Director of Public Health
Annual Report
2011

Public Health Agency

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Foreword

Dr Carolyn Harper

Too many children and young people are living in circumstances that make it difficult for them to thrive. Among the biggest threats to their health and wellbeing are the social factors that prevent them from developing the strengths, capabilities and confidence to engage fully in society as children, as young people and as adults.

Parental mental health problems, alcohol or drug misuse, domestic violence, absent parents, emotional, physical or sexual abuse, and a neglected neighbourhood where antisocial behaviour and criminality are commonplace – these are the threats that can limit a child's potential. These risk factors are all too often further compounded by poverty and living in deprived circumstances.

Early intervention

Early intervention enables every baby, child and young person to acquire the social and emotional foundations to succeed as adults. Those denied these interventions experience a bad start to life. Unfortunately, few of them recover. They are more likely to be involved as teenagers and adults in risky sexual behaviour, alcohol and drug misuse, and antisocial behaviour. They are also more likely to suffer mental illness. As adults, these problems are harder to treat and they are also more resistant to change.

Instead of reacting late to these problems in adulthood, a shift towards early intervention will give children and young people the social and emotional resilience they need to pre-empt these problems. This shift in approach brings benefits to the individual through improved mental and physical health, and benefits to society through reduced crime, improved academic achievement and more responsible parenting of the next generation.

Economic benefits

Investment in the early years of life also makes economic sense. Economists have demonstrated that a modest investment in pregnancy and the early years of life brings a 9- or 10-fold return on every £1 invested. One review put the average economic benefits of early education programmes for low-income three and four year olds at close to two and a half times the initial investment.

The economic benefits of programmes that target children and young people are realised through a more educated, skilled and motivated workforce, and by avoiding the costs associated with criminal behaviour, unemployment, alcohol and drug misuse, child abuse, and a range of other poor health and social care outcomes.

Best start in life

If the population of Northern Ireland is to be healthier in the future than it is now, the health and wellbeing of our children and young people must be as good as it possibly can be. Children and young people aged under 24 don't just make up 34% of our population, they embody the country's future. Their health and lifestyle choices will be taken forward for years to come.

My report highlights the range of work being undertaken by the Public Health Agency (PHA) to ensure children and young people achieve the best start in life. Through modest investment in these programmes, the population of Northern Ireland will experience huge health, social and economic benefits.

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Director of Public Health

Further information

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Introduction

This, the third Annual Report of the Director of Public Health (DPH) for Northern Ireland, describes the main public health challenges in the region. It also provides details of the wide variety of work undertaken by the PHA and its partners in 2011 to improve the health and social wellbeing of the population.

Report structure

The report structure reflects the main areas of public health action:

- improving health and reducing inequalities;
- improving health through early detection;
- improving health through high quality services;
- protecting health.

For ease of reference, the sections are colour coded.

On page 71, the report also lists core tables for 2010 relating to key statistical data on, among others, population, birth and death rates, mortality by cause, life expectancy, immunisation and screening.

The tables themselves are available as a portable document format (PDF) file on the PHA website at www.publichealth.hscni.net

Background

The PHA was established to:

- protect public health and improve the health and social wellbeing of people in Northern Ireland;
- reduce inequalities in health and social wellbeing through targeted, effective action;
- build strong partnerships with key stakeholders to achieve tangible improvements in health and social wellbeing.

The PHA takes direct public health action and commissions or facilitates action by others, including a wide range of community, voluntary and statutory partners across all sectors.

Overview

The early years: the foundation for health and wellbeing

There are 609,000 children and young people aged between 0 and 24 years in Northern Ireland (34% of the population). The PHA is committed to work that helps all these children and young people secure the best start in life.

An increasing body of scientific and economic evidence suggests interventions in children and young people are more effective and less costly than addressing problems at a later stage. Early investment can bring significant benefits in later life in areas such as health and wellbeing, education, employment, and reduced violence and crime.

There are a number of specific factors that affect the health and wellbeing of children and young people in Northern Ireland, and these in turn contribute to health inequalities.

Smoking

Smoking in pregnancy is associated with a range of negative impacts on children's health. These include an increased risk of physical illness (asthma, glue ear) and psychological problems (attention deficit, hyperactivity).[1,2]

Smoking in pregnancy is much more common in disadvantaged groups, putting children born to these mothers at greater risk. In the most deprived areas of Belfast, 44.2% of pregnant women reported smoking during pregnancy.[4]

Key fact

Almost a third of pregnant women in the most deprived Super Output Areas of Northern Ireland smoke (32.8%) compared to 7.2% of women in the least deprived areas.[3]

Child and adolescent smoking causes serious risks to health. The earlier children become regular smokers and persist in the habit as adults, the greater the risk of developing lung cancer or heart disease.[5] Early uptake of smoking is associated with:

- subsequent heavier smoking;
- higher levels of dependency;
- a lower chance of quitting;
- higher mortality.[6]

By the age of 13, 62% of children in Northern Ireland have smoked tobacco, with a quarter of this group smoking every day.[7]

Obesity

Children who are overweight tend to grow into adults who are overweight, and therefore have a higher risk of developing health problems in later life, including:

- coronary heart disease;
- stroke;
- type 2 diabetes;
- kidney failure;
- cancer.

Being overweight can also cause psychological distress. Obesity can reduce life expectancy by up to nine years.[8]

Teasing and bullying about appearance can affect a child's confidence and self-esteem. It can lead to isolation and depression, which in turn can impact on their school attendance and level of academic achievement.

Diet and nutrition are important factors in obesity – more than three quarters of 9–11 year olds (76%) do not currently take part in the recommended 60 minutes of physical activity they need each day, and only 13% of 11–16 year olds eat five or more portions of fruit and vegetables each day.[7,10]

Key fact

In 2010, 8% of children in Northern Ireland aged 2–15 years were reported to be obese.[9]

Teenage pregnancy

Unplanned pregnancy and parenthood can have a major impact on individuals, in particular young people. Eight percent of school pupils in Northern Ireland aged 11–16 years reported having had sexual intercourse, and more than a fifth of these young people did not use any precautions to prevent pregnancy.[10] In 2010, there were 1,265 teenage births in Northern Ireland, a significant decrease from the high of 1,791 in 1999.[11]

Having children at such an age can damage young women's health and emotional wellbeing, and severely limit their education and career prospects, resulting in increased levels of poverty and social exclusion. For example, rates of post-natal depression are three times higher in teenage mothers than they are in older mothers, and teenage mothers have a higher risk of poor mental health for three years after the birth.

Children born to teenagers are more likely to experience a range of negative outcomes in later life, and are up to three times more likely to become a teenage parent themselves.

Alcohol

Alcohol is the third most significant risk factor for ill health and premature death in the EU, behind tobacco and high blood pressure.[12] It has been estimated that Northern Ireland is spending £680 million annually addressing alcohol misuse. This figure reflects the costs to healthcare, policing, probation and prison services, social services and workplaces through absenteeism.[13]

Research carried out with 11–16 year olds in 2010 shows that less than half had drunk alcohol, with 29% drinking alcohol a few times per month.[7]

Key fact

Alcohol is 65% more affordable today than it was 20 years ago.[14]

Mental health and wellbeing

Mental health and psychological wellbeing are fundamental to broader health and wellbeing. Half of those with mental health problems at the age of 26 will by the age of 15 have met criteria that identify a psychiatric disorder, and nearly three quarters will have done so by their late teens.[15] Mental health and psychological wellbeing are affected positively and negatively by a child's own make-up – the influence of their parents, carers, families and wider communities, and their everyday experiences in places such as children's centres, schools and youth services.

Substance misuse

Children and young people are affected by parental drug misuse. The challenges faced include:

- inconsistent, unpredictable or absent parenting;
- family breakdown;
- emotional or physical neglect;
- learned behaviour from parents;
- poverty;
- stigma.

A fifth of young people in Northern Ireland aged 11–16 years have been offered drugs (not including solvents) on at least one occasion, and 11% have used or tried drugs at some time.[7]

Of those who have used or tried cannabis, over a third (36%) use it at least a few times per month.[7] Recognised health risks of substance misuse include:

- anxiety;
- memory or cognitive loss;
- accidental injury;
- hepatitis;
- human immunodeficiency virus (HIV) infection;
- coma;
- death.

Drug misuse may also lead to an increased risk of sexually transmitted infections (STIs).[16]

Key fact

Children who experience abuse or neglect as a result of substance misuse are at high risk of developing behavioural and psychological problems including aggression, threatening behaviour and vandalism.

Academic achievement

Health and academic achievement are closely connected. Low achievement is an indicator of poor health in later life, and conversely, failure to maintain at least a reasonable level of health is very often a barrier to achievement.

Academic achievement will often reflect health inequalities. In 2008/09, the number of school leavers who achieved at least five GCSEs at grades A–C ranged from 100% in more affluent areas to less than 30% in deprived areas.[17]

Breastfeeding

Breastfeeding has significant health benefits and has a major role to play in promoting personal health and reducing inequalities. Northern Ireland has one of the lowest breastfeeding rates in the UK; however, recent figures show an upward trend.[18] Those least likely to breastfeed remain young mothers and those on low incomes.

Key fact

The percentage of mothers breastfeeding on discharge in deprived areas of Belfast in 2008 was 17.6%. This compares to a Northern Ireland average of 43.5%.[4]

The aim of the PHA

The PHA's aim is to progress innovation in, and implementation of, work that helps children and young people get the best start in life. Our approach is informed by the increasing scientific and economic evidence that suggests interventions in children and young people are more effective and less costly than addressing problems at a later stage. We believe that early investment brings significant benefits in later life in areas such as:

- health and wellbeing;
- education;
- employment;
- reduced violence and crime.

This report will highlight the range of actions taken by the PHA to address these public health issues, and will describe how these actions have led to significant improvements in the health and wellbeing of children and young people in Northern Ireland.

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Improving health and reducing inequalities

Overview

Improving health and reducing inequalities requires coordinated action across many different sections of government and delivery organisations. The PHA has highlighted that action is also required to:

- embed health and social wellbeing improvement into the commissioning of all Health and Social Care (HSC) services;
- develop effective partnerships with other sectors that can influence the wider determinants of health.

The current situation also presents something of a paradox; the need to spend more on prevention is clear, yet more difficult because of the budget pressure on service delivery. Improving health and wellbeing is also likely to be compounded by financial pressures experienced by other government departments whose policies will impact on health. Further welfare reform is expected to have an adverse impact on those who are most disadvantaged.

Prevention makes economic as well as practical sense. For example, this year the PHA has demonstrated that investment in smoking cessation services has been highly effective. This intervention will improve outcomes and save the HSC budget thousands of pounds.

Throughout the year, the PHA has continued to focus on evidence of effectiveness to ensure that investments bring benefits to the whole population. At the same time, innovation and the natural creativity engendered by working with local communities add greatly to our understanding. We have identified four themes to our work:

1. Give every child and young person the best start in life. The PHA has advanced strong evidence-based programmes to build the bedrock for future health and wellbeing.
2. Ensure a decent standard of living for all. The PHA has been working in partnership with government departments to address poverty, social isolation, and improving access to welfare payments, as well as focusing efforts on those groups at greatest disadvantage, for example homeless people.
3. Build sustainable communities. The views, strengths, relationships and energies of local communities are essential in building effective approaches to improving health and wellbeing. The PHA has been developing a regional strategic approach together with the HSC Board (HSCB), alongside engaging people in shaping and delivering programmes at a local level.
4. Make healthy choices easier. The PHA has been working to create an environment that is supportive of health, and working in a range of settings to ensure that healthier choices are made easier for individuals.

