In April 2009, the World Health Organisation (WHO) declared the first influenza pandemic of the 21st century. This posed several challenges to the Health Protection Team (HPT), the Department of Public Health, North and South Lanarkshire Councils, and other national and local agencies. The first section of this chapter describes the management of the influenza A (H1N1) pandemic in Lanarkshire.

Further sections focus on two key areas of health protection – immunisation and sexual health. In addition to the routine childhood vaccine programmes, two vaccine programmes dominated activity in 2009: the human papillomavirus (HPV) vaccine for girls in second year of secondary school and young women under the age of 18, and H1N1 vaccine, reported in the H1N1 pandemic section.

During 2009, the Health Protection Team dealt with 1085 enquiries, not including H1N1 enquiries. There were 245 (23%) enquiries relating to immunisation, 154 (14%) due to gastroenteritis, and the remaining enquiries covered a range of topics including meningitis, environmental health issues, MRSA and infection control. The HPT was notified of 92 outbreaks of diarrhoeal and/or vomiting illnesses involving both acute and community healthcare settings. The HPT has also been notified of 43 cases of tuberculosis (TB) in Lanarkshire, and the TB Contact Tracing Service has managed nine cases from the Cambuslang/Rutherglen and Northern Corridor area. A list of infectious diseases notified in 2009 is shown in table A16 in the Statistical Appendix.

The final sections of this chapter look at population ‘screening’. The purpose of screening is to identify individuals at risk of or affected by the disease being screened for at an earlier stage in the disease’s natural course rather than waiting for the development of symptoms. This approach improves outcomes, for example colorectal screening saves lives from bowel cancer by enabling treatment at an early stage.

While many people do participate in screening programmes, significant numbers of the Lanarkshire population do not. The reasons for this are complex but there is evidence of a strong deprivation gradient at work, with those most well off significantly more likely to take part in screening programmes than the least well off. Extensive efforts go into providing information about specific programmes in a range of formats and languages, and specific interventions are required to redress the inequalities of screening programme uptake and therefore overall benefits.
3.1 **Influenza A (H1N1v) in Lanarkshire**

**Background**
Influenza A (H1N1v) came to prominence in March 2009 when Mexico experienced a large number of flu cases and associated deaths which were attributed to a new influenza A virus subsequently designated influenza A (H1N1v).

**Epidemiology**
The symptoms of H1N1 are similar to the symptoms of human seasonal influenza infection and include fever, cough, sore throat, runny nose, joint pain and headache. In addition, some patients also have vomiting and diarrhoea.

The first two cases of H1N1 were identified in Monklands Hospital at the end of April 2009. The initial strategy was to decrease the transmission rate, however, as case numbers continued to rise and outbreaks were reported, the ‘containment phase’ moved to a ‘treatment-only phase’ on 6 July.

Most people experienced a mild, typical influenza-like illness and the number of deaths in the first wave was far fewer compared with a typical influenza season. However, severe cases occurred and the overall rate of hospitalisation ranged from 1.3% to 2.5%.

**Lanarkshire planning for pandemic influenza**
The Lanarkshire Pandemic Influenza Plan provided for the setting up of the Problem Assessment Group (PAG) as a multi-agency group convened by the Director of Public Health to deal with pandemic influenza. The PAG coordinated the response to H1N1 at a strategic level and had an oversight of the availability, supply and use of antiviral drugs, impact on services, the vaccination programme, staff issues, vulnerable groups, mortuary facilities and communications. The PAG ensured that there was high-level commitment within its constituent organisations and the Pandemic Influenza Plan was being implemented.

**Lanarkshire experience**
Although there was an initial, intense bout of activity at the end of April/early May, when there were two cases from Forth Valley in Monklands Hospital, the first two Lanarkshire cases were not confirmed until Saturday 6 June 2009. Thereafter, there was a steady increase in the number of cases and other associated work which included contact tracing, providing prophylaxis in schools and nurseries, and closing schools or sending some school years home.

In Lanarkshire, during the containment phase, information was collected on 520 cases, 129 of which were confirmed and the rest were possible cases (Figure 3.1.1).
Figure 3.1.1 Influenza A (H1N1v), possible cases in Lanarkshire (including Cambuslang/Rutherglen) as at 7 July 2009, by onset date

![Graph showing influenza A (H1N1v) cases in Lanarkshire from 29 May to 4 July 2009.]

