a second stage follow up and of these, 148 (1.0%) babies were referred to audiology. 49 babies were confirmed with a hearing loss (0.45% of the screened population). 27 had confirmed bilateral hearing loss and 22 babies had confirmed unilateral hearing loss.

Seventy (0.6%) babies did not complete the screening programme, of these 6 parents declined or withdrew consent. The rest included babies who did not attend for screening, 30, are deceased and <5 were contra indicated.

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Pregnancy & Newborn Screening – Trends over 5 years

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Number of pregnant women booked in NHSGCC	12386	12370	11561	10472	11353
Pregnancy – booked by 12weeks and 6 days	83.2%	88.1%	90.3%	91.3%	90.3%
Gestational Diabetes with any risk during pregnancy	29.3%	33.1%	33.3%	36.2%	37.8%
Haemoglobinopathies Family Origin Questionnaire completed	67.5%	74.0%	77.5%	80.3%	84.7%
Infectious Diseases screening uptake	99.9%	99.9%	99.9%	99.9%	99.9%
Trisomy & other congenital anomalies screening	82.6%	83.7%	85.7%	96.3%	96.3%
Number of babies	11,803	12,155	11,238	10,594	10,929
Newborn Screening uptake	98.1%	98.8%	98.8%	98.8%	99.2%
Universal Newborn Hearing Screening	98.3%	98.8%	99%	99%	99.3%

Child Vision Screening

Pre-school Vision Screening Programme

Vision Screening is routinely offered to all pre-school age children resident in NHS Greater Glasgow and Clyde areas. Vision problems affect 3-6% of children and although obvious squints are easily detected, refractive error and subtle squints often go undetected and long-term vision loss can develop in adulthood. Most problems can be treated using spectacle lenses to correct any refractive error and occlusion therapy to treat strabismus (squint) – mainly using eye patches.

In 2021-22, 12,149 children aged between four to five years old were identified using the Community Health Index System as being eligible for pre-school vision screening. 4,750 (39.1%) of all pre-school children within NHSGGC live in the most deprived quintile. The majority of these children are resident within the Glasgow City sectors 3,444 (72.5%). The uptake of pre-school vision screening was 73.2% (9708) across all HSCP areas. This ranged from 55.4 % (798) in East Renfrewshire to 88.4 % (1698) in Renfrewshire

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The number and percentage of children screened by ethnicity was analysed. The uptake among the White group was 74.2% (3134); and for Asian, Scottish Asian or British Asian 70.7% (325); and for African, Scottish African or British African 80.7% (67).

Overall, 68.8% (6115) children screened had a normal result, this ranged from 60.9% (454) in Glasgow North East to 75.8% (518) in Renfrewshire. Of those screened, 25.1% (2,230) children were referred for further investigations. The referral rates varied from 31.8% (542) in Glasgow South to 17.5% (109) in Renfrewshire. The percentage of children screened that were already attending an eye clinic was 3.8% (337), ranging from 5.1 % (87) in Glasgow South to 1.5% (17) in Glasgow North West.

Of the 8,889 screened during 2021-22, 3,417 (38.4%) were from the most deprived and 1,736 (19.5%) from the least deprived quintile. Deprivation also has an impact on vision and abnormal results following screening. The proportion of children with a normal result (NAD) ranged from 61.3% (2093) among children living in the most deprived areas to 79.3% (1377) in the least deprived area. A significantly larger proportion of children living in the most deprived areas were referred for further assessment, recalled or were already attending a clinic. Of the 2,230 (25.1%) children referred for further assessment, 30.8% (1053) were from the most deprived area compared to 17.2% (298) from the least deprived area.

207 (2.3%) children were recalled back to be screened due to difficulties screening their vision during the first screen. Of the 337 (3.8%) children already attending an eye clinic, 160 (4.7 %) were from the most deprived area.

Primary 7 School Vision Screening Programme

In 2021-22, 12,589 Primary 7 school children were eligible for a vision test of which 10,271 (81.6%) were tested. The highest delivery was in Inverclyde 93% (740) and the lowest was in Glasgow South sector at 67.7% (1600). P7 vision screening varied according to SIMD (child) with the uptake in the most deprived quintile recorded as 77.8% (3,656) compared to 85.4% (10,271) in the most affluent areas.

Using the Onomap software, the number and percentage of children screened by ethnicity was analysed. As some numbers are small according to ethnic origin, combining all the White ethnic groups gives the uptake as 66.4%% (6998) and for Asian or Asian British 67.7% (549), Chinese 72.2 % (104) and Black or Black British 57% (94).

