Greater Glasgow and Clyde NHS Board

Board Meeting

Board Paper No. 08/58

16 December 2008

Director of Public Health

Public Health Screening Programmes Annual Report to March 2008

RECOMMENDATION

Members are asked to **note** the attached *Public Health Screening Programmes Annual Report to March 2008.*

INTRODUCTION

Screening is a public health service offered to specific population groups to detect potential health conditions before symptoms appear. Screening has the potential to save lives and improve quality of life through early diagnosis of serious conditions.

This annual report presents information about the following screening programmes offered to residents across NHS Greater Glasgow and Clyde for the period 2007/08:

- Cervical Screening
- Breast Screening
- Communicable Diseases in Pregnancy
- Down's syndrome and other congenital anomalies
- Newborn Bloodspot
- Universal Newborn Hearing
- Diabetic Retinopathy Screening
- Pre-School Vision Screening

In addition, we have also highlighted plans for:

- bowel screening

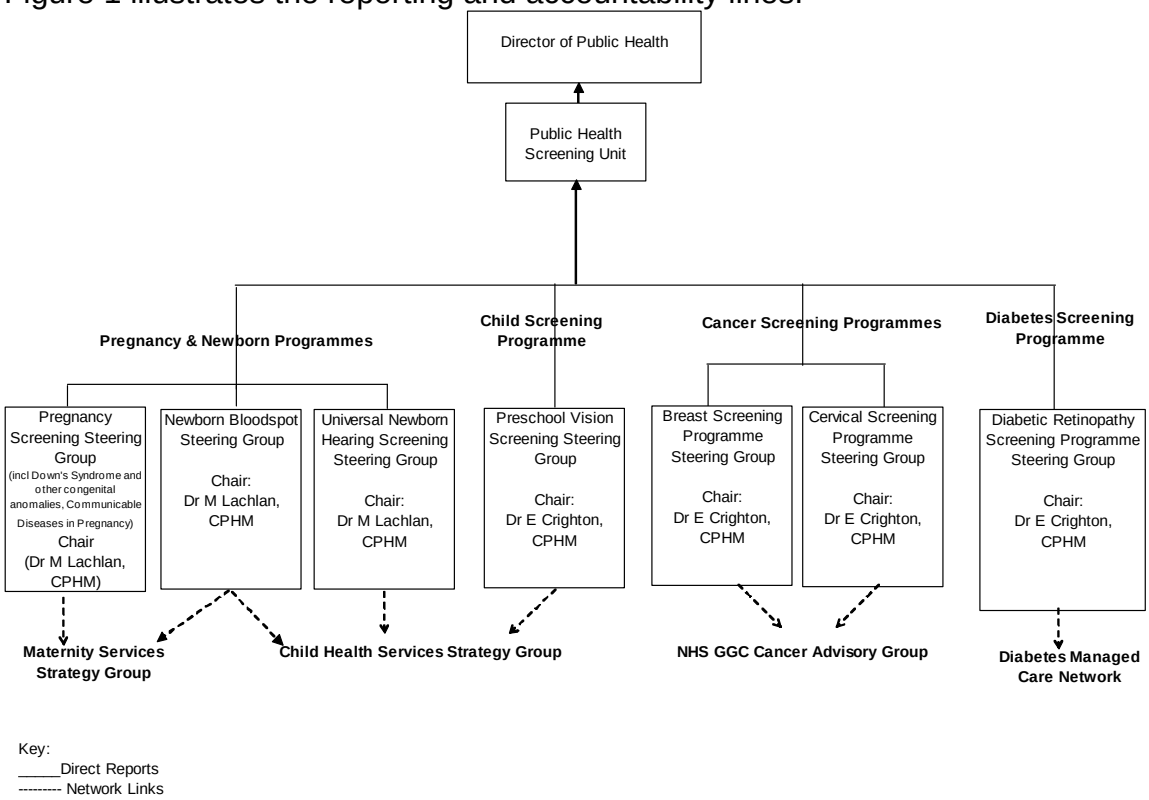
- the replacement of the existing Pregnancy Screening Programme offered for Down's syndrome and other congenital anomalies

- haemoglobinopathy screening both during pregnancy and for newborn babies

- the extension of the newborn bloodspot screening programme to include screening for Medium Chain Acyl CoA Dehydrogenase Deficiency (MCADD)

In NHS Greater Glasgow and Clyde, the co-ordination of screening programmes is the responsibility of the Public Health Screening Unit led by a Consultant in Public Health Medicine. Multidisciplinary Steering Groups for the programmes are in place and their remit is to monitor performance, uptake and quality assurance.