Total no. of confirmed cases = 129
Onset date not known for 6 cases

Source: NHS Lanarkshire Health Protection Team

In the treatment phase, case-specific information on suspected and confirmed hospitalised H1N1 cases was provided each weekday to the Health Protection Team (HPT) by Infection Control Nurses (ICNs) at the three acute hospitals. Figure 3.1.2 shows the number of hospitalised cases, both confirmed and suspected. (Please note that data for some weeks are missing when the transition occurred to reporting of hospitalised H1N1 cases through the Electronic Communication of Surveillance in Scotland system (ECOSS)).

Figure 3.1.2 Hospitalised influenza A (H1N1v) cases in Lanarkshire from 23 July 2009, by date of reporting (weekdays only)

![Graph showing hospitalised influenza A (H1N1v) cases in Lanarkshire from 23 July 2009 to 6 February 2010.]

Source: NHS Lanarkshire Health Protection Team

There were a total number of 138 confirmed cases hospitalised in Lanarkshire up to 6 February 2010.
Occupational Health data show that 82 NHS Lanarkshire staff fulfilled the criteria for H1N1 referral to their GP or NHS 24 for further assessment and/or treatment of H1N1 until the end of February 2010. A very small number of staff required hospital admission.

A Control Room set up by the Department of Public Health to identify possible cases and manage them, follow up contacts, manage clusters in schools and distribute updated guidance to staff. It also maintained links to Health Protection Scotland (HPS) and other NHS boards and the Scottish Government via daily teleconferences, and was able to produce timely situation reports. The NHS Lanarkshire Corporate Management Team (CMT) was involved with active participation by on-call Executive Directors, the communications team and public health.

The Control Room was supported by staff at Board Headquarters and by staff from CHPs, the Acute Division and both local authorities. The management of clusters in schools, especially special schools, was challenging. However, a good partnership and working relationship, good lines of communication between schools, education authorities and NHS Lanarkshire, and provision of information for parents were crucial factors for successful management.

In addition to coping with the immediate requirements of the pandemic, extensive work and planning has been undertaken in Primary Care and the Acute Division including prioritisation of work, surge capacity, business continuity, antivirals distribution, infection control and arrangements for vaccination.

Both North and South Lanarkshire Councils were represented on the PAG and, in addition, Executive Directors met with the Council Leaders and Chief Executives to ensure that everyone was clear about the implementation of the Lanarkshire Pandemic Influenza Plan. Issues were discussed at a strategic level in the PAG and operationally with the CHPs at locality level.

Communications about H1N1 were directed by the Scottish Government Health Directorates. A key feature of communications in Lanarkshire was to ensure that staff were adequately informed.
**Vaccination**

The H1N1 vaccination programme was carried out in two phases:

**Phase 1** – from mid-October 2009 to 30 September 2010, including health and social care employees, ‘at risk’ patients, pregnant women, children in additional needs schools and homeless people, delivered by GP practices and the NHS Lanarkshire Occupational Health Service (SALUS).

**Phase 2** – was delivered to all children aged between six months and five years between January and March 2010 by a combination of GP practices (~35%), and public health nurses vaccinating children in clinics (~65%).

**Phase 1 delivery**

Phase 1 of the H1N1 vaccination programme had five main streams representing the groups highlighted above and each was implemented in a different way.

NHS Lanarkshire (in common with other boards) introduced a variety of additional measures to promote uptake amongst this cohort due to the particular risks associated with pregnancy. In particular:

- Midwife training – awareness sessions were held with the public health consultant lead to encourage midwives to promote H1N1 vaccination.
- GP notification – lists of identified pregnant women were sent to their registered GP to encourage them to invite their patients to vaccination clinics.
- Patient notification – midwife lists of pregnant women were compiled and used as the basis of a mass-lettering campaign to encourage those women to contact their GP for vaccination.
- Postnatal vaccination – H1N1 vaccination was made available to women in postnatal wards.

Due to deaths from H1N1 illness in some UK additional needs schools, the vaccination programme for children in these schools in Lanarkshire was prioritised and completed rapidly with strong support from school and public health nurses and North and South Lanarkshire education colleagues.