The number and percentage of children screened by ethnicity was analysed. The uptake among the White group was 83.7%(6715); and for Asian, Scottish Asian or British Asian 77.8% (741); and for African, Scottish African or British African 81.6% (168).

Of the 10,271 children screened for vision testing, 19.7% (2025) were already wearing prescription spectacles. The highest percentage wearing glasses was in Renfrewshire 21.6% (381) and the lowest in East Renfrewshire 17.3% (197).

Visual defects identified as part of the primary 7 screening process indicate that Glasgow North East sector had the highest percentage of pupils 31.1% (488) with defects compared to 5.8% (66) in East Renfrewshire.

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Of the 10,271 children screened, 8,246 (80.3%) were screened using the Snellen test and 75.4% (6216) of these children were recorded with an acuity of 6/6 which is normal. A follow up with an Optometrist is recommended for children with an acuity worse than 6/9 (if not wearing spectacles) and acuity of 6/12 or worse for those with spectacles.

The highest percentage of children not wearing glasses and identified with poor acuity of 6/9 lived in Glasgow North East sector 30.5 % (382) and the lowest percentage in East Dunbartonshire 4.7% (45).

Glasgow South sector also had the highest percentage of 9.3% (119) of children already wearing glasses and identified with poor acuity of 6/12 or worse and East Renfrewshire had the lowest percentage at 2.6% (25).

Five year uptake trends among the eligible population in NHSGGC are highlighted below.

Pre school and P7 - Vision Screening Uptake – Trends over 5 years

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Pre school vision screening	86.8%	85.4%	60.4%	***	73.2%
P7 vision screening	74.4%	66.6%	66%	59.3%	81.6%

*** Due to lack of access to nurseries during COVID restrictions, screening was carried out in Primary 1. A report will be made available once data is available.

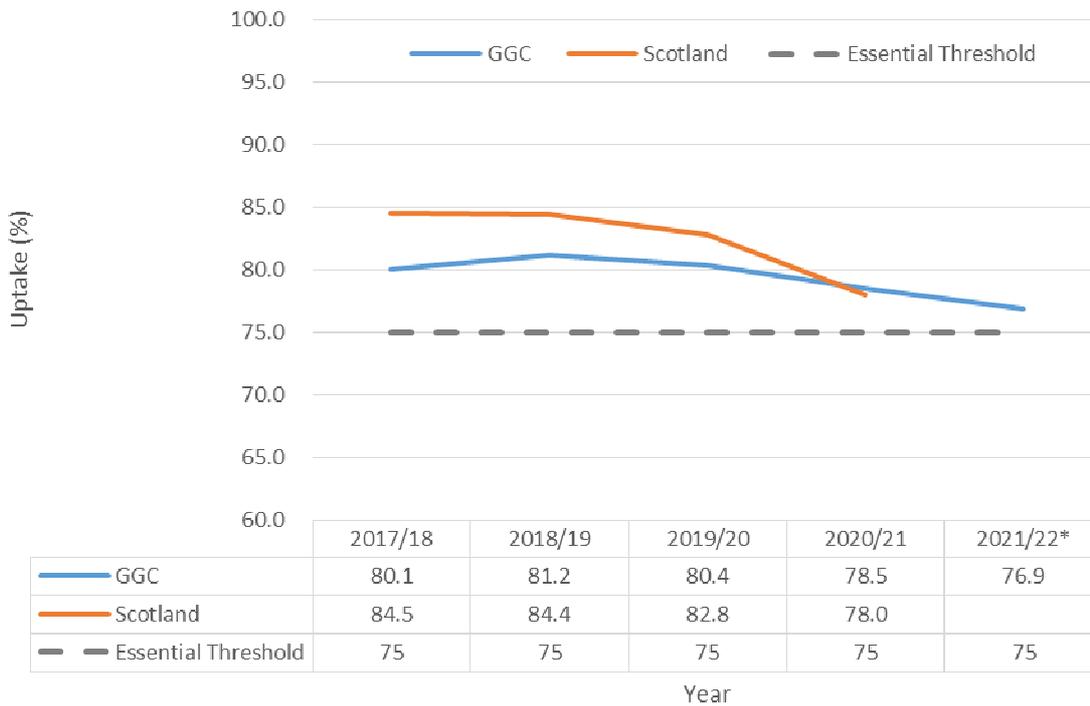
Abdominal Aortic Aneurysm (AAA) Screening

An abdominal aortic aneurysm (AAA) is a dilatation of the aorta within the abdomen where the aortic diameter is 3.0 cm or more. Aneurysms are strongly linked to increasing age, hypertension, smoking, other vascular disease and a positive family history of AAA.