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Give every child and young person the best start in life

Taking the initiative to improve breastfeeding rates

Public health challenge

Northern Ireland has the lowest breastfeeding rates in the UK – 64% of mothers start breastfeeding at birth, 36% are breastfeeding at six weeks, and 14% are breastfeeding at six months.[19,20] Benefits of breastfeeding to the child include reduced risk of:

- infections;
- allergies;
- sudden infant death;
- obesity;
- childhood diabetes.

Mothers who breastfeed are less at risk of breast and ovarian cancer.[21,22,23] Those least likely to breastfeed include young mothers and those on low incomes. Breastfeeding also plays an important role in reducing health inequalities and supporting early brain development.[24]

Actions

The PHA is working to address our low breastfeeding rates by implementing evidence-based approaches such as the UNICEF UK Baby Friendly Initiative (BFI) and interventions such as breastfeeding peer support programmes. The UNICEF UK BFI helps ensure that hospital and community healthcare facilities provide effective breastfeeding information and support to women. The PHA supports this work through a service level agreement with UNICEF. The BFI standards for hospital and community settings include:

- having a breastfeeding policy;
- training health professionals;
- providing information to all pregnant women and new mothers;
- supporting mothers to learn how breastfeeding works;
- developing targeted antenatal programmes;
- referring mothers to available support in the community.

Armagh–Dungannon community locality in the Southern HSC Trust (HSCT) area receives full BFI accreditation in September 2011.

Breastfeeding training courses provided by the PHA in 2011 included the UNICEF three day course, audit workshops and a neonatal breastfeeding course. Five other workshops on communicating with women about infant feeding issues were also developed and delivered.

Impacts

This work is supporting breastfeeding coordinators, midwives, health visitors, neonatal nurses, maternity support workers and Sure Start staff to improve the care they provide to breastfeeding families. Subsequently, 61% of all births in Northern Ireland occur in a BFI hospital. An increasing number of hospital and community settings in Northern Ireland are achieving full BFI accreditation. In 2011, there were six new BFI awards.

Breastfeeding training is improving staff attitudes, knowledge and skills. The PHA provided training for 151 healthcare staff this year. Feedback on these courses has been very positive, with many reporting that they feel more confident about their practice.

Next steps

The PHA recognises that there is an ongoing need to ensure that women are able to make informed choices about how they feed their babies. In particular, there is a need to explore the best ways to reach young mothers and those on low incomes. Breastfeeding can help protect women and children from ill health, and it incorporates a responsive parenting style, which is linked to infant wellbeing and healthy early brain development .

The need to continue developing breastfeeding programmes with a sound evidence base and provide ongoing information to help mothers choose breastfeeding remains a priority for the PHA.

Key facts

- The average breastfeeding rate in Northern Ireland is 44.9% at discharge from hospital.
- The lowest breastfeeding rate, by local government district (LGD), is in Strabane at 32.1%.
- The highest breastfeeding rate is in North Down at 58.2%.
- Mothers from less deprived areas are twice as likely to breastfeed as those from the most deprived areas.[25]
- Mothers aged under 20 years have much lower breastfeeding initiation rates (34%) than mothers aged over thirty years (74%).[26]

Further information

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Strengthening Families brings people together

Public health challenge

Strengthening Families is a 14 week evidence-based training programme that focuses on parenting skills, children's life skills and family life skills. It is targeted at high-risk families with young teenagers aged 12–16 years. Parents and children participate in the programme both separately and together. Transport, a crèche and a family meal are all provided on a weekly basis as part of the programme.

Originally developed in the United States, Strengthening Families has been successfully adapted for use in a wide range of countries including the UK and is one of the few evidence-based family programmes that has been shown to have proven short-term and long-term effects.

- Strengthening Families shows promise in the long-term prevention of alcohol misuse in young people.[27]

- The National Institute for Health and Clinical Excellence (NICE) has highlighted Strengthening Families as a programme worth exploring in public health interventions.[28]

Actions

The programme is running in the following HSCT areas:

- Belfast (with funding from Belfast City Council);
- South Eastern (with funding from the PHA);
- Western (with funding from Cooperation and Working Together (CAWT) – via the European Union's INTERREG IVA Cross-border Programme – and the PHA).

The Western HSCT pilot has now completed three runs of the programme and South Eastern HSCT has just started their first run. In Belfast, the first programme ran from February to June 2011 and the second runs from March to June 2012.

Some of the facilitators and funders involved with the Western HSCT area's Strengthening Families pilot programme.

Impacts

All the parents and young people who have participated in these programmes have reported that their family life and functioning have improved as a result of attending. Improving how parents and children communicate with each other is a major focus of the programme.

Quotes from participants:

"We used to argue with each other but now we spend time together. They listen to us and we listen to them." (Teenage participant, Western area)

"It has been a lifeline for my family." (Adult participant, Belfast)

Quotes from facilitators:

"This type of inter-agency working is on a different level. We are actually working together, rather than sharing information and working towards a similar goal for a family with each professional doing their own little bit." (Western area)

"The difference in the families from the first week and the last week was amazing. I only wish it could have been recorded visually in some way and then those sceptics would see for themselves the benefits to the families." (Belfast)

Next steps

Each of the three HSCT areas is putting in place a formal evaluation process to inform the future development and delivery of Strengthening Families in those localities. Staff within the PHA leading on drugs and alcohol will also be considering the findings from these evaluation reports to see how the PHA can support further piloting, or indeed roll out, of the programme across the region.

Key facts

- More than 100 facilitators from a range of community, voluntary and statutory organisations have been trained in the delivery of Strengthening Families.
- In Belfast, 40 people have been trained as facilitators and, for the first run, 10 families started the programme, with six (10 adults and eight teenagers) completing the full 14 weeks.
- In the South Eastern HSCT area, 17 people were trained as facilitators in preparation for the first run of their pilot programme in February 2012.
- In the Western HSCT area, 54 people have been trained as facilitators and 14 families have been through the programme to date, with a further eight due to finish at the beginning of May 2012.

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Roots of Empathy rolls out across Northern Ireland

Public health challenge

Emotional and social wellbeing is crucial for children to develop positive relationships and succeed in school and later life. Roots of Empathy is a school-based social and emotional competence promotion programme for primary school children aged eight and nine years, which provides an effective approach to reducing the risk factors that cause violence.

The programme offers improved outcomes for participating children, including an increased understanding of other people's feelings (empathy) and a reduction in bullying and aggressive behaviour. This has specific and broad relevance for families, communities, schools, policing, probation, community safety and those concerned with mental health promotion.

Roots of Empathy was originally developed in Canada, and is formally recognised by the World Health Organization (WHO). The one school year programme involves 27 lessons, which incorporate a monthly classroom visit by an infant and parent from the local community. Each lesson provides opportunities to focus on the dimensions of empathy:

- being able to identify and explain different emotions;
- being able to take the perspective of another person;
- being sensitive to other people's emotions.

Actions

The PHA has progressed the implementation of Roots of Empathy across the five HSCTs. Consequently, 67 primary schools across Northern Ireland are delivering the programme in 2011/12.

HSC research and development (R&D) division has also provided funding to a Queen's University Belfast research team to support a long-term evaluation of the Roots of Empathy programme, alongside an analysis of its cost-effectiveness.

The evaluation involves randomly selecting schools to receive the programme and comparing their outcomes against schools that do not.

Impacts

In total, 67 primary schools across Northern Ireland will be recruited to participate in the evaluation. All children will complete a set of measures for social, emotional and behavioural development before the programme starts and after it ends. Teacher and parent ratings for behaviour will also be obtained. The data collection will take place over a three year period to ascertain the longevity of effects.

Next steps

The PHA will work closely with Roots of Empathy Canada, HSCTs, schools, and Education and Library Boards to recruit further schools for the 2012/13 academic year.

The Roots of Empathy research programme intervention will take place between October 2011 and June 2012. Follow-up will take place at 12, 24 and 36 months and a final report is expected in December 2015.

Key facts

- Research has highlighted that 43% of primary school children and 29% of post-primary school children have been bullied at least once.[29]
- School bullying can have serious consequences for children, leading to academic underachievement, physical and emotional distress, loss of self-esteem, eating disorders and truancy.[29]
- In the 12 months up to June 2010, 1,253 sectarian and 642 racially-motivated crimes were registered in Northern Ireland. This highlights the extent to which the relatively small population of those with black and minority ethnic (BME) backgrounds are the subjects of hate-motivated crime.[30]

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Improving the mental health of children and young people

Public health challenge

The impact of the Troubles may have contributed to poor mental health among Northern Ireland children and adolescents according to a recent rapid review undertaken by researchers in Queen's University Belfast.[31] The review also highlighted that stigma and embarrassment, worries about confidentiality, and the response they might receive are the biggest barriers to children and young people seeking help.

In addition, the review found that the most effective models of service to promote resilience in looked-after and badly treated children, and in children who self-harm, have yet to be identified.

There are a number of barriers to good practice by mental health workers, including:

- lack of policy and practice guidelines;
- lack of resources;
- lack of clear role boundaries among staff;
- concern about undermining their relationship with a patient by raising issues regarding their parenting.

Actions

The findings from the review have been shared with key stakeholders in the area of intellectual disability and mental health, including clinicians, service users, service providers and researchers.

Impacts

The review made a number of recommendations for policy and practice changes to improve the mental health of children and young people in Northern Ireland. These relate to the way services are organised and the practice of health professionals.

The review recommends that policies aimed at improving young people's mental health should address young people's wish to be independent. In addition, anti-stigma campaigns should be targeted to the needs of different groups.

Services should ensure they are accessible to young people by making them flexible, affordable, relevant and responsive to their needs. Young people should be involved in the development, delivery and evaluation of services and programmes. Professionals working with young people should receive adequate and ongoing professional development, supervision and support.

Next steps

HSC R&D Division has issued a call for further research in the area of mental health and intellectual disability to answer research questions highlighted by the reviews.

All GPs are being fed back their individual uptake rates on a regular basis so that those with below average uptake can look at ways to address this.

Education of professionals and the public is key to maintaining good uptake and we will continue to make this a high priority.

Key facts

- One in 10 children and adolescents in the UK between the ages of one and 15 years has a mental disorder.[31,32]
- Research suggests that 20% of children have a mental health problem in any given year, and about 10% at any one time.[31,32]
- The UK came bottom of the rankings for children's wellbeing compared with North America and 18 European countries, and 24th out of 29 European countries in a more recent survey.[31,32]

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Creating new opportunities to support looked-after children

Public health challenge

Overall public health challenges for looked-after children include the fact that they:

- often enter the care system with a lower level of health than their peers and their longer-term outcomes remain worse;
- have significantly poorer mental and physical health than those who are not looked after;
- have higher levels of disabilities and statements of special educational needs (SEN);
- experience speech and language issues, coordination difficulties, and eye or sight problems;
- are a particularly vulnerable group, and their health and wellbeing is poorer than those who are not looked after.