Figure 1 illustrates the reporting and accountability lines.



Each year, approximately 250,000 NHS Greater Glasgow and Clyde residents are eligible for screening (see Table 1).

Table 1 Approximate Eligible Target Population

Screening Programme	Approximate Eligible Target Population GGC
Cervical Screening	113,000
Breast Screening	50,000
Communicable Diseases in Pregnancy*	15,500
Down's Syndrome and Neural Tube Defects*	15,500
Newborn Bloodspot Screening*	14,500
Universal Newborn Hearing Screening	10,500
Diabetic Retinopathy Screening	50,000
Pre-School Vision Screening	15,000

*Numbers include non NHS Greater Glasgow and Clyde residents attending NHS Greater Glasgow and Clyde sites. Some population subgroups are eligible for more than one programme.

As part of NHS Greater Glasgow and Clyde's commitment to tackle inequalities to health, the Public Health Screening Unit engaged with voluntary and statutory services to identify innovative ways to encourage and promote uptake of screening programmes.

A series of meetings were held with colleagues from Mental Health Partnerships, local authority and voluntary addictions, substance misuse and alcohol services, Homeless Partnerships, Nursing Homes Practice to develop local protocols describing the screening process in detail, to encourage and include groups who, for various social and economic circumstances, could potentially be excluded or prevented from taking up any of our public health screening programmes

Screening programmes stretch across the whole organisation and the successful delivery relies on a large number of individuals working in a co-ordinated manner towards common goals in a quality assured environment. It is essential that good information management systems are in place to monitor and evaluate each component and the overall performance of every screening programme offered to our residents. All the screening programmes, with the exception of Pre-school Vision screening, have clinical standards set by NHS Quality Improvement Scotland which we strive to meet.

SUMMARY OF INDIVIDUAL PROGRAMMES

Cervical Screening

- Cervical cancer is caused by oncogenic types of human papilloma virus (HPV), mainly types 16 and 18, and the infection is generally transmitted sexually.

- Women aged 20 to 60 who live in NHS Greater Glasgow and Clyde areas are invited to have a smear test taken every three years.

- There are approximately 362,000 women aged 20 to 60 resident in NHS Greater Glasgow and Clyde in the target population. Following the exclusion of those with no cervix, approximately 344,000 women are eligible to be invited to participate in the programme over three years. Each year approximately 113,000 women are sent an invitation to attend.

- The cervical uptake rate, as defined by NHS Quality Improvement Scotland Standards, has been dropping: between 1999 - 2000 and 2006/07 the 5.5 year cervical screening uptake rate fell from 82.5% to 72.9% in Greater Glasgow, from 87% to 76.2% in Argyll and Clyde, and from 86.7% to 77.9% Scotland wide. Information Statistics Division (ISD) data continues to be reported based on the old NHS Board boundaries as the Community Health Index (CHI) continues to code patients according to those.

- We calculated the uptake rates for NHS Greater Glasgow and Clyde residents: the 5.5 year cervical screening uptake rate has dropped from 77.1% in 2006/07 to 71.9% in 2007/08 when only the no cervix exclusion has been applied. This is a significant drop compared to the estimated uptake rate of 81.5% for year 2001.

- When exception categories allowed under the General Medical Services (GMS) contract were included, the calculated 5.5 year uptake rate was 89.4% in 2006/07 and 82.7% in 2007/08.

- The uptake rates for the purpose of the General Medical Services target payments were between 9 and 12% higher than the Quality Improvement Scotland (QIS) standard uptake rate that allows only the “no cervix” exclusion. The downward trend in the cervical screening uptake has seen a drop following the implementation of the General Medical Services contract.