The aim of AAA screening is the early detection and elective repair of asymptomatic AAA in order to prevent spontaneous rupture. Screening is associated with a 40% reduction in aneurysm related mortality. All men aged 65 years in the NHSGGC area are invited to attend AAA screening by a single ultrasound examination. Men aged over 65 years of age are able to self-refer to the programme.

During the period 2021-2022, the total number men eligible was 6,979 and 5,365 were screened (76.9%). The essential threshold for screening uptake (75%) was met overall in NHSGGC, however uptake among men residing in the most deprived areas was below this threshold at 70.2%, compared to uptake among men residing in the least deprived areas (84.8%). In NHSGGC the uptake of screening has been slowly falling across the last four years.

Uptake of AAA screening among eligible population in NHSGGC and Scotland: 2017-18 – 2021-2022*



Source: Scottish Abdominal Aortic Aneurysm (AAA) screening programme statistics
 *AAA application, September 2022, GGC statistics only

The majority of eligible men (79.9%) were of Scottish ethnic origin. Uptake of AAA screening differs between ethnic groups, with uptake variable across groups. However, due to low numbers in some ethnic groups it is not possible to directly compare programme uptake across ethnic subgroups.

Uptake of screening amongst those registered with learning disability (as identified in the 2018 Learning Disability Register) was lower than the rest of the population, 67.4% compared to 76.9%. Uptake of screening amongst those with enduring mental health issues (indicated by those registered on PsyCIS who have had at least one episode of psychosis) was also lower than in the rest of the population, 59.1% compared to 77.0%. However, for both of these measures the number of men of screening age and registered in either of these cohorts was small at less than 100, so these uptake figures should be interpreted with caution.

Screening identified 52 men (1.0%) with an enlarged aorta (≥ 3 cm). Of these, 46 men (88.4%) had a small aneurysm (aorta measuring between 3cm to 4.49cm), requiring annual surveillance scans. Less than 5 men had a medium aneurysm requiring 3 monthly surveillance scans, and less than 5 men were found to have a large aneurysm (measuring 5.5 cm or more), requiring surgical assessment and intervention.

The Mortality and Incident Audit was established in autumn 2018 and all relevant cases since the programme began in 2013 were reviewed following national guidance.

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The standards for the Scottish AAA Screening Programme state that:

- The screening & surveillance history of men, who died of a ruptured aortic aneurysm, is reviewed and discussed by the collaborative screening centre multidisciplinary team, and
- The mortality rate due to ruptured abdominal aortic aneurysm among men who were screened negative and discharged from the programme is recorded and an action plan implemented

To comply with these criteria, an analysis of deaths due to ruptured AAA's from September 2021-September 2022 was undertaken. A total of 11 men were identified with cause of death attributed to ruptured AAA, and a further 13 cases were identified from emergency aneurysm repair for ruptured aortic aneurysm. Following review of all these cases, no deficiencies in the screening programme were identified and no further investigation of cases was required.

2021-22 was a recovery period for the AAA screening programme, following a pause in screening in 2020 due to the pandemic. During this recovery period the screening service prioritised surveillance scans for those identified with aneurysm and worked to clear the backlog of screening scans from the pause in the programme. During this period the programme gradually returned to the venues across the region which were closed to screening during the pandemic.