The uptake rates for each of the five groups are summarised below in Tables 3.1.1–3.1.4 and Figure 3.1.3.

**Table 3.1.1**  Staff uptake rates (excluding any staff vaccinated by their GP) by March 2010

<table>
<thead>
<tr>
<th>Staff category</th>
<th>NHS staff</th>
<th>Social care staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. eligible for H1N1 vaccine</td>
<td>10,334</td>
<td>9,836</td>
</tr>
<tr>
<td>Total no. given one dose of H1N1</td>
<td>5,163</td>
<td>3,325</td>
</tr>
<tr>
<td>Proportion of eligible staff vaccinated</td>
<td>50%</td>
<td>33.8%</td>
</tr>
</tbody>
</table>
Table 3.1.2 Uptake rates of GP practices in Lanarkshire including Cambuslang/Rutherglen compared against the national average (as at February 2010)

<table>
<thead>
<tr>
<th></th>
<th>Lanarkshire and Cambuslang/Rutherglen</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of practices included</td>
<td>102</td>
<td>748</td>
</tr>
<tr>
<td>% of practices with valid data</td>
<td>88.6%</td>
<td>73.3%</td>
</tr>
<tr>
<td>No. of under 65s at risk (+ pregnant women)</td>
<td>69,945</td>
<td>452,886</td>
</tr>
<tr>
<td>No. of doses given to under 65s at risk</td>
<td>35,837</td>
<td>245,797</td>
</tr>
<tr>
<td>% uptake for under 65s at risk</td>
<td>54.3%</td>
<td>54.3%</td>
</tr>
<tr>
<td>No. of over 65s at risk</td>
<td>46,216</td>
<td>346,827</td>
</tr>
<tr>
<td>No of doses given to over 65s at risk</td>
<td>25,679</td>
<td>194,635</td>
</tr>
<tr>
<td>% uptake for over 65s at risk</td>
<td>55.6%</td>
<td>56.1%</td>
</tr>
</tbody>
</table>

Figure 3.1.3 H1N1 vaccine uptake in phase 1 groups as at 28 February 2010, Lanarkshire and Cambuslang/Rutherglen GP practices

Source: Health Protection Scotland

Table 3.1.3 Uptake rate in pregnant women during March 2010

<table>
<thead>
<tr>
<th></th>
<th>Lanarkshire and Cambuslang/Rutherglen</th>
<th>Scotland</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of pregnant women</td>
<td>3,769</td>
<td>29,795</td>
</tr>
<tr>
<td>No. of doses given to pregnant women</td>
<td>2,056</td>
<td>14,197</td>
</tr>
<tr>
<td>Percentage uptake for pregnant women</td>
<td>54.6%</td>
<td>47.6%</td>
</tr>
</tbody>
</table>

Uptake was 60% for H1N1 vaccine and 50% for seasonal flu vaccine in people registered with the homelessness service.
Phase 2 delivery

Table 3.1.4 and Figure 3.1.4 show uptake in healthy children divided by those given vaccine by their GP practice or centralised clinics (national data extracts have not yet been validated and are unavailable for some practices).

Table 3.1.4  Uptake in healthy children in Lanarkshire and Cambuslang/Rutherglen GP practices (SIRS or GPASS and EMIS practices only – data to 21 February 2010)

<table>
<thead>
<tr>
<th></th>
<th>GP clinics</th>
<th>Centralised clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of practices included</td>
<td>49</td>
<td>62</td>
</tr>
<tr>
<td>% practices responding</td>
<td>92.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>No. of healthy under 5s</td>
<td>12,867</td>
<td>18,908</td>
</tr>
<tr>
<td>No. of doses given to healthy under 5s</td>
<td>6,045</td>
<td>10,477</td>
</tr>
<tr>
<td>% uptake for healthy under 5s</td>
<td>47.0%</td>
<td>55.4%</td>
</tr>
</tbody>
</table>

Figure 3.1.4  H1N1 vaccine uptake in healthy children <5 years as at 21 February 2010, Lanarkshire and Cambuslang/Rutherglen GP practices

Source: Health Protection Scotland

NHS Lanarkshire scheduled clinics and invited over 18,000 patients from 11 January 2010 to 29 January 2010. Additional mop-up clinics were scheduled from 22 to 26 February 2010. The uptake rates in centralised clinics had a relatively narrow range from 46% to 65%.
Conclusions

H1N1 has posed unique problems for NHS Lanarkshire and its partners. It did not behave as the pandemic influenza planning suggested, e.g. the prolonged containment phase and relatively mild nature. However, many of these challenges have been met in the first wave of the pandemic including by primary care, secondary care and public health. At times, these services were stretched but ultimately they coped.