Actions

The PHA and HSCB have established an inter-agency Health Needs of Looked-After Children Group, which has developed an action plan. The group has used both local data and the guidance framework for looked-after children and young people produced by NICE to inform those priorities that will be the subject of new interventions.

Importantly, a group of care-experienced young people are also providing guidance and input through one of the group members, Voice of Young People in Care (VOYPIC).

In addition, the PHA has commissioned Artscare to provide an innovative arts-based programme of support to 40 young people currently living in residential units across Northern Ireland. In October 2011, a 'Twilight' week-long Halloween programme of music, writing, painting and crafts took place.

In Belfast, internationally successful artists such as the composer Brian Irvine worked at the Lyric Theatre with a group of young people who performed a variety of musical pieces they had created at the end of an intensive week of work and support.

Impacts

The arts-based programme has demonstrated the need for intensive support for young people whose confidence and self-esteem has been badly affected by adverse childhood experiences. The following provides a cross-section of participant feedback:

"I loved making the film about a car race. I love cars. I learned about how to make smoke come out of the exhaust with cotton wool and how to make a stage set. It's been great seeing all the scenes coming together."

"I loved working on the music production. I was the music producer for the performance. It was good learning how to control the music deck."

"I can't believe I have spent every day singing and making music. I dream of being famous one day and I feel now I can do that. Making up my own songs and being able to sing them in front of people on the last day made me feel really special."

Next steps

The inter-agency group will develop interventions with the Children's Services Framework as part of the action plan. It is also planned to build on the arts-based intervention as part of an overall strategy to improve the health and wellbeing of looked-after children and young people.

Key facts

- A third of female former care leavers in Northern Ireland became mothers on or before their 19th birthday.[33]
- One in seven former care leavers aged 16–18 years are coping with a disability.[34]
- Looked-after children are five times more likely to be suspended from school than children from the general school population.[35]
- 24% of looked-after children aged 12–15 years were covered by a statement of SEN compared with 4% of the general school population.[35]
- The Office for National Statistics (ONS) has highlighted that the prevalence of mental health disorders in looked-after children is four times higher than in children who have not been in care.[36]

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Assisting carers of children with learning disabilities

Public health challenge

Children with learning disabilities (LD) can face unique challenges that will often become persistent throughout their life. Carers play a significant role in helping the individuals complete tasks in frequently challenging environments.

It is critical that carers are supported. Research shows that intensive caring responsibilities impact on parents' health and wellbeing.[37] Suggested coping strategies include a positive perception of the child, optimistic attitudes and fostering family cohesion.[38] These coping strategies require support to be provided to the carer, to help maximise their own life skills and lifestyle choices.

Actions

The PHA commissioned a social economy-based initiative called Me Unltd to provide the personal development programme 'It's All About Me' aimed at supporting carers, including those who look after children with learning disabilities.

'It's All About Me' is a unique programme designed to meet the needs of informal carers. The programme promotes personal growth through the development of a wide range of self-management, confidence and coping skills, and provides carers with access to a range of employment, training, social, health and wellbeing activities/services.

Martin Crossan participated in the 'It's All About Me' programme in Derry and is now involved in the Riverside Male Carers Group set up as a result. Martin enjoys a variety of follow-on 'Me Time' activities. His daughter Summer has complex needs and a severe learning disability.

Impacts

In 2011, a total of 103 carers participated in 10 programmes in the Western HSCT area, 72% of whom cared for a child with a learning disability.

The programme had a positive impact on the lives of those who care for children with a learning disability:

- 86% experienced reduced stress levels;
- 77% developed a more positive attitude towards their caring role and the children/young people they care for;
- 81% reported improved mental health;
- 58% reported improved relationships with family and friends.

Qualitative evaluation indicated that it helped carers of children with a learning disability:

- cope better with the demands of caring, therefore improving the quality of care;
- feel increasingly part of everyday life and less isolated;
- create a happier home environment for the family;
- be more positive, motivated and energised to organise and cope with more frequent activities and outings.

Next steps

Me Unltd empowers carers to create local networks or 'Me Time' groups so they can meet on a regular basis and support one another.

Five 'Me Time' support groups have been established as a result of the joint work between the PHA and Me Unltd, providing support to 60 carers.

Key facts

- It is estimated that there are 8,150 children in Northern Ireland classified as having a learning disability, of which 21% are classified as severe/profound.[39]
- 75% of carers who participated in the 'It's All About Me' programme developed a new skill, with 33% developing job application or interview skills.

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Ensure a decent standard of living for all

Keep Warm packs for children experiencing fuel poverty

Public health challenge

Fuel poverty is a significant public health issue in Northern Ireland. Households are considered to be living in fuel poverty if they have to spend more than 10% of their income on heating and lighting their home to a reasonable standard of comfort.[40] Almost half of all households in Northern Ireland are living in fuel poverty, far exceeding the figure in England, Scotland or Wales.[41,42]

The three groups most vulnerable to the impacts of cold homes are:

- elderly people;
- very young children;
- people with a long-term disability or illness.[43]

Younger children are more vulnerable because they often have to spend more time in the home and tend to have weaker immune systems than adults, therefore they are more likely to pick up infections and be susceptible to respiratory problems such as asthma.[43]

Actions

To reduce cold-related illnesses among Belfast's most vulnerable people, the PHA Health and Social Wellbeing Improvement Team commissioned 'Keep Warm' packs. The packs contained the following items of lightweight clothing designed to provide effective insulation from the cold:

- thermal vest;
- fleece cardigan;
- fleece hat;
- thermal socks.

Pictured with Janie Reid, aged three, and Jack Reid (front), aged one, both wearing a fleece and hat from the PHA's Keep Warm packs, are (from left): Laura Campbell, Sure Start in north Belfast; Mary Black, Assistant Director of Public Health (Health and Social Wellbeing Improvement), PHA; Louise Boyde, Sure Start in east Belfast; Kate Rocke, Sure Start in south Belfast; and Penny Ambrose, Sure Start in west Belfast.

The packs were available in two sizes – children aged one to two years and children aged three to five years. The packs also included a factsheet for parents/carers with practical information on how to keep young children warm.

In total, 510 packs were given to local Sure Start partnerships at the beginning of the winter to distribute to families in greatest need in the most deprived areas in Belfast.

Impacts

Preliminary feedback from the Sure Start partnerships indicates that the packs were well received and the items are being worn by children. The clothing helps young children retain heat and stay warm for longer. By retaining core heat, the children have increased resistance to infections and reduced physical discomfort.

Next steps

This is the first year that Keep Warm packs focused specifically on very young children. The PHA will collect feedback from two sources – the Sure Start partnerships and the households who received the packs – to find out if the items are:

- effective at keeping young children warm;
- getting to those most in need.

This feedback will be used to make improvements to future Keep Warm packs and ensure they are as effective as possible.

Key facts

- In 2009, 44% of households (302,310) in Northern Ireland were experiencing fuel poverty. This was up from 34% (225,580 households) when the level of fuel poverty was last measured in 2006.[41]
- Northern Ireland has higher rates of fuel poverty than Scotland (33%), England (16%) and Wales (20%).[42]

Further information

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Partnership working to help homeless people

Public health challenge

Homeless people are a group at particular risk of poor health and wellbeing, and they experience significant inequalities in health. Across the PHA, there are a range of services, delivered through partnerships with local organisations, which provide support to homeless people.

Actions

There are three aspects to this work:

- Supporting partnership working to address drug and alcohol misuse and homelessness.
- Providing protection against cold weather.
- Promoting access to decent food and nutrition.

Impacts

The PHA supports partnership working by funding organisations such as Extern in Belfast and the Fermanagh Community Alcohol Support Service to help people at risk of losing their homes through alcohol and/or drug misuse. Support is provided to maintain tenancies, assist with re-housing and access further help for substance misuse problems.

The PHA also supports drop-in services for street drinkers in Newtownards and Derry, and outreach services in Belfast and Ballymena, which proactively reach out to injecting drug and/or alcohol users, many of whom are homeless or at risk of homelessness.

In addition, the PHA works in partnership with the Council for the Homeless Northern Ireland to provide a wide range of training programmes for those working in the homeless and addiction sectors. This work aims to improve awareness of the issues and foster better working relationships across the two sectors.

The PHA works with partner organisations such as Homeplus, the Welcome Centre, Rosemount House and the Salvation Army to provide protection against cold weather by delivering Keep Warm Packs to rough sleepers and homeless people in Belfast.

The PHA has formed a partnership with Fareshare to promote access to decent food and nutrition. A range of community and voluntary service providers, including hostels and shelters for homeless people, now receive daily deliveries of nutritious fresh food from suppliers who are participating in the Fareshare Island of Ireland Community Food Network.

Next steps

The PHA will continue to work with key partner organisations in contributing to the objectives of the Department for Social Development's (DSD) 'Supporting People' strategy.

The PHA will aim to prevent homelessness and provide appropriate and effective support to those who are homeless or at risk of homelessness.[44]

Key facts

- 18,664 households presented to the Northern Ireland Housing Executive (NIHE) as homeless between April 2009 and March 2010 – a 3.3% increase on 2008/09.
- 53% of these were statutorily homeless (an 11% increase on the previous year), with 27% deemed 'not homeless' and the remaining 20% deemed 'intentionally' homeless.[45]

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Build sustainable communities

Boosting health through neighbourhood renewal

Public health challenge

People who are poorer or disadvantaged are more likely than those better off to die younger and have problems with illness and disability. Reducing these kinds of health inequalities is a key aim of the PHA through the Neighbourhood Health Improvement Project (NHIP). Health inequalities start in early life and last not only into old age, but often into future generations.[46]

The DSD has identified 10% of Northern Ireland's most deprived regions as neighbourhood renewal areas (NRAs). The aim of NHIP was to develop a joint approach to improving health and wellbeing across all eight NRAs in the Western HSCT area. NHIP was led by the Western HSCT's health improvement team and coordinated by Derry Healthy Cities.

Actions

Allocations of £403,750 and £80,000 were made by the DSD and PHA respectively to NHIP to enable the eight NRAs to:

- work together to improve the health of their communities;
- share good practice;
- develop skills;
- build capacity.

Attending the NHIP winter health event are (back, from left): Debbie Hunter (Western HSCT); Colm Eastwood MLA (Mayor of Derry); Kieran McCartney (Derry Healthy Cities); Charles Murray (DSD); (front, from left): Tony Doherty and Donna McCloskey (Bogside and Brandywell Health Forum) and Monica MacIntyre (DSD).

In total, 41 programmes were provided, many of which were targeted at children and young people, including:

- parenting programmes;
- personal development and life skills programmes;
- obesity prevention programmes;
- healthy lifestyle programmes for lone parents;
- smoking cessation programmes.

A winter warmth support programme was also provided. Eight winter health events were organised and 132 volunteers were recruited to support vulnerable households during the extreme winter of 2010.