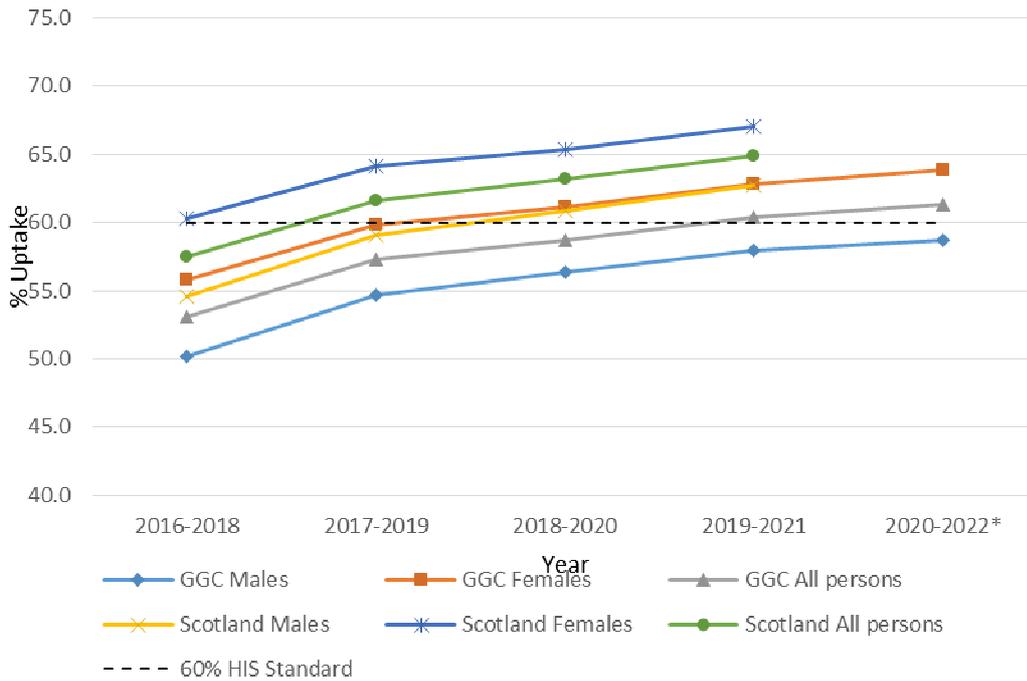
Bowel Screening Programme

Colorectal (Bowel) Cancer was the third most common cancer in Scotland for both men and women in 2019. Ninety three percent of bowel cancers detected are among people aged over 50 years of age.

The aim of bowel screening is to detect bowel cancer at an early stage where treatment is more effective. In some cases, pre-cancerous polyps can be removed and cancer prevented. The programme invites all men and women between the ages of 50–74 to participate in screening once every two years, by returning a sample taken at home using a nationally supplied kit.

Between 2020 and 2022, 299,813 NHSGGC residents were invited for bowel screening. 61.3% of those invited returned the screening test, of which 5,643 tested positive (3.1%). Of those individuals who had a positive result, 5,137 (91.1%) attended a nurse pre-assessment and over three quarters 4,024 (78.3%) had a colonoscopy performed. Subsequently, 169 cancers and 1,999 adenomas were detected.

Uptake of Bowel Screening in NHSGGC and Scotland 2016-18 to 2020-22* by Sex



Source: PHS Bowel Screening Programme Statistics, 1st April 2016 to 31st March 2021.
 * NHSGGC Bowel Screening IT System, GGC statistics only (November 2022)

Women were more likely to return a bowel screening test than men (63.8% vs. 58.7% respectively). Uptake was lowest among those aged 50-54 years, at 54.9% and increased to 68.2% for those aged 70-74 years, a difference of 13.3 percentage points.

Uptake of bowel screening programme increased with decreasing levels of deprivation. Uptake was lowest amongst those living in the most deprived Board areas (52.0%) and highest in the least deprived areas (71.8%).

Analysis by ethnicity identified that uptake was highest in the Scottish, other British, Irish and Chinese groups (higher than 60% uptake) but was consistently poorer in other ethnic groups. Some ethnic groups were small and these data are harder to interpret.

Amongst those registered with a learning disability uptake of screening was lower than the rest of the population, 44.8% compared to 61.4%. Amongst those with enduring mental illness (as determined by registration on PsyCIS and with at least one episode of psychosis), uptake was lower compared with the rest of the population, 42.6% compared to 61.5%. For both of these categories, the proportion of the screened population registered in these categories was small.

Overall, 3.1% (5,643 of 183,751) of completed screening test were reported positive, meriting further investigation. Women had a lower positivity than men (2.5% vs. 3.7 %, respectively); older people had a higher positivity than younger people (4.2% aged 70-74 vs. 2.5% aged 50-54); and those living in our most deprived communities had higher positivity than the least deprived (4.2% vs. 2.1%, respectively).

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Of the 5,643 people who had a positive screening test, 4,024 people underwent a colonoscopy. Of these:

- 2,370 people (58.9%) had a polyp detected;
- 1,999 people (49.7%) had a confirmed adenoma detected; and
- 169 (4.2%) people had a confirmed colorectal cancer diagnosis;
- all detection rates increased among older age cohorts.

Polyps were detected in 65.9% of men and 49.4% of women who underwent colonoscopies. Adenomas were detected in 56.1% of men and 40.9% of women, and 4.0% of men and 4.5% of women had a confirmed colorectal cancer diagnosis.

Whilst more people residing in areas of higher deprivation have had investigations performed, the detection rate of polyps, adenomas and cancers is roughly similar across the SIMD quintiles with higher polyp and adenoma detection rates among males.

There is an ongoing programme of audit within the screening programme focussing on the colonoscopy service. A multi-disciplinary group reviews the performance of all individuals who carry out colonoscopy as part of screening. Three main measures are recorded: adenoma detection rate; completion rate; and complication rate.