A workshop to look at the response to the pandemic was organised for PAG members in October 2009 to discuss key learning points and an Action Plan was drawn up to address any gaps and ensure better preparedness for subsequent waves.

NHS Lanarkshire uptake rates of H1N1 vaccine were on par with national data. Notable successes were in the support from maternity services and the high pregnancy uptake rates, support and encouragement for the homelessness services (again with high uptake), quickly responding to the additional needs school outbreak and rapid distribution of limited vaccine supplies in the early phases.

However, there was marked variability between recorded uptakes of H1N1 vaccine depending on GP practice. This has merited further investigation at both Lanarkshire and national levels to determine if this was simply a data recording and measurement issue or due to variation in provision of clinics and encouragement to attend.

Integration with the local authorities has worked well and this was reflected in the good will with respect to premises for centralised clinics and vaccination of social care staff by SALUS staff. NHS and social care staff vaccine uptake was very encouraging.

A PAG paper reviewing the pandemic will also be produced.
Key Points

• The H1N1 came to prominence in March 2009. An initial containment phase was followed by a treatment-only phase as case numbers continued to rise and outbreaks were reported.

• Most people experienced a mild, typical influenza-like illness. However, severe cases did occur but with far fewer deaths reported compared with a typical influenza season.

• The Lanarkshire Pandemic Influenza Plan provided for the setting up of the Problem Assessment Group (PAG) as a multi-agency group which coordinated the response to H1N1 at a strategic level.

• Extensive work and planning was undertaken in NHS Lanarkshire and both North and South Lanarkshire Councils.

• The H1N1 vaccination programme was successfully implemented. Vulnerable members of the community and key health and social care staff, to a large extent, have protection against H1N1 illness.

• Debrief sessions have been organised at local and national level to capture learning points to manage pandemics in the future.

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3.2 Immunisation

“The impact of vaccination on the health of the world’s people is hard to exaggerate. With the exception of safe water, no other modality, not even antibiotics, has had such a major effect on mortality reduction and population growth.”
Plotkin SA, Orenstein WA, eds. Vaccines. 3rd edition.

Introduction
Successful protection against smallpox using cowpox material scratched on the skin by Edward Jenner in 1798 is recognised as one of the earliest recorded successes at vaccination. Further vaccines to protect against other diseases followed, for example, against rabies, cholera and the plague in the 19th century, and against tuberculosis and tetanus, and influenza and measles viruses in the 20th century. More recently, the human papillomavirus vaccine (HPV) in 2008 and the pandemic influenza A (H1N1v) vaccine in 2009 have been used.

Public health activity in this field is focussed on ensuring safe and effective delivery of vaccine programmes and the aims of programmes are threefold:
- to protect the vaccinated individual,
- to protect the remaining unvaccinated population by reducing spread of the disease and, ideally,
- to eradicate disease (e.g. smallpox).

Childhood vaccines
The full universal UK childhood vaccination schedule provides protection against 10 diseases, using seven different vaccine preparations, at a minimum of eight different appointments, with between one and three jabs at each. In addition, a three-dose course of HPV vaccine is routinely offered to all girls in secondary school year two (S2).¹

In 2009, Lanarkshire uptake rates for completed courses of non-live vaccines at two years of age were around 98.5% for primary courses and at five years were 93.0% for booster vaccines (Scotland 98.4% and 91.4%). At two years of age, Lanarkshire uptake of one dose of MMR (live vaccine) was 94.3% (Scotland 93.6%), and at five years of age 95.6% (Scotland 96.1%). Lanarkshire uptake of two doses of MMR at five years of age was 90.1% (Scotland 89.2%).²