- On average across Greater Glasgow and Clyde 26% of women aged 20 to 60 have been excluded under one of the General Medical Services exclusions categories: 18.5% of women have been excluded as they defaulted following invitations to participate in screening and 5.11% of women have been excluded as they have no cervix.

- The uptake of cervical screening varied across different age groups. The lowest 5.5 year uptake rate in 2007/08 was among the 20 to 24 year at 54% when only no cervix exclusion was applied. When calculations were made for the purpose of General Medical Services target payments the uptake rate was 68.9%. The highest uptake rate was among women aged 40 to 49, at 77.3% when only no cervix exclusion was applied and 86.8% for purpose of GMS target payment calculations.

- The cervical screening uptake rate varied across deprivation categories. The lowest 5.5 year uptake rate in 2007/08 was seen among women resident in the most deprived neighbourhoods where the uptake rate was 68.4% while among the least deprived neighbourhoods the uptake rate was 78.3% when only the no cervix exclusion was applied. When calculations were made for the purpose of General Medical Services target payments the uptake among the most deprived neighbourhoods was 80.9% whereas among the least deprived was 86.6%.

- Approximately 94,000 smear tests were processed and reported in laboratories in NHS Glasgow and Clyde in 2007/08. These included repeat smears and smears taken at colposcopy as one woman can have more than one smear test in a year.

- The proportion of results reported as abnormal smears in 2007/08, after excluding the unsatisfactory tests, was 9.3%. Abnormal smear results include: borderline, mild, moderate and severe dyskaryosis, severe dyskaryosis/invasive, glandular abnormality and adenocarcinoma.

- The cervical screening histories of women who developed invasive cervical cancer diagnosed in 2007 were reviewed in 2007/08. Sixty seven women were diagnosed with invasive cancer in 2007. Fifty patients were diagnosed with invasive cervical cancer in 2005 and 49 women were diagnosed with invasive cervical cancer in 2006. The largest number of cervical cancers occurred in women aged between 30 and 49 years.

- 33 of 50 invasive cervical cancers in 2005, 16 of 49 in 2006, and 25 of 67 in 2007 were detected at screening with the rest of the cases presenting to the service with symptoms.

- Only 25 women out of the 50 with invasive cervical cancer in 2005, 22 women of 49 with invasive cervical cancer in 2006 and 34 women of 67 with invasive cervical cancer in 2007 had a complete smear history. Over the three years audited, 26 women out of the 166 that developed cancer had never had a smear.

- There were 19 deaths from cervical cancer over the three years audited. Fifty-two women were under follow up at colposcopy service and 85 were under follow up in the oncology service.

- The Scottish Cervical Call Recall System (SCCRS) was implemented in May 2007. The system provides women with a complete e-health record detailing their whole smear history which professionals involved with the screening programme have access to. Since the system was implemented, the turnaround time for smears reported has reduced. This is due to results being sent electronically to the smear takers and patients sent notification directly from SCCRS.

- A subgroup of the NHS Greater Glasgow and Clyde Cervical Screening Steering Group has been set up to oversee the promotion of the cervical screening among hard to engage groups. Initiatives are aimed at women with learning difficulties, women in travelling communities, women in long term care and women abusing alcohol. Since the implementation of SCCRS all women attending the Sandyford Initiative have their smear history checked and are offered smears if overdue.

- From September 2008, a human papilloma virus (HPV) immunisation programme will routinely vaccinate girls aged 12 - 13 years of age against cervical cancer. A catch-up programme for girls under the age of 18 years will also be implemented. The cervical screening programme will continue after the HPV vaccine has been introduced. This is because the vaccine does not protect against all HPV types that may cause cervical cancer. The challenge will be to ensure that women understand the need for continuing cervical screening once the vaccination has been implemented.

- The cervical screening uptake has fallen throughout Scotland since 2004. Together with NHS Health Scotland and other NHS Boards we are currently commissioning research to explore women's attitudes leading to low uptake of cervical screening services. The findings will inform the development of an up to date communication and engagement strategy.

Breast Screening

- The report represents interim data for the breast screening round 2006 – 2009 in NHS Greater Glasgow and Clyde for the period May 2006 to February 2008.

- The number of women eligible for breast screening across the area of Greater Glasgow and Clyde from May 2006 to February 2008 was 134,402.