During the pandemic the bowel screening programme was paused for six months in 2020. Following this pause, individuals requiring follow-up investigations such as colonoscopy were prioritised and due to the demand on colonoscopy services, triaging of screening test results was introduced to prioritise those at highest risk. During the period April 2021 to March 2022, bowel screening programme recovery continued to focus reducing the back log of patients requiring colonoscopy resulting from this pause in services.

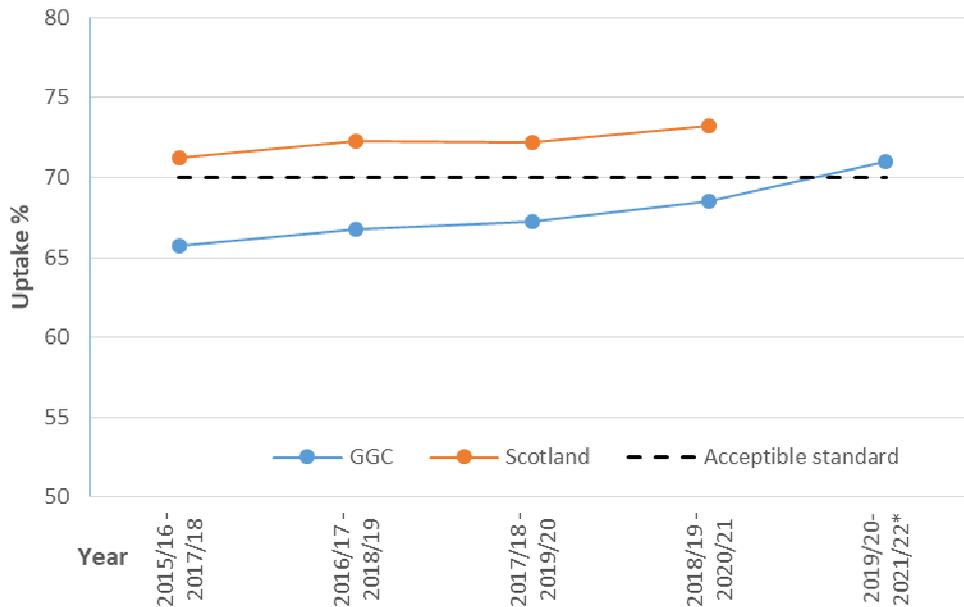
Breast Screening Programme

Breast cancer is the most common cancer in women in Scotland, accounting for 27.9% of all new cancers diagnosed in women in 2020. In the same year, 842 new breast cancers were registered among women residing in NHS GGC. This gives an age-standardised incidence rate of 142.4 per 100,000 per population, compared with the Scotland rate of 147.7 per 100,000. In 2021, the most recent year for mortality data, 195 women with a diagnosis of breast cancer died in NHS GGC, giving a standardised mortality rate of 31.9 per 100,000 population, comparable with the Scotland rate of 33.4 per 100,000.

The purpose of breast screening by mammography is to detect breast cancers early. Early detection of breast cancers may result in more effective treatment, which may reduce deaths from breast cancer. Women aged 50-70 years are invited for a routine screening once every three years. Women aged over 70 years could self-refer into breast screening until the breast screening pause during COVID. This continued to be the position during this reporting period, but this was reinstated in autumn 2022.

Uptake of breast screening in NHS GGC has steadily increased over the previous five screening rounds. During the screening period 2019/20 to 2021/22, the percentage of women eligible for breast screening in NHS GGC was 71.0%, exceeding the national acceptable standard of 70%.

Uptake of Breast Screening in NHSGGC and Scotland 2015/18 to 2019/22* (Females aged 50-70 years)



Source: PHS Breast Screening Programme Statistics, 2016/19, 2017/20 & 2019/21
 * 2019/22 SSBS local report – GGC data only (November 2022)

Uptake of screening was investigated by age, SIMD, geography and for those with learning disability and enduring mental illness. The single biggest factor for variation in uptake of offer of screening was SIMD.

Uptake of screening was lowest in individuals residing in the most deprived Board areas (61.0%) and highest in the least deprived areas (79.8%). This is a large difference of 18.8 percentage points. Uptake of breast screening was similar across all age cohorts.

Analysis by ethnicity was undertaken via data linkage to self-reported ethnicity reference dataset held within West of Scotland Safe Haven. Uptake was above 70% for the Scottish and Irish groups and below 70% for all other ethnic groups except the Roma and Showman/Showwoman groups which had very small numbers. Lowest uptake was seen in women who did not have ethnicity recorded (NULL, opt-out / unknown).

For those registered with a learning disability, screening uptake was lower than in the rest of the population, 49.9% compared to 71.2%. For those with enduring mental illness (as registered in PsyCIS with at least one episode of psychosis), screening uptake was lower than in the rest of the population, 50.7% compared to 71.2%. For both these groups, those registered were less than 1% of the screening population.