Uptake rates remain encouraging and reflect the high priority given to vaccination by public health nursing teams, general practitioners and their staff, and parents. Also key is the support from staff who administer the electronic Scottish Immunisation Recall System (SIRS). SIRS ensures that children who have missed appointments are re-appointed and staff alerted. The current childhood vaccine schedule is complicated and staff appreciate the SIRS system automatically determining vaccine intervals.
Effect of deprivation on childhood vaccine uptake rates
There are approximately 6,600 Lanarkshire children in each single year cohort. Vaccine uptake rates are close to 100% for many vaccine antigens. Hence, there are few children with incomplete vaccine courses (approximately 100) to compare across five Scottish Index of Multiple Deprivation (SIMD) categories. Five (of six vaccines) had uptake rates showing a range of less than 2% across SIMD categories (example diphtheria Figure 3.2.1), and one (Hib/MenC) had a range of 4.4%. The SIRS system had been suspended for missed Hib/MenC vaccines and this probably accounts for the greater range for this vaccine.

Figure 3.2.1 Diphtheria vaccine uptake by 12 months, by deprivation quintile, 2009

Source: SIRS, ISD Scotland

Human papilomavirus vaccination programme
On 1 September 2008, a three-dose HPV vaccination programme to protect against cervical cancer was introduced for girls in school year S2 along with a phased catch-up for older girls up to 18 years. This was reported in detail in last year’s Annual Report.

The response to the HPV vaccination programme has been very positive with 90.0% of Lanarkshire girls (Scotland 91.4%) in the 2008/09 S2 cohort being vaccinated with the full three-dose course. In the 2009/10 S2 cohort, 87.1% of Lanarkshire girls (Scotland 85.8%) were vaccinated with two doses by mid-February 2010.

HPV vaccination was also offered to girls in S5 and S6 in 2008/09, and S4 and S5 in 2009/10. The uptake was 82.0% and 75.6% in S5 and S6 girls (Scotland 89.9% and 86.6%). It is more difficult to evidence high vaccination rates in those who have recently left school. These differences may be partly explained by differences in recording data.

Future issues
During 2010, work will take place locally and nationally to enhance the selective hepatitis B vaccine programme.
Nationally, the NHS is seeking better integration between IT systems that hold vaccine information, for example SIRS and GP systems, to reduce the risk of duplicate vaccine administration and unnecessary data entry.

The rollout of the national immunisation e-learning programme will take place in 2010, informed by the NHS Lanarkshire public health nursing review.

NHS Lanarkshire was successful in obtaining grants to evaluate in more detail vaccine provision and health inequalities and this work will take place in 2010.

Key Points

• Uptake of childhood vaccines is high at two years of age (98.5%) (MMR first dose 94.3%).

• For most vaccine types there is minimal variation by deprivation (<2%).

• More variation was observed across SIMD groups when the SIRS call/recall system had been suspended.

• HPV uptake continues to be high although uptake for school leavers is lower.

• A number of initiatives are expected to further strengthen our understanding of uptake and help maintain or increase uptake rates.

References
1 Immunisation Scotland website. 
   www.immunisationscotland.org.uk/when-to-immunise/immunisation-schedule.aspx
2 Information Services Division, NHS National Services Scotland website.
3 Information Services Division, NHS National Services Scotland website.
5 Information Services Division, NHS National Services Scotland website.

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3.3 Sexual Health

Introduction
In Lanarkshire a holistic multi-agency approach is taken to the promotion of positive sexual health, and the prevention and treatment of sexual ill health. There is close collaboration between NHS Lanarkshire sexual health services and North and South Lanarkshire Councils, voluntary sector organisations (including Terrence Higgins Trust and Waverley Care), the Lanarkshire Alcohol and Drug Partnership, the Lanarkshire Bloodborne Viruses Networks, child protection services, EVA (Escaping Violence and Abuse), and the Lanarkshire Rape Crisis Centre. There are projects which focus on identifying and meeting the sexual health needs of gay and bisexual men, young people, people in black and minority ethnic communities.

Sexual health promotion
Condoms are distributed via the Lanarkshire C Card Scheme which now has 100 distribution centres (GP surgeries and community pharmacies) across Lanarkshire.

Sexual Health and Relationships training continues to be provided to a range of professionals to enable them deliver good quality education.

NHS Lanarkshire is a member of the West of Scotland social marketing partnership which in 2009 launched a new campaign providing risk reduction messages aimed at men who have sex with men. www.makeyourpositionclear.com

The Lanarkshire sexual health website www.lanarkshiresexualhealth.org provides information about positive sexual health, contraception, sexually transmitted infections and local services.