Impacts

In total, 911 people participated in the various programmes and 70% of participants said they had developed new skills.[47] Forty eight percent of households said they had changed lifestyle habits, with 32% of participants increasing their physical activity levels.[47]

The winter warmth support programme provided a 24 hour helpline and 485 calls were received. A total of 680 trips were made on behalf of residents to shops, pharmacists and post offices. In all, 4,140 pathways to houses were cleared of snow and ice, and 3,550 house calls were made. This programme was provided to lone parents, families with young children, disabled individuals and older people.[47]

Key facts

- Males in the most deprived areas can expect to live 4.6 years less, and females 2.9 years less, than the Northern Ireland average.[48]
- The birth rates for teenage mothers in deprived areas are 80% higher than in Northern Ireland as a whole.[49]
- 55.1% of school leavers in NRAs achieved five or more A–C grades at GCSE (2009/10) compared with a Northern Ireland average of 71.9%.[50]
- 65,219 people live in the eight NRAs. In total, 15,238 (23.4%) are aged under 16 years. The NRAs within the Western HSCT are Limavady, Strabane, Derry – Triax, Waterside, Outer North, Outer West, Omagh and Enniskillen.[51]

Next steps

The DSD and PHA have committed almost £500,000 to support phase two of NHIP in the six NRAs in the north west from 2011 to 2013. Omagh and Enniskillen NRAs decided to progress with funding from their regional DSD office in Omagh.

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Regional forum addresses Travellers' health issues

Public health challenge

Travellers' needs were identified in the *All Ireland Traveller Health Study* by University College Dublin in June 2010.[52] The *All Ireland Traveller Health Study* followed a three year research programme commissioned jointly by the Department of Health, Social Services and Public Safety (DHSSPS) and the Department of Health and Children in the Republic of Ireland.

It estimated that there are 3,905 Travellers living in 1,562 families in Northern Ireland, and the stark findings highlighted that male Travellers have a life expectancy 15 years lower, and females 11 years lower, than the general population.

The report made a number of recommendations, which included:

- prioritising the health of mothers and children;
- enhanced preventative work for respiratory and cardiovascular disease, as well as better risk detection and management;
- developing primary care interventions that involve Travellers engaging with other Travellers in the area of health improvement;
- input from men of all ages on improving health and wellbeing and access to healthcare.

Actions

To agree and take forward actions supporting the health and wellbeing of Travellers, a forum has been established over the past 12 months. The Travellers Health and Wellbeing Forum is a regional body, chaired by the PHA, which meets four times a year to report progress on agreed interventions and to agree new priorities. Its members include representatives from:

- the Travelling community;
- the five HSCTs in Northern Ireland;
- CAWT;
- Southern Area Action on Travellers;
- Traveller support organisations and various voluntary organisations.

Pictured at an event in Dungannon in December to mark Traveller Focus Week and highlight the progress made in meeting the health and wellbeing needs of Travellers are (from left): Mary Black, Assistant Director of Public Health (Health and Social Wellbeing Improvement), PHA; Mark Donahue, Equality Officer, An Munia Tober (a Traveller support organisation); and Brigid McCann, a volunteer with the Travellers Health Network.

The aim of the forum is to improve the health and wellbeing of Travellers by developing better coordination, sharing models of best practice and shaping future services. The forum agreed to undertake actions based on the findings and recommendations of the *All Ireland Traveller Health Study*, particularly those relating to health and wellbeing.

Impacts

The Belfast HSCT established a network, part-funded by the PHA, for sharing good practice across a range of issues and the recruitment of Travellers into employment as health workers.

Forum members are also agreeing work opportunities and placements within HSC and local councils. Other key areas of work include the development of proposals to increase the uptake of cancer screening services.

The PHA plans to introduce the Roots of Empathy programme in primary schools that cater for Traveller children in particular. This programme improves school performance and enhances levels of empathy.

Next steps

The forum has produced a *Health and social wellbeing thematic action plan 2012/13* for Travellers, which represents a means of planning, delivering and accounting for actions to be undertaken by the members.

The forum will also continue to implement and review agreed priorities with the help of Travellers themselves.

Key facts

- For male Travellers, life expectancy at birth is 61.7 years, 15 years lower than the general male population.[52]
- For female Travellers, life expectancy at birth is 70.1 years, 11 years lower than the general female population and equivalent to that of women in the early 1960s.[52]
- Only 1% of Travellers are over 65 years of age, compared to 15% of non-Travellers.[52]

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Make healthier choices easier

Tackling drug and alcohol misuse among young people

Public health challenge

It is widely recognised that although young people will experiment with alcohol and illicit drugs, most are able to move on with their lives without experiencing lasting problems. However, for some young people the misuse of alcohol and drugs will cause or contribute to family disputes and breakdown, criminal behaviour and disrupted education, as well as psychological and physical harm. In addition, drug and alcohol misuse is often only one of a number of problems and is frequently part of a range of risk-taking behaviours. The PHA commissions a number of specialist services targeting these young people and their families.

Actions

Drug and Alcohol Intervention Service for Youth (DAISY) is a partnership between Action on Substances through Community Education & Related Training (ASCERT) and Opportunity Youth. Its aim is to provide a comprehensive therapeutic substance-misuse treatment service to young people aged between 11 and 21 years and their families.

The service is offered across the Eastern and Western HSCT areas and is available to young people and their families who are directly or indirectly affected by substance misuse.
Services offered include:

- mentoring;
- counselling;
- therapeutic group work;
- diversionary activities;
- family support and family therapy (Eastern HSCT area only).

Additional services are offered where appropriate, including drama and art therapy. Treatment is underpinned by a youth-friendly approach. DAISY aims to work alongside the young person and their family to address these issues and build resilience and the ability to find more positive coping strategies. Referrals come from a range of sources including:

- social services;
- accident and emergency departments;
- schools;
- alternative education;
- the Youth Justice Agency (YJA);
- community and voluntary agencies;
- self-referral;
- GPs;
- the Police Service of Northern Ireland (PSNI);
- Lifeline;
- child and adolescent mental health services.

Impacts

The following two sections show the combined outcomes for DAISY East and West (taken from pre- and post-baselines and the Regional Impact Measurement Tool).[53]

Young people

- 70% experienced a reduction in the extent to which they had a problem with alcohol or drugs.
- 72% identified a reduction in negative and destructive behaviours as a result of alcohol/drugs or solvents.
- 85% reduced the amount of money they spent on alcohol (65% for drugs).
- 80% reduced the number of days drinking alcohol (66% for drugs).

Families

- 90% reported improved communication in the home.
- 80% reported improved coping strategies.

Next steps

The PHA will continue to ensure that commissioned services meet the needs of these young people and their families.

Key facts

- 19% of young people in Years 8 to 12 have taken a form of drug or solvent at some point in their life.
- 13% have taken a form of drug or solvent in the last year.
- 7% have taken a form of drug or solvent in the last month.
- Cannabis is the most commonly used drug.
- More than half (55%) have drunk alcohol in their lifetime, and of these, more than half (55%) reported being drunk on at least one occasion.
- Girls (58%) are more likely than boys (51%) to report ever being drunk.[54]
- There were 5,846 individuals in treatment for drug and alcohol misuse on 1 March 2010 and 11% of those were under 18 years of age.[55]

Further information

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Enhancing children's diets through school rewards

Public health challenge

Diet is a key, modifiable determinant of health and the diet of UK children is sub-optimal, being typically high in fat and sugar, and low in fibre, fruit and vegetables.[56] For example, 93% of girls and 78% of boys aged 11–18 years in the UK are not meeting the 'five-a-day' guideline.

Disadvantaged children often have an even poorer diet.[57,58,59] Notably, fruit and vegetable consumption decreases and sugar intake increases as you go from higher through to lower social classes.[59]

There is a need to develop effective and sustainable ways of helping young people choose a better diet. Schools can play a crucial role in improving the health of children and are a key setting for public health interventions.

Actions

HSC R&D division has provided £60,000 for a feasibility study to:

- explore parental attitudes to their children being given rewards associated with food choices at school;
- explore children's opinions about receiving rewards associated with their food choices, and the perceived impact this may have on food purchased within and outside the school canteen;
- discuss with school catering services the usefulness of rewards-based intervention, and the procedures that would need to be put in place to facilitate such an intervention.

Impacts

Data from this study will enable the research team to submit a large funding application to a major funder. The funds would support a research study aimed at establishing whether or not a rewards-based system would have an impact on the recorded food choices of school children.

This type of research study could offer a way to improve the diet of children in both Northern Ireland and the rest of the UK.

Next steps

The research team hoped to report their findings to the HSC R&D Division of the PHA in the spring of 2012.

Key facts

- The diet of UK children is sub-optimal, being typically high in fat and sugar, and low in fibre, fruit and vegetables.[56]
- School meals make a key contribution to the dietary intake of children and are estimated to make up between 25–35% of a child's daily intake of energy, fat and other nutrients.
- The school setting provides easy access to a large population of various ages and children spend approximately 40% of their waking hours in the school environment.

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Improving health through early detection

Overview

Screening for infectious diseases during pregnancy
Newborn hearing screening brings benefits to babies

Overview

It is recognised that the early detection of disease often produces a better outcome for the patient. When a disease is detected early, it is often possible to provide more effective treatment and avoid significant ill health, or in some cases premature death. Population screening programmes have a key role in the early detection of disease.

There are a number of programmes that apply to the antenatal period and to infants immediately after birth. These have an impact on the health of children in their early years. The programmes are part of the UK National Screening Committee recommendations.

Screening tests undertaken during the antenatal period are mostly in relation to particular types of infection that the mother may be carrying. In these circumstances, it is possible to manage the pregnancy and the delivery of the baby, either to minimise the risk of the infection being passed on, or to at least pave the way for treatment in the immediate period following birth, which minimises the effects of the infection.

A simple blood test is carried out on infants in the first few days of life, which allows the baby to be tested for a number of conditions. Should the baby have any of these conditions, immediate treatment has a dramatic effect on improving health outcomes. Tests on hearing and the management of hearing loss are important for the overall health, social and educational development of infants and young children.

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Screening for infectious diseases during pregnancy

Public health challenge

Hepatitis B, HIV and syphilis can all be passed on from an infected mother to her baby, either during pregnancy or at delivery. The infections tested for may not cause any symptoms in the woman. However, if untreated, they can be passed on to the baby. The UK National Screening Committee has recommended that every pregnant woman is offered screening tests for hepatitis B, HIV, syphilis and rubella immunity at their first antenatal appointment, ideally before 12 weeks gestation.

Actions

The Northern Ireland Infectious Diseases in Pregnancy Screening (IDPS) Programme offers screening for hepatitis B, HIV, syphilis and rubella immunity. All pregnant women are offered the tests at their maternity booking appointment. Any pregnant woman who is found to be infected with hepatitis B, HIV or syphilis is referred to the relevant specialist services for care and treatment.

It is important that infections are detected as early as possible in pregnancy. This means the woman can be referred for specialist care and, if required, treatment can be started to reduce the risk to the baby. A fast-track system is in place to make sure women who book late for antenatal care can be tested.

Impacts

Women who test positive for hepatitis B are referred to hepatology services for specialist assessment and management. This is important for the mother's health as well as for the baby. Babies whose mothers have hepatitis B are offered vaccination within 24 hours of birth, and again at one, two and 12 months. This prevents the baby being infected with hepatitis B in 90% of cases.