By geography, the acceptable standard for screening uptake (70%) was met in East Dunbartonshire (78.3%), East Renfrewshire (77.3%), Inverclyde (72.0%), Renfrewshire (76.9%), and West Dunbartonshire (71.8%) HSCPs. The acceptable standard was not met in Glasgow City HSCP as a whole (65.3%) or in any of the three sectors.

2021-22 has seen continued recovery from the COVID-19 pandemic for the Breast Screening Service. The pandemic saw screening paused for four months and then resume with significant restrictions in capacity due to infection prevention and control measures and longer appointment times. To improve uptake during this period the screening service

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revised administration and appointment processes, encouraging patients to contact the centre to discuss pandemic related changes. More women were invited to attend breast screening at Nelson Mandela Place instead of mobile units within local areas of Glasgow City.

During 2021 the Breast Screening Service implemented a new telephony system which enabled SMS and telephone reminders. This has contributed to the improvement in attendance.

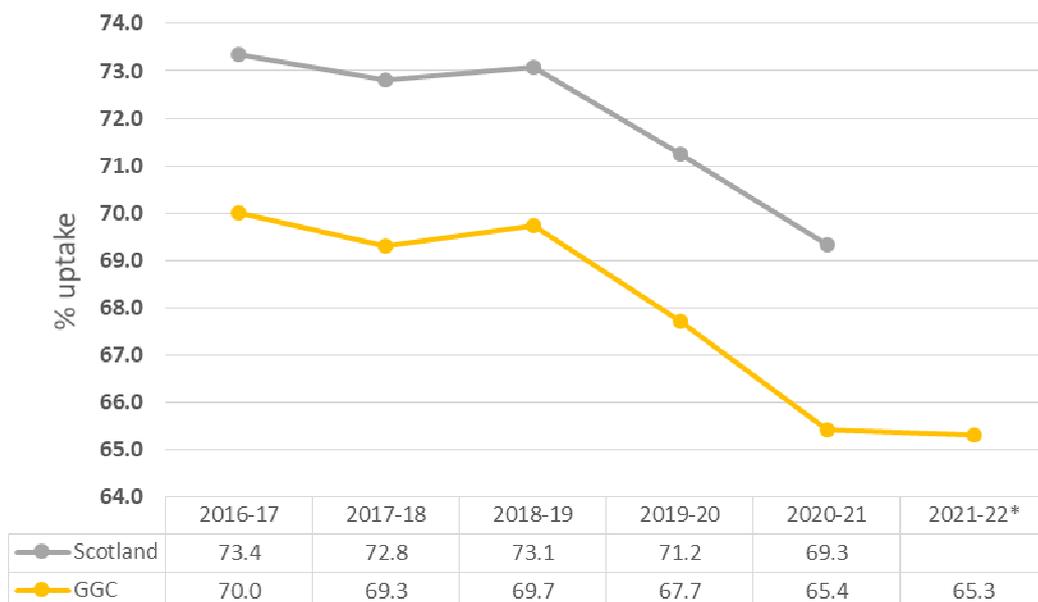
Cervical Screening Programme

Cervical cancer was the eleventh most common cancer in females in 2020 in Scotland and the most common cancer in women under the age of 35 years.

Cervical screening (smear test) is offered to women and anyone with a cervix aged between 25 and 64 years, every 5.5 years. HPV testing replaced cervical cytology as the primary test in April 2020. If a smear sample tests positive for HPV, cytology will be undertaken to identify if there are cell changes. Subsequent follow-up will differ according to the test results and can include invitation to attend colposcopy where the cervix is visualised. If no high-risk HPV is found in the smear sample, the person has a very low risk of developing cervical cancer within 5 years and will be called for screening at the routine interval of 5.5 years, regardless of their age.

Uptake of screening in NHS GGC for 2021-22 was 65.3% against a target of 80%. A total of 232,652 women were adequately screened in 2021-22. Uptake in NHS GGC has declined in the last six years by five percentage points. Although NHS GGC uptake of cervical screening is low in Scotland, Scotland overall does not meet the 80% target for uptake.

Uptake of offer of cervical screening in Scotland and NHS GGC 2016-17 to 2021-22.



Source: PHS Cervical Screening Programme Statistics, *NHS GGC SCCRS extract

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Uptake was lowest at the youngest end of the age range offered screening in those aged between 25 and 29 (50.2%), compared to the highest uptake in women aged 50-54 years (76.1%).