Clinical sexual health services
The Lanarkshire integrated reproductive and sexual health service is part of the West of Scotland Sexual Health Managed Clinical Network and participates in joint planning, audit, service provision and continuing professional development.

A review of service provision required in order to meet the NHS Quality Improvement Scotland Standards for Sexual Health Services\(^1\) has highlighted the need for further investment by NHS Lanarkshire in clinical sexual health services.

The National Sexual Health IT system NaSH, which was first introduced in Lanarkshire, is now live in all mainstream sexual health clinics.
All young people’s clinics offer general health advice, chlamydia testing, pregnancy testing and condoms and the number of clinics increased from four in 2006 to ten in 2010. The locations of these clinics took into account deprivation indices, distance to nearest sexual health clinic, locality distribution of existing clinics, and the number of young people in the area.

The integrated sexual health service has developed a fast track system for clients with an addiction, and for vulnerable young people, including Looked After and Accommodated Children and Young People. In addition, all staff have been trained in brief interventions for harmful and hazardous drinking.

**Sexually transmitted infections**
Levels of testing for sexually transmitted infections are low in Lanarkshire compared to other NHS board areas. A chlamydia awareness-raising campaign has helped to increase testing, diagnosis and treatment levels for this infection.

Since December 2008, the Free 3C Scheme has been available in most community pharmacies providing free Condoms, free Chlamydia testing and free emergency Contraception.

**Contraception**
The has been a significant increase in recent years in the number of women receiving long acting reversible contraception with the rate for Lanarkshire now nearly equal to the average rate for Scotland.

**Termination of pregnancy**
The quality of the termination of pregnancy service has improved significantly with a high percentage of terminations being performed at less than 63 days gestation and an increasing percentage of medical (non-surgical) terminations.²
Key Points

• Lanarkshire adopts a holistic multi-agency approach to promote positive sexual health, and prevent and treat sexual ill health.

• Work is undertaken specifically to identify and meet the sexual health needs of men who have sex with other men, of young people, and of people in black and minority ethnic communities.

• In order to increase the capacity of services to diagnose sexually transmitted infections, additional investment in sexual health services is required.

References
1 NHS Quality Improvement Scotland. *Standards for Sexual Health Services*
   www.nhshealthquality.org/nhsqis/files/sexhealthserv_stanf_mar08.pdf
   Accessed 9 September 2010.


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3.4 Cancer Screening Programmes

Cervical screening

Much local work has gone into using evidence to improve cervical screening uptake.\(^1\) Despite this, uptake continues to fall just short of the NHS Quality Improvement Scotland (QIS) target of 80%.\(^2\) Uptake in Lanarkshire in the five years to 1 January 2010 was 78.6%, an increase from 78.1% the previous year. However, this average conceals the fact that, at January 2010, 32 of 98 general practices achieved or exceeded the 80% uptake level.

Cervical screening uptake has been slowly but steadily falling in Lanarkshire and across Scotland over the past ten years. An increase in uptake locally and nationally bucked this trend between 2008 and 2009, mainly due to a proportionally greater uptake among young women. This was likely due to the publicity surrounding Jade Goody’s battle with cervical cancer. Uptake in younger women in Lanarkshire was greater than the Scottish average (Figure 3.4.1). This may have been due, in part, to the impact of the local Community Health Educator project in priming groups in Lanarkshire.\(^3\)

Figure 3.4.1 Cervical screening uptake in the 5.5 years to 31 March 2009, by age group, Lanarkshire and Scotland

Three-year rolling averages for incidence (rates of new cases identified) and mortality (death rates) for cervical cancer at a local and national level continue to demonstrate a decline, affirming the positive impact of the screening programme. Figure 3.4.2 demonstrates the effect of deprivation on incidence and mortality from cervical cancer in Scotland. Women from the most deprived areas are significantly more likely to be diagnosed with cervical cancer and also more likely to die from the disease than women from the least deprived areas.
**Figure 3.4.2** Cancer of the cervix uteri, age-standardised incidence and mortality rates by deprivation quintile, Scotland

Sources: Scottish Cancer Registry, ISD (incidence); GROS (mortality and populations)

**Breast screening**

Breast screening uptake has increased in Lanarkshire and Scotland in recent years. However, uptake rates in Lanarkshire and Scotland remain below the desirable QIS standard of 80%. For the period 2005–2008, NHS Lanarkshire achieved an uptake of 72.7%, lower than the Scottish uptake of 76.5%. This Lanarkshire figure conceals variation in uptake between locality areas and at general practice level.