- 50,000 women (37.2% of eligible women) have been invited for breast screening during May 2006 – February 2008.

- 34,659 women (69.3% of those invited) attended breast screening during the reported period.

- There were 248 women who were diagnosed with breast cancer following screening.

- NHS Greater Glasgow and Clyde will implement two view mammography from 2010.

Planning For Bowel Screening Programme

- Colorectal (Bowel) Cancer is the third most common cancer in Scotland. Every year over 3,400 people are diagnosed with the disease.

- The Scottish Bowel Screening Programme was launched in 2007 and will be fully implemented across Scotland by the end of 2009.

- NHS Greater Glasgow and Clyde will implement the programme in April 2009.

- The programme will invite all men and women between the ages of 50 – 74 years registered with a General Practice. Other eligible individuals like those in the armed forces or prisons who are not registered with a General Practice will also be able to participate. Thereafter, all individuals will be routinely recalled every two years.

- It is estimated that 307,000 NHS Greater Glasgow and Clyde residents will be eligible to participate in the Bowel Screening programme every two years.

- The service is being redesigned and pathways have been agreed for patients referred to the Board with a positive guaiac Faecal Occult Blood test.

- All patients found to have a positive screening test will be offered either a face to face or telephone pre-assessment for colonoscopy.

- Patients will be offered a colonoscopy appointment date during the pre-assessment consultation.

- There will be an accreditation programme for screening colonoscopists.

- Patients whose colonoscopy could not be completed will have a same day radiological investigation.

- An information management and technology system for bowel screening is to be developed to record information on patients referred for Bowel Screening. The data collected will allow staff to monitor service performance and track patients through the process from point of referral to diagnosis and treatment for colorectal cancer.

- We have identified health improvement leads in Community Health (Care) Partnerships who will be responsible for the development and implementation of local action plans to engage with local communities and promote the

uptake of bowel screening.

- A communication strategy to raise public awareness and maximise the uptake of bowel screening programme across NHS Greater Glasgow and Clyde is under development.

- A public launch is planned for March 2009.

Pregnancy and Newborn Screening Programmes:

Down's Syndrome and Neural Tube Defects

- In NHS Greater Glasgow and Clyde screening for Down's syndrome and neural tube defects (NTDs) is offered to all pregnant women at their booking visit.

- In the year 2007/08, 15,656 women attended antenatal clinics across NHS Greater Glasgow and Clyde. Of that number, 13,956 women were NHS GGC residents and 1,700 women lived out with the Board area.

- There were three screening pathways in NHS Greater Glasgow and Clyde: first trimester combined ultrasound and biochemical testing for Down's syndrome and second trimester blood testing offered to women booking at the Queen Mother's Maternity Hospital until beginning of October 2007; first trimester combined ultrasound and biochemical testing for Down's syndrome and 18-20 week foetal anomaly ultrasonography offered to women booking in the Clyde area of NHS Greater Glasgow and Clyde; and second trimester blood testing offered to women booking in all other areas in NHS Greater Glasgow and Clyde, including those booking at Queen Mother's Maternity Hospital after October 2007.

- The overall percentage uptake for Down's syndrome and neural tube defect screening for women booking in NHS Greater Glasgow and Clyde was 66.1%. The uptake for Down's syndrome was 65% and uptake of biochemical screening for neural tube defect was 66.1%

- The estimated overall percentage uptake for neural tube defects was 78.37%.

- Following screening, 8.4% of women were assigned to 'higher chance' groups: 5.9% of women overall were assigned to the 'higher chance' of Down's syndrome group, 0.3% of women assigned to the 'higher chance' of trisomy 18 group and 2.2% of women were assigned to a 'higher chance' of a neural tube defect.

- Outcome data for babies born to women screened in this year are not yet complete. To date, it is known that 8 cases of Down's syndrome, 4 cases of trisomy 18 and 13 cases with neural tube defects were detected antenatally by screening. Some babies born with these conditions will not be diagnosed during pregnancy as a number of women that had a "higher chance" screening result would not take up the offer of diagnostic test (amniocentesis or CVS).