Uptake was higher in those living in least deprived areas. Uptake for women living in the least deprived areas was 68.7% compared with 62.1% in the most deprived areas. This gap is not as wide as seen in other screening programmes. Over time screening uptake by deprivation quintile has fallen in each quintile and the gap between the most and least deprived SIMD quintiles is widening over time.

Uptake of screening was highest amongst women identifying as Scottish, other British and Irish, and lowest in those who had no ethnic group recorded (NULL).

Uptake of screening amongst those with registered learning disability was significantly lower than the rest of the population, 25.5% versus 65.3%. Uptake of screening amongst those with enduring mental illness (as registered on PsyCIS and with at least one episode of psychosis) was similar to the rest of the population, 62.1% versus 65.3%. Both of these groups were less than 1% of the screening population.

Variations in cervical screening uptake across HSCPs persist, ranging from 52.8% in Glasgow City North West Sector, to 77.4% in East Dunbartonshire HSCP. No HSCP met the minimum target of 80% uptake of screening.

Recovery from the COVID-19 pandemic continues. During the pandemic cervical screening was paused for six months and as a result all records on SCCRS were updated by adding another 6 months on to the existing projected recall date. This in effect pushed the recall date out by another 6 months to 5.5 years. All women who missed their invitation date due to the pause in screening were caught up when the programme resumed.

Reviews of laboratory and colposcopy service are undertaken annually against specified criteria. This highlighted two significant issues. Cervical screening sample submission has returned to pre-pandemic levels, but there is considerable backlog within the laboratories and the colposcopy service, leading to long wait times for screening sample test results and for clinical investigation of positive screening results. Work is ongoing to reduce these waiting times.

NHSGGC has carried out a multi-disciplinary review of all invasive cervical cancer cases since 2006 to audit the screening and management of every case. On average this clinical audit reviews 75 cases of cervical cancer per year, in 2021-22 this was 69 cases. Averaged over the last ten years, 10.4% of cases were under the age of 30 years and 29.0% under the age of 40 years. Almost half of cases are in women from the most deprived areas in NHSGGC. Only 27% of cases had a full screening history, 67% had missed some or all screening tests following invitations. Over the last ten years, 55% of cases have been in women displaying symptoms and 41% in women who attended routine screening and were not symptomatic.

Preparation is underway for a national look-back exercise which will ensure that women excluded from cervical screening with the 'no cervix' exclusion have been correctly identified. This follows cases of cervical cancer in women who had been excluded in this way. This audit will involve checking the records of almost 30,000 women resident in NHSGGC and will involve primary care, secondary care and a dedicated audit team.

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Funding is being provided by Scottish Government for this purpose. The audit is likely to begin in Spring 2023 and run for more than a year.

Diabetic Eye Screening (DES)

Diabetes mellitus is a long-term condition in which the level of glucose in the blood is raised leading to abnormal fat metabolism and other complications. The Scottish Diabetes Survey 2020 reports that in Greater Glasgow & Clyde, 5.6% of the population were registered as diabetic in 2020; this is an increase from 4.1% of the population in 2007.

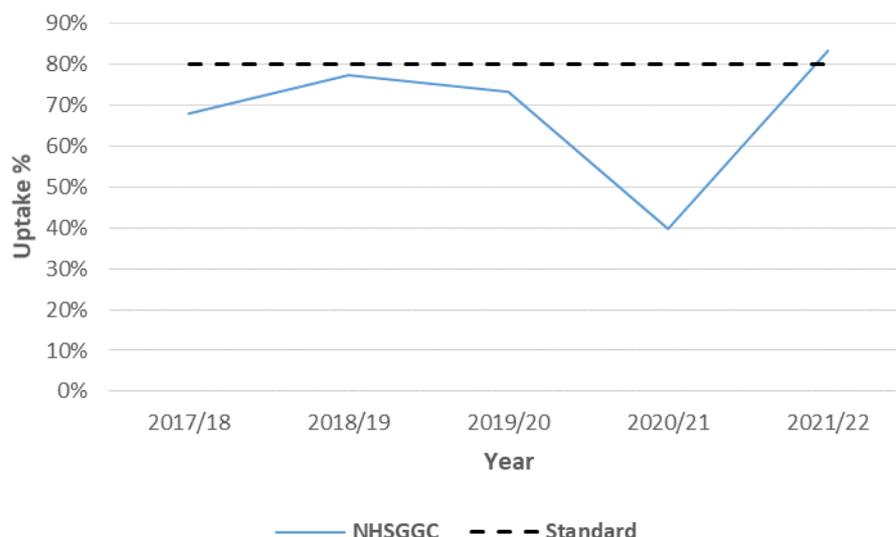
Diabetic retinopathy is a complication of diabetes affecting blood vessels of the retina and is the biggest single cause of blindness and visual impairment amongst working age people in Scotland. Retinopathy is symptom-free until its late stages. If it is detected early enough, treatment can prevent the progression of the disease and save sight for many years in most patients.