Women who are found to be HIV-positive are offered treatment and careful management of their pregnancy and delivery. This means the risk of a mother passing on HIV to her baby is reduced to less than 1%. Without this, the risk of passing HIV on to the baby would be 25%. Early diagnosis of HIV in the mother has long-term health benefits for her as well.

Women who have syphilis are given antibiotics to treat the infection. Untreated syphilis in a pregnant woman can result in late miscarriage, stillbirth or the baby being born with syphilis. Syphilis infection can cause a range of problems for the baby, including blindness, deafness, bone abnormalities and learning difficulties. Successful treatment reduces the risk of these complications for the baby and also improves the mother's health.

Women who are not immune to rubella are offered the measles, mumps and rubella (MMR) vaccine after delivery, before discharge from hospital, and again a month later. This means the mother is protected from rubella infection in future pregnancies.

The vast majority of pregnant women in Northern Ireland accept the screening tests.

Next steps

In September 2010, the UK National Screening Committee published updated standards for the IDPS Programme. The PHA has been working with HSCTs to make sure the screening programme meets the new standards.

Key facts

- There were 25,315 births in Northern Ireland in 2010.[60]
- Overall Northern Ireland uptake of infectious disease screening in pregnancy is 98–99%. This is one of the highest uptake rates in the UK.[61,62]
- Specialist management of pregnancy and delivery reduces the chance of a baby born to a HIV-positive mother being infected from one in four to one in 100.[63]
- All four tests are carried out using one blood sample taken at the first antenatal appointment.[64]

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Newborn hearing screening brings benefits to babies

Public health challenge

One or two babies in every 1,000 are born with permanent hearing loss in one or both ears (called permanent childhood hearing impairment or PCHI). PCHI is defined as a permanent hearing loss of 40 decibels or greater in one or both ears.

Early detection and treatment of PCHI results in improved speech and language acquisition, with consequent long-term benefits in terms of social and psychological wellbeing, educational achievement and employment prospects.

Actions

Since October 2005, all parents of newborn babies in Northern Ireland have been offered a screening test for PCHI. The test involves placing a small soft tipped earpiece in the outer part of the baby's ear, which sends clicking sounds down the ear. When the ear receives the sound, the screening equipment can pick up a response.

Some babies require another type of screening test, which involves three small external sensors being placed on the baby's head and neck. If clear responses to the screening tests are not established, babies are then referred to audiology services for diagnostic tests.

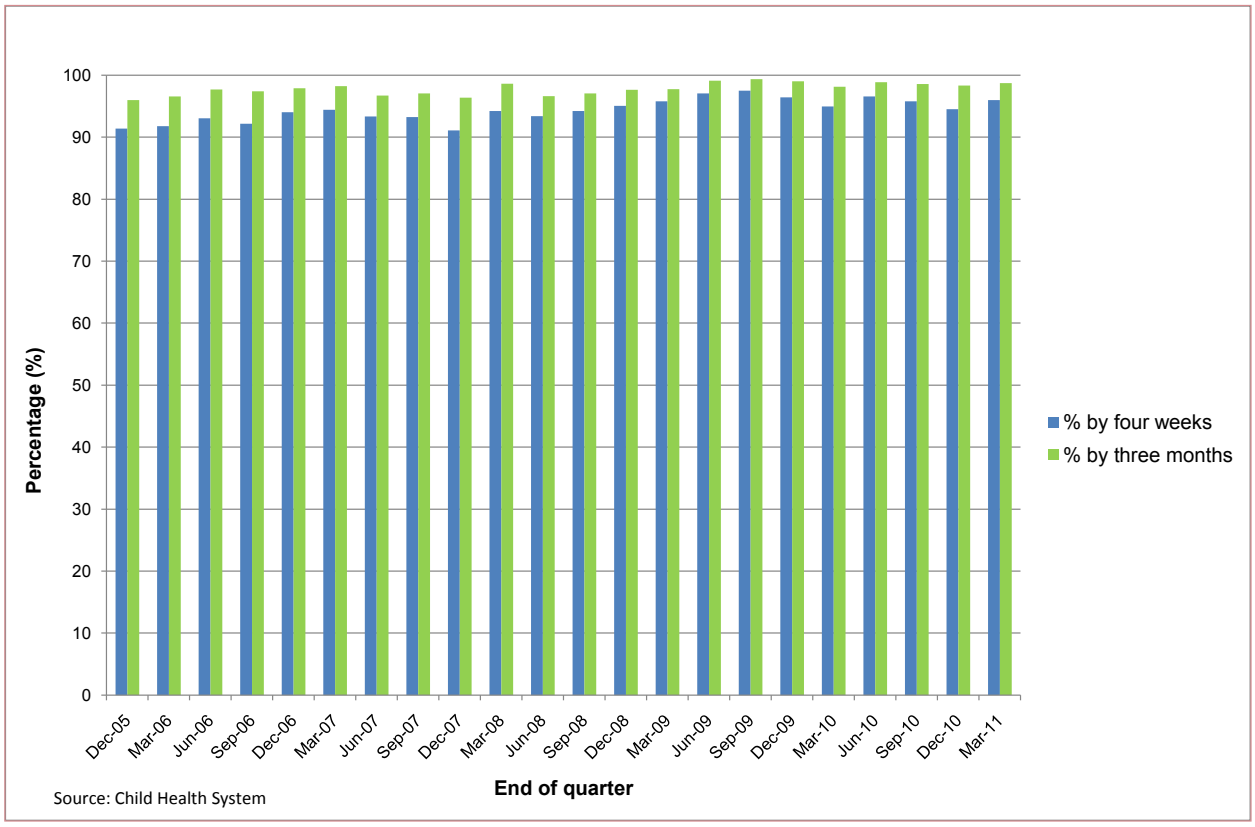
Newborn hearing screening is a hospital-based programme delivered largely in maternity and neonatal units, with follow-up in outpatient and community settings. It is carried out by a team of screeners, led by a coordinator, in each of the five HSCTs.

Impacts

The PHA and partner organisations ensure that the population has access to safe, effective, high quality and equitable screening programmes. A system of performance reporting is in place. The screening programme in Northern Ireland has a high level of performance and this has improved over time.

From the start of the programme in 2005, the proportion of babies with completed screening at four weeks of age has increased from 91% to 96%. Similarly, the proportion of babies with completed screening at three months of age has increased from 96% in 2005 to over 98% in 2011 (see Figure 1).

Figure 1: Percentage of current residents with completed hearing screening by four weeks and three months of age, by birth quarter (December 2005 to March 2011)



This has been achieved in the context of considerable service challenges, including an increase in the number of births in Northern Ireland of more than 11% and a reduction in the length of stay in hospital for new mothers and babies.[65,66] This performance compares favourably with that of the newborn hearing screening programmes in the rest of the UK.

Key facts

- One or two babies in every 1,000 are born with permanent hearing loss in one or both ears.
- From the start of the Northern Ireland programme in 2005, the proportion of babies with completed screening at four weeks of age has increased from 91% to 96%.
- The proportion of babies with completed screening at three months of age has increased from 96% in 2005 to over 98% in 2011.

Next steps

A regional quality improvement group for newborn hearing screening will be established to support further development.

Further information

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Improving health through high quality services

Overview

Integrated Care Pathway highlights child interventions
Raising the standard of care for childhood diabetes
Improving services for young people with autism
Reducing the risks from obesity in pregnancy
New drug presents a breakthrough against cystic fibrosis

Overview

The PHA supports the commissioning and performance management processes of the HSCB and its five local commissioning groups (LCGs) by providing high quality, independent public health advice. By having a key role in these decision-making processes, the PHA can promote the provision of high quality services which contribute to improving the health and wellbeing of the population and reducing inequalities.

PHA staff provide particular expertise on service evaluation and review, assessment of the health and wellbeing needs of the population, and evidence-based practice. They also have a key role in supporting the development, implementation and evaluation of regional service frameworks.

There is increasing evidence that mothers who are obese at the time of conception and through pregnancy have poorer outcomes from that pregnancy. It is important that this information is available to women and health professionals to ensure the best care for these women.

Unfortunately some children develop chronic diseases in early childhood. One condition that can affect children and young people is type 1 diabetes. Management of this condition throughout life is extremely important and a number of initiatives are underway to improve the care provided to these young people.

Another condition that can affect children and young people is autism. The PHA is working with colleagues in the HSC system to take forward the DHSSPS initiative on managing autism among children and young people in Northern Ireland.

The importance of managing pregnancy, delivery and the care of young infants is further developed throughout this chapter.

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Integrated Care Pathway highlights child interventions

Public health challenge

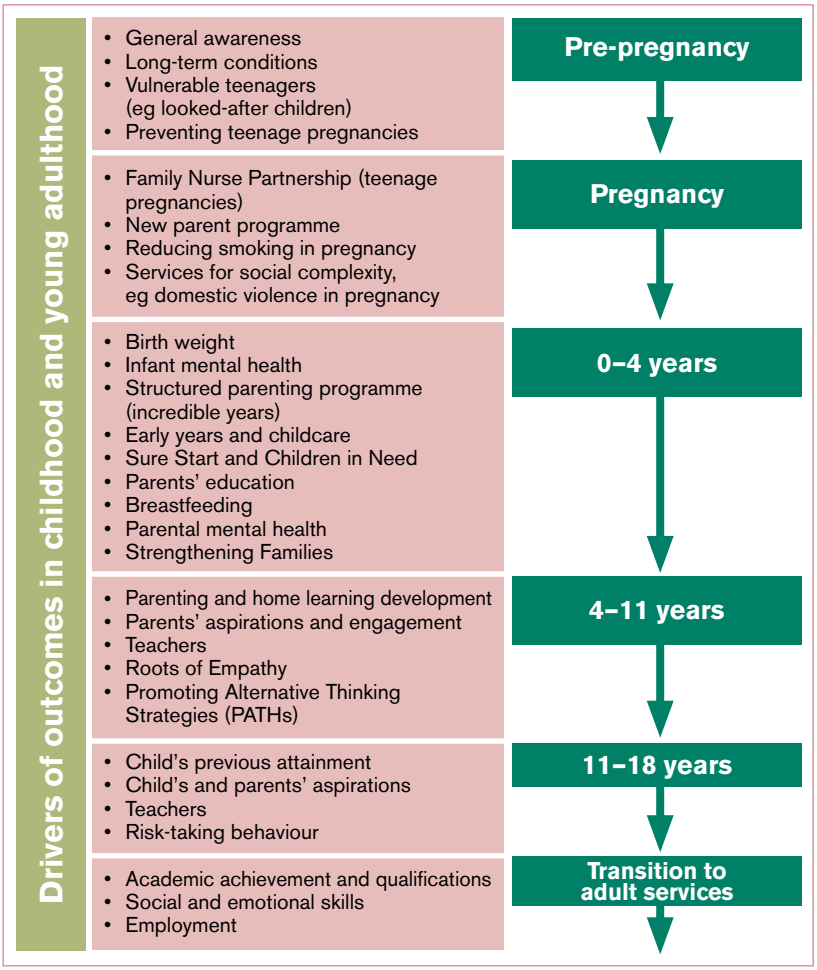
Research findings are clear: poverty, poor nutrition, and maternal and family stress affect brain development from the prenatal period or earlier.[67] If children are denied simple interventions in their early years, their emotional, social and academic development will suffer, as will their ability to generate income or secure employment in later life. Premature illness in adult life can also be a direct result of failure to intervene effectively in the early years.