- From 2010, all women in NHS Greater Glasgow and Clyde will be offered combined ultrasound and biochemical screening (CUBS) in the first trimester of pregnancy and a second trimester foetal anomaly ultrasound (FAS) scan between 18 weeks, 0 days and 20 weeks, 6 days. Women who do not present early enough in their pregnancy to take advantage of first trimester screening will be offered second trimester serum screening.

Communicable Diseases In Pregnancy

- To comply with the NHS Quality Improvement Scotland standards (*Clinical Standards 2005, Pregnancy and Newborn Screening)*, protocols covering each of the four communicable diseases routinely tested for in pregnancy – HIV, rubella, hepatitis B virus and syphilis - have been developed and implemented throughout Greater Glasgow and Clyde. These protocols are major steps towards a consistent approach to co-ordinating this screening programme throughout the Board area.

- All pregnant women are offered screening for the four communicable diseases, and receive an information leaflet about the screening tests prior to attendance at their first booking visit.

- Laboratory data indicates that the uptake of screening for communicable diseases in pregnancy is high for all four communicable diseases.

- Sixteen pregnant women were identified as having HIV by the screening programme, only one of whom was previously known to be HIV positive. Seventy-two women were detected as having hepatitis B virus and five women were detected to be positive for syphilis. The majority of these women were not previously known to be infected, therefore the detection of these women and the implications for their health and the health of their babies are immense and illustrates the success of the screening programme. All infected women and their babies were offered appropriate treatment and care.

Newborn Bloodspot Screening

- The newborn bloodspot screening programme offers tests to detect certain congenital abnormalities which can cause problems in growth and development and for which there is effective management or treatment. The conditions screened for are phenylketonuria, congenital hypothyroidism and cystic fibrosis.

- Newborn Screening for phenylketonuria and congenital hypothyroidism has been in progress since 1965 and 1979 respectively. Newborn screening for cystic fibrosis was added in Scotland in February 2003.

- In 2007, 15,146 bloodspot samples were analysed by the National Newborn Screening Laboratory. 95% of samples arriving at the National Laboratory were reported within two working days as required by the clinical standards.

- In 2007/08, 14,194 babies of NHS Greater Glasgow and Clyde residents were screened which represents 97.5% of the total eligible population of 14,565.

- From 1 April 2007 to 31 March 2008, 9 cases of phenylketonuria, 6 cases of congenital hypothyroidism and 14 cases of cystic fibrosis were detected. All received appropriate management within the timescale set.

- In 2007, 81 bloodspot specimens could not be analysed and the tests had to be repeated due to insufficient amounts of blood on the bloodspot card.

- Following a review of the newborn bloodspot process in 2008, changes have been implemented to reduce the number of insufficient bloodspot tests; improve the process for requesting repeat bloodspot tests and the time taken to deliver the specimens to the laboratory, and increase the use of the Community Health Index.

Future Developments - Pregnancy And Newborn Bloodspot Screening Programmes

- Screening for Medium Chain Acyl CoA Dehydro-genase Deficiency (MCADD) will be introduced in NHS Greater Glasgow and Clyde by March 2011 as an addition to the current newborn bloodspot screening tests.

- MCADD leads to an inability to metabolise sufficient energy from fat during periods of stress such as fasting, inter current illnesses with fever or surgery

- NHS Greater Glasgow and Clyde plan to implement the Haemoglobinopathies screening programme by March 2011.

- All pregnant women will be screened for sickle cell disease, thalassaemia and other haemoglobinopathies.

- Newborn babies will be screened for sickle cell disorders as part of the newborn bloodspot screening programme.

- An IT application will be developed to support the pregnancy and newborn bloodspot screening programmes. It is expected that this will:

    - remove the need for duplicating data entry and reduce data error

    - have inbuilt quality assurance and audit mechanisms

    - have inbuilt failsafe alert mechanisms

    - facilitate automation of letters and reports

    - will link a mother's antenatal screening history with her baby's screening record

Universal Newborn Hearing Screening

- The aim of the Universal Newborn Hearing Screening (UNHS) programme is the early detection of permanent congenital hearing impairment greater than 40 decibels in the better ear. One to two babies in 1000 are born with a profound hearing loss in one or both ears.