The national Diabetic Eye Screening (DES) programme was implemented across NHSGGC in 2004-2005 and is an integral part of diabetes care. The DES programme differs from other screening programmes in that it is an important part of the patient's care pathway rather than screening for a particular condition.

The OPTIMIZE system is used to manage the call/recall and imaging for the DES programme and replaced the previous data system in 2020. National data, including KPIs, are not yet available for reporting from the new system, though should be in 2023. Data presented here is from SCIDIabetes, which should hold the details of diabetic eye screening for each patient.

Based on local analysis, of the 69,133 individuals with diabetes, 57,600 (83.3%) were screened during 2021/22, exceeding the 80% uptake target.

Uptake of Diabetic Eye Screening in NHSGGC, 2017 to 2021



Source: NHSGGC Annual Screening Reports 2017/18 to 2020/21. 2021/2022 SCI Diabetes (November 2022)

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For 2021-22, uptake of screening was similar for men (84.2%) and women (82.3%). Screening uptake increased with increasing age, from 68.6% of those aged 15-24 years, compared with 89.5% of those aged 75-84 years.

Uptake increased with decreasing levels of deprivation. Uptake was 79.8% amongst individuals residing in the most deprived areas, compared to 83.3% residing in the least deprived areas. The uptake target of 80% was met in all but the most deprived deprivation quintile.

Analysis by ethnicity was undertaken via self-reported ethnicity recorded on SCI-Diabetes. The uptake screening standard of 80% was achieved within majority of White, Indian, Pakistani, Chinese and mixed/multiple ethnic groups. Uptake was generally lower among Bangladeshi, African, Caribbean, Black and other White ethnic groups.

For those with a registered learning disability, there was no significant difference in uptake between those with a learning disability compared to the rest of the population (82.2% vs 83.3% respectively). For those with enduring mental illness (people registered on PsyCIS with at least one episode of psychosis), uptake was lower than the rest of the population, 72.7% compared to 83.5%.

There were variations in uptake between HSCPs areas. Uptake ranged from 81.4% in Glasgow City HSCP - North East Sector and in West Dunbartonshire, to 86.7% in East Dunbartonshire. The 80% target for screening uptake was met in all HSCPs.

During the COVID-19 pandemic in 2020, DES was paused along with other screening programmes. When screening resumed, the programme had reduced capacity as there was access to fewer locations (the programme could not return to the majority of community sites), and longer appointment times due to increased infection prevention and control measures. When screening restarted, offer of screening was based on risk of retinopathy, to those at highest risk first.

In 2021-22, work continued to catch up missed appointments, with all patients offered a catch-up appointment by September 2022. Challenges with capacity continued throughout this period due to limited clinic settings. For patients there were additional challenges of having to travel to unfamiliar locations sometimes far from home.

Many community clinic locations are now up and running again, with eight more community locations taking longer to reinstate than others. The feasibility of using the mobile unit is being investigated where it is not possible to return to the usual community setting. Much of this will be resolved by the end of 2022.

NHSGGC Screening Inequalities Action Plan

In 2021-22, the Screening Inequalities Action Plan was renewed and revised. The 2022-25 Screening Inequalities Action Plan outlines priorities and actions to widen access and address inequalities in relation to the adult screening programmes.

Representatives from AAA, Bowel and Diabetic Eye Screening programmes participated in training to undertake equality impact assessments (EQIAs).

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NHSGGC Mental Health Physical Healthcare Policy physical health check includes adult screening as a core component for individuals within community and inpatient settings. We continue to work with mental health services to support staff training, and work is in progress to develop approaches for delivery of cervical screening for eligible women in inpatient settings.

The Annual Health Check for people with Learning Disabilities, a programme announced in 2022 by the Scottish Government in 2022, and includes adults screening as a core component.

An equalities practitioner has been recruited to support the implementation of the plan, with a focus on increasing informed participation in screening among black and minority ethnic communities. To date this has involved undertaking engagement with community organisations and partner organisations. Learning from communities is an important part of this engagement and will influence future activities.

Health Improvement teams continue to raise awareness of screening in the community and to collaborate with the equalities practitioner. This includes exploring new ways to communicate with communities based on community-specific and preferred social media as identified in community engagement work.

Ongoing Priority Actions for 2023-24

- Carry out Equality Impact Assessment of the screening programmes.
- Implement annual health check for people with learning disabilities that includes screening.
- Continue supporting ethnic minorities to participate in screening programmes.