Actions

Early intervention refers to any policy, programme or project that tackles emerging problems as early as possible during childhood. It provides an opportunity to improve outcomes for children and their families by stopping problems becoming entrenched or well established.

The PHA has developed an Integrated Care Pathway that describes effective interventions or influences to be considered at each stage of childhood (see Figure 2). The list is not exhaustive but does identify some of the help that should be available to children and parents.

Figure 2: Integrated Care Pathway



Adapted from *The foundation years: preventing poor children becoming poor adults.*[68]

Impacts

The foundation years of childhood, from pregnancy to age five, are more important for healthy child development than primary and secondary school years. Upon entering school, the ability levels of children from poorer backgrounds are less well developed than those of children from more affluent families and it is already more difficult for a child to catch up.

Adverse childhood experiences result from:

- parental abuse of alcohol or drugs;
- threats or being beaten;
- chronic neglect, such as a child who is never cuddled when they cry.

High-quality services in the foundation years can improve the ability levels of children so that the impact of disadvantage is not seen when they start school.

Children who have suffered adversity will experience further difficulties in later life unless they are supported during childhood. They are more likely to suffer from heart disease, obesity and diabetes. They are also more likely to struggle in school, be quick tempered and get into trouble with the police.

Although some children overcome adversity, many do not, leaving school with no qualifications and engaging in risk-taking behaviour (eg substance misuse, risky sexual activity and criminality). Table 1 shows some of the risks and protective factors that impact on child health outcomes.

Table 1: Risk and protective factors for child development, by LCG

Risk factors	Belfast LCG %	Northern LCG %	South Eastern LCG %	Southern LCG %	Western LCG %	Northern Ireland %
Low birth weight (less than 2500g)	6.6	5.7	5.9	5.2	6.3	5.9
Maternal smoking at booking	23.4	17.1	17.7	14.8	13.1	17
Teenage mothers	6.5	4.5	4.7	3.7	4.3	4.6
Protective factors						
Breastfeeding on discharge	44.1	41.5	46.9	45.4	36.5	43.7

Next steps

Protecting children from adversity is the key to healthy child development and tackling inequalities. The areas the PHA wishes to concentrate on are:

1. Raising awareness of early intervention in childhood and its relationship with health inequalities.
2. Working with local communities and partnerships to develop effective early intervention services.
3. Extending the availability of the Family Nurse Partnership (FNP) and Roots of Empathy programmes.
4. Working with LCGs and partners to reduce risk factors for poor outcomes of childhood and increase protective factors in each locality.
5. Working with Early Years Teams to ensure effective parenting interventions are available to all vulnerable families.

Key facts

- Genetics, early experiences and stress influence brain development.
- The brain is 80% formed by the age of three, and experiences by this stage determine how the brain develops.[69]

Further information

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Raising the standard of care for childhood diabetes

Public health challenge

Type 1 diabetes cannot be prevented and occurs in children and young adults both with and without a family history of diabetes. Treatment is life-long and services seek to support the child and their family in managing the condition effectively at home and in school, ensuring full participation in all childhood activities. Good diabetes control reduces the risk of short-term complications (eg acute hypoglycaemia or diabetic ketoacidosis), long-term ill health and premature death.

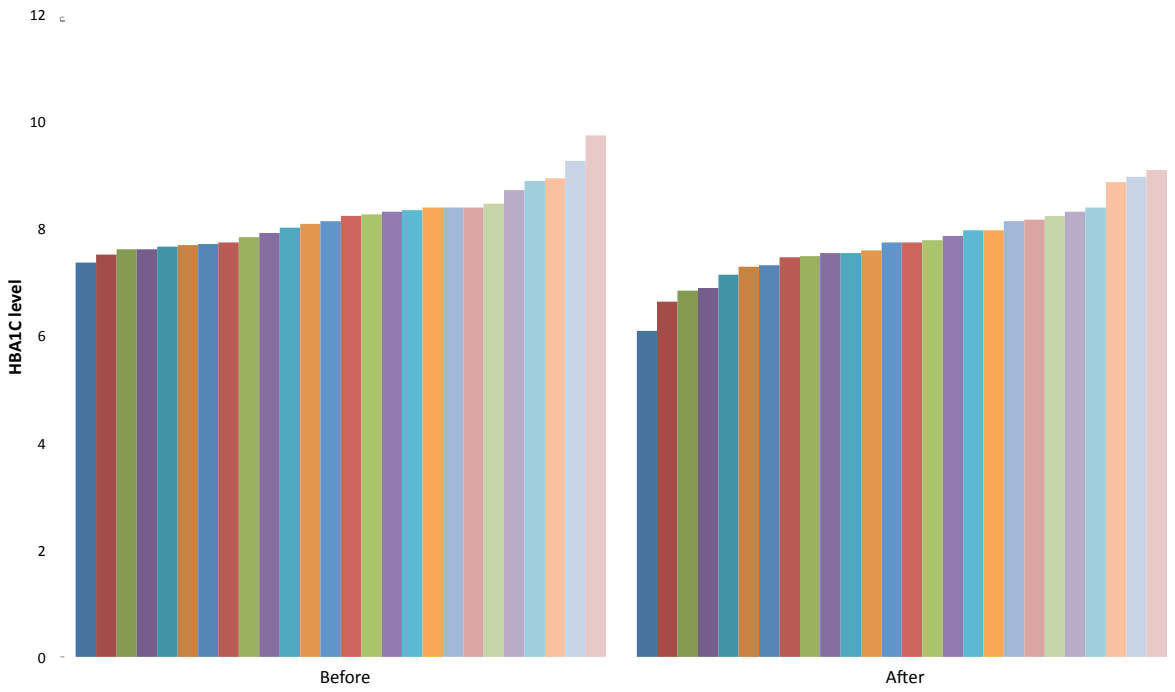
Actions

There are two new initiatives underway to improve the care provided to children and young people with diabetes. These will expand the provision of insulin pumps and offer the CHOICE programme of structured patient education to children with diabetes and their families. The CHOICE programme is funded by INTERREG IV and coordinated by CAWT.

Impacts

An insulin pump delivers continuous, fast-acting insulin through a soft thin tube into a needle inserted under the skin. It provides the individual with an option to deliver booster amounts of insulin when required. Pumps have been shown to improve blood glucose control, reduce hypoglycaemic episodes and improve quality of life for children with diabetes and their families.

Figure 3: HBA1c clinic profile before and after pump initiation (n=26)



Source: Personal communication Dr Chris Corkey, Southern HSCT, 2011

Since 2009, the provision of insulin pumps for children has expanded, with further plans in place to increase the number of children on pumps over the next three or four years. By the end of March 2012, 20% of children with diabetes will have been offered a pump.

The impact of pumps on glycaemic control (HBA1c levels) can be seen in Figure 3.

In 2011, Diabetes UK sought the views of parents on the impact of pumps. One parent reported:

"Since she started on the pump, we have seen a significant improvement in her school work and concentration levels due to her stability. She is also able to join and take part in extra-curriculum activities, which she was limited in previously, and she has recently made the school swim team, something we never thought was possible. She's a happier and healthy child, everything from her energy to her hair shine has improved, and if cake is given out in class, she knows its value, and can eat with everyone else."

The CHOICE programme, developed in Northern Ireland, is being offered to all children with diabetes and their families over the next 12 to 18 months. The aim is to help them manage the diabetes as effectively as possible. Information about CHOICE is available at: www.cawt.com/diabetes
An e-learning programme based on CHOICE is also being developed.

Next steps

The PHA and HSCB will continue to monitor the health of children with diabetes in Northern Ireland and assess the impact of expanding insulin pump provision.

The PHA and CAWT will assess the impact of the CHOICE programme on the health of children with diabetes.

Key facts

- There are 1,092 children in Northern Ireland under the age of 17 with type 1 diabetes.[70]
- In total, 101 children in Northern Ireland were diagnosed with diabetes in 2010.

Further information

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Improving services for young people with autism

Public health challenge

Autism can be very debilitating and have lifelong consequences. It affects how someone communicates, their behaviour, and the way they relate to other people. Autism affects about 1 in 100 people. This means around 18,000 people in Northern Ireland are autistic. To increase the likelihood of independence in adulthood, it is important to diagnose autism early during childhood and provide appropriate care thereafter.

Actions

In 2010, the DHSSPS established the Regional Autistic Spectrum Disorder Network (RASDN) to implement its regional autism action plan. The network is chaired by Dr Stephen Bergin from the PHA. The RASDN includes representatives from the PHA, HSCB, HSCTs and Education Boards, and a regional reference group of service users, parents/carers and voluntary sector workers.

In October 2011, two initiatives were launched by the RASDN to improve services and provide information for service users and parents/carers.

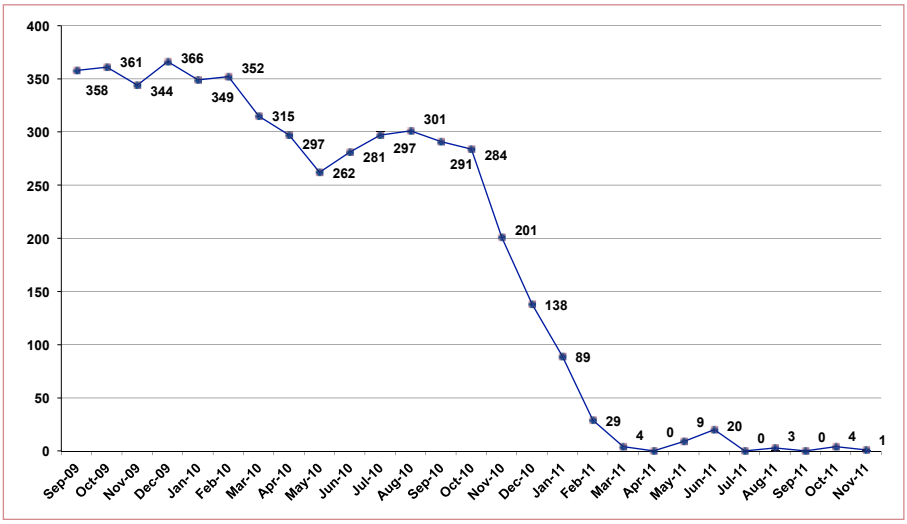
The first initiative *Six steps of autism care: for children and young people in Northern Ireland* sets out the pathway within HSC to help ensure a more consistent approach to assessment, diagnosis and interventions. The second initiative *Autism: a guide for families* is a series of leaflets providing information on a range of issues following a diagnosis.

Emma McCandless-Bell, parent and carer of two children with autism spectrum disorder (ASD), said: *"Having the guide is hugely important. The information has come from experts – the parents. Having this knowledge and information will help empower parents."*

Impacts

Considerable investment has been provided to improve diagnosis/ assessment services within HSCTs. These services form part of the wider specialist autism team in each HSCT.