- The screening programme covers all babies born to NHS Greater Glasgow and Clyde residents and any babies moving into the area who are aged less than 6 months.

- The majority of babies are screened in the maternity units in the Greater Glasgow area and in the community in the Clyde area.

- The hospital based hearing screen is carried out at around one to two days of age by dedicated hearing screeners who are based in the maternity units using Automated Auditory Brainstem Response (AABR). The initial community based hearing screen is carried out at six to 21 days by health visitors in the baby's home using Otoacoustic Emissions (OAE).

- From 1 April 2007 to 31 March 2008 95.8% (13849 babies) completed the screening programme. There were 172 referrals to audiology.

- 35 babies were confirmed to have a hearing loss following screening.

- The hearing screening programme has a national IT system – eSP (escreener plus) which is a web based database into which all screening results and demographic data are entered. The Child Health Surveillance Programme system is used as a failsafe to ensure all babies are offered hearing screening.

- Monitoring and evaluation of the programme confirms that the expected numbers of deaf children are being identified earlier than was possible before newborn screening was introduced. Lowering the age of diagnosis to less than 3 months allows intervention to take place before the critical age of 6 months.

Diabetic Retinopathy Screening

- 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.

- All people with diabetes aged 12 and over are eligible for the diabetic retinopathy screening using digital photography.

- The diabetes retinopathy screening using digital photography was implemented in August 2006 in Argyll and Clyde. The service was introduced in Greater Glasgow in 2002 and expanded and redesigned in 2006/07.

- The screening programme takes place in a variety of settings across Greater Glasgow and Clyde. We also continue to screen Argyll and Bute residents. There are four mobile screening units and ten fixed site locations.

- There are 48,360 people with diabetes in NHS Greater Glasgow and Clyde.

- As at May 2008, 35,118 (72.6%) people with diabetes were screened for diabetic retinopathy. At least 10.3% of patients with diabetes who were invited for screening did not take up the offer of screening. This could be an underestimate of the current situation as approximately 20% of screening appointments are reported as “did not attend” by the service. 829 (1.7%) patients were permanently suspended from the screening programme as they were already attending an ophthalmology clinic.

- In February 2008, a review of the patient pathway was undertaken to assess the effectiveness of referral to ophthalmology process and the completeness of feedback received following attendance to ophthalmology clinics. Following the review, the service has identified control measures that should be put in place that will allow the continuous monitoring of the delivery of the administrative tasks and the provision of feedback from ophthalmology clinics. These include a “return receipt” for ophthalmology referrals and access to the Diabetic Retinopathy Screening information and management system in Ophthalmology clinics.

- Work has commenced to develop a single Greater Glasgow and Clyde service and to integrate the diabetes information management systems by April 2009.

- In the Argyll and Clyde part of the service there are plans to expand the number of fixed site clinics, which will also provide slit lamp examinations as well as retinal photography.

Pre-School Vision Screening

- All children born between 1 March 2003 and 28 February 2004 were offered pre-school vision screening in 2007/08.

- 13,124 children aged between four to five years old were identified using the Community Health Index System as being eligible for pre-school vision screening in 2007/08.

- 9,662 children were screened out of 13,124 eligible children in 2007/08. This gave an uptake rate of 73.6%. The uptake rate varied across the geographical location from 34.3% in East Glasgow (due to lack of staff required to deliver the screening programme) to 81.8% in West Glasgow.

- 271 (2.1%) of eligible children were already attending an eye clinic.

- 63 (0.5%) parents refused consent for their children to be screened.

- 7,574 children were screened in a nursery setting; that represents 78.3% of all screened children and 57.7% of all eligible children.

- Children who had not be screened in the programme at the end of the school year were invited to the hospital Orthoptic Department for screening. That represents 15.9% (2088) of the total eligible population (13,124) and includes children resident in East Glasgow where staff shortage has prevented the delivery of screening in nurseries.

- Following screening, 2,578 (26.7%) children were referred for further assessments. Of these, 371 (3.8%) were referred to an Optometrist for further assessment. This represents 2.83% of the total eligible population.

- 7,084 (73.3%) of children screened had a normal result following screening.

- The recruitment of staff to allow the delivery of screening in nurseries is a challenge and priority for the pre-school vision programme.