Figure 3.4.3 shows a clear association between uptake and deprivation. With increasing deprivation, uptake worsens.

**Figure 3.4.3** Scottish Breast Screening Programme, uptake by women aged 50–64 years, by deprivation quintile, Scotland, 1990–2008

Source: Scottish Breast Screening Programme (SBSP) Information System
Figure 3.4.4 demonstrates the effect of deprivation on incidence and mortality from breast cancer at a Scottish level. Contrary to most other cancers and diseases, the incidence of breast cancer is higher among women in less deprived areas, but despite their increased risk of breast cancer, they experience a lower mortality from the cancer.\(^5\)

**Figure 3.4.4** Cancer of the female breast, age-standardised incidence and mortality rates by deprivation quintile, Scotland

![Graph showing incidence and mortality rates by deprivation quintile](image)

Sources: Scottish Cancer Registry, ISD (incidence); GROS (mortality and populations)

**Colorectal screening**

Uptake of colorectal (bowel) screening is difficult to estimate accurately as Lanarkshire is still within the roll-out phase; at the time of writing, 12 months of a 24-month roll-out phase is complete. Key performance indicators, (KPIs) published in August 2010, show an uptake of 43.4% for Lanarkshire, with women having a significantly higher uptake (46.3%) than men (40.3%). When the data were submitted for the August 2010 KPIs, Lanarkshire was only 3 months into the programme with an attendant lag in uptake. This reported uptake, therefore, is not wholly representative of uptake of the programme in Lanarkshire. Operational data on uptake, gathered from the National Bowel Screening Centre, provide a more robust estimate. For the six-month period to 30 June 2010, Lanarkshire had an uptake of 49% compared to Scotland with 56%, both short of the QIS target of 60%\(^6\).

National colorectal screening uptake, as with breast screening, demonstrates a clear inverse gradient between deprivation and uptake (Figure 3.4.5).
**Discussion**

The effect of deprivation on uptake of cancer screening programmes is inversely related. Deprivation also impacts on the outcomes from the disease process with people in the most deprived areas experiencing worst outcomes.

To address this, work has been undertaken in conjunction with Keep Well, targeting bowel, cervical and breast screening for eligible individuals.

Nationally-conducted research has demonstrated that use of a pre-notification/teaser letter can improve the uptake of bowel screening by around 5%. This pattern of higher uptake with the pre-notification letter was seen for men and women and in all age and deprivation categories. Recognising the importance of this, a national business case is currently being prepared to roll this initiative out across Scotland.

Community educational/development approaches are also known to affect uptake, and use of the Bowel Screening Champions in Lanarkshire is a method of passing on knowledge and awareness of the programme.
Key Points

• The effect of deprivation on uptake of the cancer screening programmes is inversely related, with lower uptake in deprived areas.

• Deprivation also impacts on the outcomes of the disease with the most deprived patients experiencing the worst outcomes.

• Specific work is therefore needed to target the most deprived and vulnerable groups in the population to impart knowledge and awareness and encourage participation in screening which can improve outcomes.

References


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3.5 Screening Programmes – Pregnancy, Newborn and Pre-school

New developments
The Scottish Government’s guidance *Changes to the pregnancy and newborn screening programmes* sets out a number of developments that will be implemented in NHS Lanarkshire from 2009 to 2011.¹

• Women booking with a midwife from December 2009 onwards received an ultrasound scan in the second trimester of pregnancy to check their baby’s development.
• In autumn 2010, the newborn bloodspot test will be expanded to screen babies for medium-chain acyl-CoA dehydrogenase deficiency (MCADD) – a rare metabolic disorder affecting the body’s ability to use energy stores. The bloodspot test will also start to screen all babies for sickle cell disease.
• By spring 2011, pregnant women will also be screened for haemoglobinopathies (disorders affecting the blood’s ability to carry oxygen, such as sickle cell disease and thalassaemia). Screening will involve a blood test which will be interpreted alongside a ‘family origin questionnaire’. This is because these conditions are more common in women from Mediterranean, African and south Asian backgrounds.
• By spring 2011, all pregnant women will be offered a new screening test for Down’s syndrome. Combined ultrasound and biochemical screening (CUBS) uses a combination of ultrasound measurement of foetal nuchal translucency (the fluid filled space at the back of the baby’s neck) and measurement of biochemical markers in the mother’s blood. Both components of the test will be done in the first trimester of pregnancy.