Figure 4: Number of children waiting more than 13 weeks for assessment



Overall, the number of specialist autism practitioners in Northern Ireland has doubled from around 40 in 2008/09 to 80 in 2011. A key benefit of this investment has been the marked reduction in waiting time to access diagnosis/assessment services. This has decreased from more than 12 months to 13 weeks across Northern Ireland (see Figure 4).

Next steps

Significant progress has been made improving information and services for parents/carers and users of autism services. This success provides a platform upon which we can build and move forward, particularly in terms of improving services for older adolescents and adults.

Looking ahead, work has now commenced to develop a cross-departmental autism strategy, a move that follows the Autism Act Northern Ireland 2011. The strategy will aim to bring government departments and their agencies closer together to improve services for people with autism across all sectors and settings.

Download the publications at: www.hscboard.hscni.net/asdnetwork/index.html

Stephen Bergin, Chair RASDN, and Fionnuala McAndrew, HSCB, with young people at the launch of *Six steps of autism care: for children and young people in Northern Ireland*.

Key facts

- Autism affects about 1 in 100 people. This means around 18,000 people in Northern Ireland are autistic.
- The number of specialist autism practitioners in Northern Ireland has doubled from around 40 in 2008/09 to 80 in 2011.
- The number of people waiting more than 13 weeks for assessment decreased from 297 in April 2010 to two in January 2012.
- The number of people waiting more than 13 weeks for treatment decreased from 39 in April 2010 to zero in January 2012.

Further information

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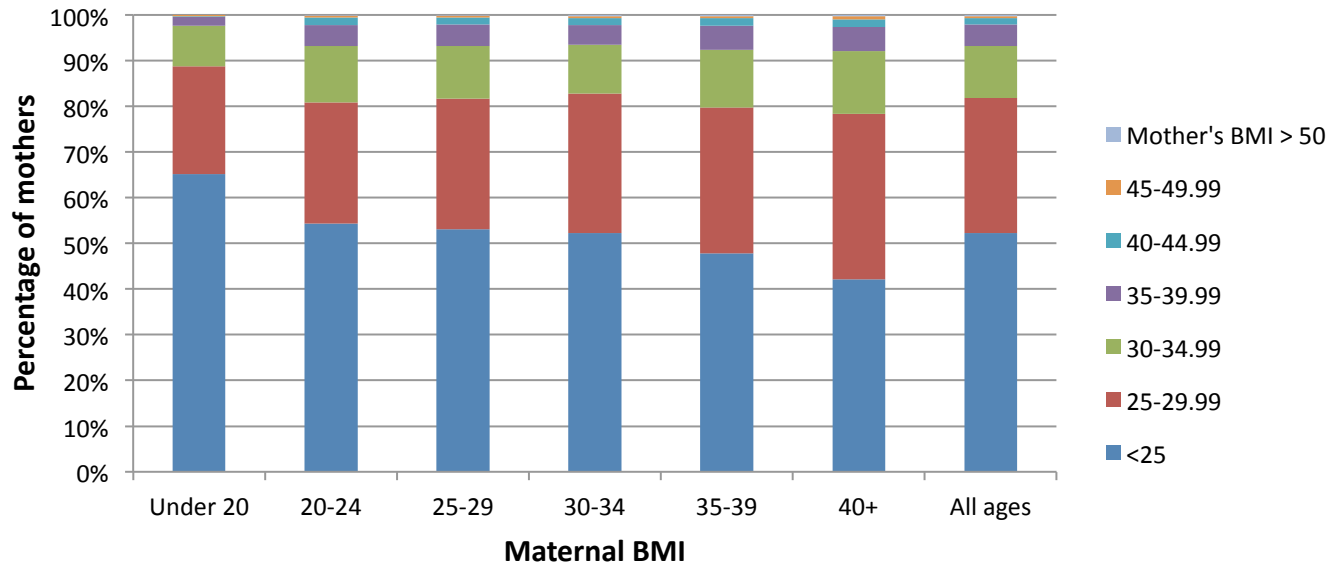
Reducing the risks from obesity in pregnancy

Public health challenge

Reducing rates of obesity is one of the major challenges currently facing public health. This is a particular issue for expectant mothers as obesity in pregnancy can have significant implications for both mother and baby. It is estimated that almost one in five expectant mothers is obese (maternal obesity is defined as a body mass index – BMI – of over 30) while a further 1 in 20 is very obese (BMI over 35).

Figure 5: Maternal BMI at booking, by mother's age, Northern Ireland, 2010–11



Source: Northern Ireland Maternity System (note excludes Western area)

Actions

The PHA, through the Northern Ireland Mother and Child Health (NIMACH) office, has been working with midwives, obstetricians, commissioners, health and social wellbeing improvement colleagues, and local education consortia to:

- review current evidence;
- plan how to raise awareness;
- reduce the potential negative impacts of obesity in pregnancy.[71]

Impacts

It is vital that all potential mothers and healthcare professionals are fully aware of the increased risk that obesity in pregnancy poses to women and their babies.

The PHA is supporting the development of programmes to help significantly overweight women achieve healthy weight gain during their pregnancy and reduce the risk of adverse outcomes for them and their babies.

This could lead to fewer complications associated with obesity in pregnancy, such as gestational diabetes, pre-eclampsia, postpartum haemorrhage and thromboembolism, as well as a reduction in the need for induced labour and Caesarean sections.

Planned interventions would also aim to reduce the complications seen in babies born to mothers who are significantly overweight. These babies are more likely to be large for their gestational age and are at greater risk of congenital anomaly and stillbirth. They are less likely to benefit from breastfeeding and are at greater risk of being admitted to a special care unit.

In parallel, efforts are also being made to help healthcare professionals develop effective strategies when discussing this sensitive topic with women. Positive messages about maintaining a healthy weight should be reinforced at every point of contact with women during their pregnancy. It is important that women are encouraged and supported to make changes that will have a lifelong impact on this and future pregnancies.

Next steps

Plans are progressing to roll out training for healthcare professionals during 2012.

Key facts

- Around 1,500 pregnant women a year in Northern Ireland have a BMI greater than 35.
- Women with a BMI greater than 35 are at double the risk of having a stillborn baby when compared to women with a healthy BMI.
- Each unit increase in BMI over 35 is associated with a 7% increase in the risk of stillbirth.
- Maternal obesity is associated with an increased risk of babies developing obesity and metabolic disorders in childhood.

Further information

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New drug presents a breakthrough against cystic fibrosis

Public health challenge

Cystic fibrosis (CF) is caused by a single faulty gene that controls the movement of salt in the body. In people with CF, the internal organs become clogged with thick, sticky mucus, resulting in infections and inflammation.

CF affects approximately one in every 1,850 live births in Northern Ireland, which is higher than the global and UK averages.[72,73,74] In the past, repeated infections associated with CF have resulted in severe illness and death during the early to late teens. Recent improvements in care and treatment mean that around half of those living with CF are now likely to live past their late 30s.

Actions

Clinicians at Queen's University Belfast, the University of Ulster and Belfast HSCT are part of a network of research partners in Europe, the USA and Australia who have developed and tested a new drug for cystic fibrosis. The Northern Ireland researchers led the trial, with support from the Northern Ireland Clinical Research Network (NICRN).

Impacts

Patients who participated in clinical trials of the new treatment experienced significant improvement in lung function and quality of life, and a reduction in disease flare-up.

This is a groundbreaking treatment because the drug (ivacaftor) treats the basic defect caused by the gene mutation in patients and is the first drug to show a positive effect in this area. Although it is still too early to determine if this treatment will improve life expectancy, the improvements in patients' breathing and reduction in flare-ups would suggest survival rates could improve.

Next steps

The new drug was submitted for licensing in the autumn of 2011 and is expected to be available to patients as early as 2012. Not only will this breakthrough help patients in Ireland and the UK, it has the potential to change the lives of those with CF around the world.

Key facts

- CF affects approximately one in every 1,850 live births in Northern Ireland.
- Recent advances in care and treatment have brought about significant improvements in the quality of life and life expectancy of people with CF.
- The new drug (ivacaftor) targets the 'Celtic gene', which is one of the most common mutations in CF patients in the UK and Ireland. However, the principle can hopefully be extended to develop similar drugs that treat patients with other specific mutations.

Further information

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Protecting health

Overview

PHA leads development of drinking water guidance
Severe weather requires emergency healthcare response
Childcare settings given advice on infection control
Childhood immunisation programme is a great success
Prevalence of bacterial meningitis continues to fall
Sexually transmitted infections remain a problem
New trial aims to prevent caries in young people

Overview

A clean water supply is top of the list of basic necessities to ensure a healthy childhood. We may take such a commodity for granted in Northern Ireland but a great effort by many agencies is involved in bringing a safe water supply to our homes. The PHA plays an important role in this process. Another basic necessity is shelter and warmth – a factor prominent in the severe cold spell in the winter of 2010/11.

There is a very successful immunisation programme in Northern Ireland, which ensures the devastation caused by childhood infectious diseases in earlier generations is disappearing. However, this success should not cause complacency. Preventing childhood infectious diseases through measures such as good hygiene practices is an important message for parents as well as those who work in nurseries and other childcare settings. At the same time, appropriate attention to dental health will have lifelong benefits.

Effective vaccines for many forms of meningitis have made the disease much less common. However, when it does occur, the consequences can be extremely serious for the individual, their family and the community. The health protection team in the PHA is committed to ensuring all measures are in place to prevent community spread of meningitis, and indeed such an occurrence is now very rare. We look forward to the day when there is an effective vaccine against what is now the most common form of bacterial meningitis – meningococcal group B.

We cannot ignore the unpleasant fact that over half of new diagnoses of the main STIs occur in young people aged under 25 years, and this has been the case for at least the last decade. It is a major public health priority to address this by empowering young people to take responsibility for their sexual health. This must be done through the provision of targeted information, the development of skills and by ensuring access to the right health services.

Protecting the health of our children is a complex process and will only be achieved through parents, the public and professionals working together.

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PHA leads development of drinking water guidance

Public health challenge

After pneumonia, diarrhoea remains the second most common cause of death in the world among children under five years of age, accounting for approximately 1.5 million deaths in 2004.[75] An estimated 88% of diarrhoeal deaths worldwide are attributable to unsafe water, inadequate sanitation and poor hygiene.[76]

A reliable supply of drinking water is something we often take for granted in Northern Ireland. During 2011 there were two incidents where the public were required to boil their water prior to drinking because of microbiological contamination. A reliable supply of high quality drinking water, coupled with adequate sanitation, is fundamental to public health. In the home, clean water is needed for drinking, cooking, washing and flushing toilets. Interruptions to, or contamination of, the water supply can therefore have profound effects on us all, but particularly the young, the elderly and those with underlying health problems.

Actions

The PHA is a member of the inter-agency Drinking Water Liaison Group (DWLG), which includes Northern Ireland Water, the Drinking Water Inspectorate, the Northern Ireland Public Health Laboratory, the DHSSPS and Environmental Health. Prior to the events of winter 2010/11, the DWLG identified the need for updated guidance on:

- how safe drinking water is provided;
- the arrangements and protocols in place to monitor water quality;
- responding to incidents that affect the supply or quality of drinking water.[77]

The PHA led the development of this guidance and participated in two multi-disciplinary training workshops.