Table 3.5.1 shows the uptake and key performance indicators for the screening programmes involving pregnant women, newborn babies and pre-school children.
Table 3.5.1 Screening programmes involving pregnant women, newborn babies and pre-school children

<table>
<thead>
<tr>
<th>Screening programme</th>
<th>Target population</th>
<th>Denominator and time frame</th>
<th>Standards</th>
<th>Uptake experienced</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal newborn hearing screening</td>
<td>All newborn babies born to Lanarkshire residents in 2009</td>
<td>2009 6,623 newborn babies</td>
<td>NHS QIS 5(b): 95% of babies should have completed the hearing screen by 10 weeks(^2)</td>
<td>99% of babies completed the hearing screen by 10 weeks</td>
<td>3 moderate to severe hearing losses detected through screening 4 babies are still undergoing investigation</td>
</tr>
<tr>
<td>Newborn bloodspot test (Guthrie test or heel prick test)</td>
<td>All newborn babies born to Lanarkshire residents in 2009</td>
<td>2009 6,529 newborn babies</td>
<td>NHS QIS 4(h): 99.5% of infants who have undergone screening tests for CH, PKU and CF have a screening result available or are recalled for repeat testing by 20 days of age(^3)</td>
<td>Uptake of programme 99.9%. During 2009, 6,466 (99%) of babies had a result available by 18 days of age.</td>
<td>Referred (&lt;5)(^1) babies with PKU Referred (&lt;5)(^1) babies with CF Referred 6 babies who are carriers of CF Referred (&lt;5)(^1) babies with CH</td>
</tr>
<tr>
<td>Pre-school orthoptic vision screening (POVS)</td>
<td>All resident Lanarkshire pre-school children aged 4 years</td>
<td>August 2008 – June 2009 6,443 pre-school children</td>
<td>Hall 4 All children should be offered a pre-school orthoptic vision screen aged 4(^3)</td>
<td>90.3%</td>
<td>1,126 children referred to orthoptic/ophthalmology departments Referral rate of 19.4 % from screening Final outcomes not available as yet</td>
</tr>
<tr>
<td>Down’s syndrome screening in pregnancy</td>
<td>All pregnant women</td>
<td>2009 6,575 live births in Lanarkshire(^i)</td>
<td>No specific clinical standards around uptake</td>
<td>38%</td>
<td>2003–2007 Lanarkshire, 1.11 per 1,000 live births compared with 1.09 per 1,000 live births in Scotland(^4)</td>
</tr>
<tr>
<td>Screening for neural tube defects (NTDs) in pregnancy</td>
<td>All pregnant women</td>
<td>2009 6,575 live births in Lanarkshire(^i)</td>
<td>No specific clinical standards around uptake</td>
<td>39%</td>
<td>2003–2007 Lanarkshire, 0.64 per 1,000 live births compared with 0.45 per 1,000 live births in Scotland(^4)</td>
</tr>
</tbody>
</table>

\(^i\) Actual numbers where cases less than 5 individuals are censored.  
\(^ii\) As a proxy for number of pregnancies in Lanarkshire, the number of registered live births was used to calculate uptake as the laboratory does not collect data by health board area of residence but by unit of delivery, e.g. Wishaw General Hospital.
Key Points

• Uptake is high for universal newborn hearing screening, newborn bloodspot screening and pre-school orthoptic vision screening. This is very positive as early detection of these conditions leads to early treatment, bringing significant benefits to affected children.

• Uptake is lower for Down’s syndrome and neural tube defect screening. However, more so than in the other screening programmes, acceptance and therefore uptake is a very personal decision, dependent on a woman’s own beliefs and views. While the aim is to maximise the provision of screening information for women, we do not seek to maximise uptake of this type of screening.

• Rates of Down’s syndrome and neural tube defects in Lanarkshire do not differ significantly from the rest of Scotland.

References

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