Impacts

Responding to incidents that affect the drinking water supply can be complex and involve a wide range of organisations. Prompt action may be required to assess and control the risk to public health. Such action includes the provision of alternative supplies, including bottled water.

This new guidance will improve communication with responding organisations and ensure consistency of approach, irrespective of the geographical location of the problem. Work is also underway with HSCTs to enable identification of those most vulnerable to water supply problems so they can be prioritised in any response.

Next steps

The guidance will act as a reference for those with an interest and involvement in the provision of safe drinking water. It will be reviewed annually by the DWLG. It should also enable the joint audit of working arrangements between the PHA and other organisations.

Key facts

- Globally, 884 million people have no access to safe water and 1.1 million people have no access to toilets or sanitation facilities.
- More than 99% of the Northern Ireland population receives a mains water supply (approximately 800,000 properties).[77]
- Less than 1% of the Northern Ireland population receives water from a private supply such as a well, spring or borehole.
- Northern Ireland Water supplies more than 620 million litres of high quality drinking water to customers every day.
- 104,493 key quality tests of the public water supply in Northern Ireland were undertaken during 2010, and 99.86% met the required standard.[78]

Further information

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Severe weather requires emergency healthcare response

Public health challenge

In the winter of 2010/11, a period of unusually persistent snow, followed by record sub-zero temperatures and a rapid thaw, left Northern Ireland facing one of its most severe weather events. Each of the three phases of this severe weather period brought with it different public health challenges.

During the 'big snow', some patients and staff had difficulties accessing HSC facilities and the potential increase in respiratory illness and injury from falls was noted.

The 'big freeze' made December 2010 the coldest on record (the last 100 years) in Northern Ireland. Cold weather increases the risk of heart attack, stroke, respiratory conditions and influenza in the very young, the elderly and people with underlying health conditions. Healthcare staff worked tirelessly to keep patients warm and maintain hospital equipment.

The 'big thaw' brought burst pipes and water leakage. The speed of the thaw and the number of burst pipes on private properties made identifying and repairing leaks an enormous task. The prolonged strain on the water distribution system resulted in falling reservoir levels. Multi-agency partners worked together to manage this challenge and to identify and prioritise the needs of the most vulnerable in the community.

Actions

During the 'big snow', the PHA ran its annual 'Look after yourself this winter' education campaign. The PHA also funded local fuel poverty schemes in recognition of the importance of having well insulated, energy efficient homes.

Throughout the 'big freeze', PHA staff worked with colleagues in the HSCB, HSCTs and DHSSPS to maintain hospital services, buildings and equipment.

During the 'big thaw', the PHA produced and distributed public health advice on infection control when water is limited. Health protection staff monitored disease levels to identify any increases in gastrointestinal illnesses during the limited water period. The PHA:HSCB:BSO Joint Response Emergency Plan was activated and daily conference calls across HSC and multi-agency partners were held. The PHA also contributed health advice to cross-government emergency response arrangements.

Impacts

No increased rates of gastrointestinal illnesses were recorded and overall the HSC response to the severe weather event, both at HSCT and PHA:HSCB:BSO coordination level, was seen as very effective. Staff commitment at all levels was recognised as outstanding.

Next steps

The PHA facilitated a debrief process within HSC and, as a result, the lessons learned from this severe weather event fed into the review and amendment of emergency plans within HSC.

Key facts

- The mean temperature in Northern Ireland during December 2010 was –0.6 Celsius.
- A record low temperature of –18.7 Celsius was recorded on 24 December 2010.

Further information

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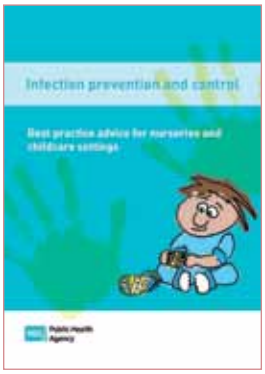
Childcare settings given advice on infection control

Public health challenge

Outbreaks of infection can occur in childcare settings and frequently attract a high level of publicity. Infections often spread easily in such environments as large numbers of children, whose immunity to infection has not yet fully developed, come into close contact.



Actions

The PHA produced a booklet entitled *Infection prevention and control: Best practice advice for nurseries and childcare settings*.

A working group with representatives from the PHA, HSCTs' Early Years Teams, and local council environmental health departments provided expert opinion to inform the development of the guidance. The booklet was officially launched on 14 October 2011 and was delivered to Early Years Teams for distribution to all childcare facilities registered with them.

Impacts

Infection prevention and control in nurseries and childcare settings is a matter of great importance to:

- parents, who want to be sure the care their children are receiving is provided in a clean, safe environment;
- childcare staff, who may themselves be at greater risk of infection;
- childcare providers, who have legal responsibilities to ensure the health and safety of their staff and the children for whom they provide childcare services.

Representatives of the PHA and HSCB, along with HSCT Early Years leads and local council environmental health officials, launch the PHA's *Infection prevention and control: Best practice advice for nurseries and childcare settings* booklet.

The booklet covers all aspects of childcare and advises on best practice for preventing and managing infection. It highlights simple measures, such as good hand hygiene, that should be encouraged in all childcare settings. This helps embed basic infection prevention principles in children at an early age.

Childcare staff are also provided with practical advice on the day-to-day implementation of infection control practices, as well as specific actions to take in the event of an outbreak.

Next steps

The booklet will be distributed to all nurseries and childcare facilities registered with Early Years Teams in Northern Ireland (1,192 in total). The advice in the booklet will inform playgroups, day nurseries, crèches, two year old programmes and out-of-school groups on infection prevention and control practice.

The advice is also recommended to childminders as best practice that should be adopted as far as reasonably possible. The booklet is available to download from the PHA website at: www.publichealth.hscni.net/publications/infection-prevention-and-control-best-practice-advice-nurseries-and-childcare-settings.

Key facts

- 1,584 children aged 11 years and under were admitted to hospital in 2010 with gastroenteritis. This is more than in 2009 (1,238) but less than in 2008 (1,615).
- Provisional figures for 2011 show that among children and young people aged 16 years and under who were tested, the following gastrointestinal infections were detected: *E. coli* (24), Salmonella (47), *Campylobacter* (233), Adenovirus (317), *Giardia* (7), *Cryptosporidium* (110), Norovirus (112), Rotavirus (606).
- The age breakdown for these 2011 figures is as follows: 0–4 years (1,218), 5–9 years (137), 10–16 years (101).

Note

It is important to highlight that gastrointestinal disease in young people goes largely unreported as the vast majority do not visit their GP or attend an accident and emergency department. These cases are not tested and consequently not laboratory confirmed.

Further information

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Childhood immunisation programme is a great success

Public health challenge

Northern Ireland has achieved excellent uptake rates for childhood immunisations over recent years. Rates here are well above the UK average (see Table 2). As a result, these diseases have become rare or have been totally eliminated. However, this success can bring its own challenges. People forget about these diseases and their serious complications, therefore they see less of a need to protect themselves against them. These diseases persist in other parts of the world and, with widespread travel now common, could easily be reintroduced if immunisation levels fell.

Table 2: Completed immunisations (all antigens) by 12 and 24 months in the UK, by country, 2010–2011

	Coverage at 12 months (%)			Coverage at 24 months (%)			
	DTaP/IPV/Hib	Men C	PCV	DTaP/IPV/Hib	Hib/Men C booster	PCV booster	MMR1
United Kingdom	94.5	93.8	94.1	96.3	91.9	89.8	89.7
England	94.2	93.4	93.6	96	91.6	89.3	89.1
Northern Ireland	97.5	97.2	97.3	98.8	95	92.8	92.9
Scotland	97	96.5	97	98.1	93.9	93.4	93.2
Wales	96	95.4	95.7	97.4	93.3	91	91.5

In 2011 there were outbreaks of measles across Europe as a result of a fall in MMR vaccination uptake rates. Although measles transmission has been stopped here, our uptake rates are still not at the recommended 95%. In addition, uptake rates vary across geographical areas and groups. The challenge is to achieve 95% uptake across Northern Ireland.

Actions

Areas of low uptake have been identified and shared with local healthcare professionals. Evidence-based ways of improving uptake have also been shared with these professionals.

Following a recommendation by the Joint Committee on Vaccination and Immunisation, the visits at 12 months (combined Hib and meningococcal C vaccine) and 13 months (first MMR and pneumococcal booster vaccine) have been combined into one visit just after the first birthday.

Impacts

Uptake rates for the MMR vaccine continue to increase, and rates for other vaccines remain high. The associated diseases are now very rare or do not occur at all in Northern Ireland. In 2011 there were only two confirmed cases of measles here, despite the widespread measles activity across Europe, and neither of these cases spread to other people.

Infections such as diphtheria and polio are now regarded as 'exotic' diseases associated with third world countries, yet they used to be common here in Northern Ireland prior to the introduction of vaccines. Our children are able to grow up with far fewer infectious threats than in previous generations.

Next steps

The age at which the pre-school booster is given will be lowered to bring us in line with the rest of the UK and to allow more time to vaccinate children prior to starting school.

A 'one stop shop' is being set up to address the health needs of new migrants, including the immunisation of children.

Actions are also being taken to promote vaccines within the Traveller community.

Key facts

- Vaccine uptake rates in Northern Ireland remain very high.
- There were 30,917 cases of measles in Europe from 1 January to 7 December 2011.[79]
- There were eight deaths from measles in Europe in 2011.[79]
- Northern Ireland had only two confirmed cases of measles in 2011.

Further information

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Prevalence of bacterial meningitis continues to fall

Public health challenge

Routine childhood immunisations now protect against several important causes of bacterial meningitis. These vaccines are meningococcal group C, Haemophilus influenzae type b (Hib) and pneumococcal. However, there is still not an effective licensed vaccine against the most common form of bacterial meningitis – meningococcal group B.

Meningitis presents several public health challenges:

- ensuring high immunisation rates for vaccine preventable forms of the disease;
- helping parents recognise the disease early so they can seek medical help;
- ensuring that close contacts of meningitis cases are protected.

Actions

The PHA undertakes several actions to ensure parents can recognise meningitis. Details of the signs and symptoms are on immunisation information leaflets that are given to all parents. Press releases that highlight the signs and symptoms are issued each winter (when meningitis is more common) and following a case if it has attracted publicity or caused concern in the community.

To reduce the risk of further cases, the PHA has procedures to ensure that close contacts are given preventative antibiotics as quickly as possible. If a case occurs in a setting such as a school or nursery, antibiotics are not usually required for the other children who attend. A letter is sent to parents alerting them to the situation and detailing the signs and symptoms of meningococcal infection.

Impacts

Over the past 10 years, since the introduction of meningococcal C vaccine, group C disease has been virtually eliminated. This has contributed to the overall level of meningococcal disease falling by two thirds (see Figure 6).

Hib is also now a rarity, having been the most common form of meningitis in children under five years of age.

The spread of meningitis to close contacts (secondary cases) is now extremely rare. The last secondary case in Northern Ireland was a university student in the autumn of 2010.[80]

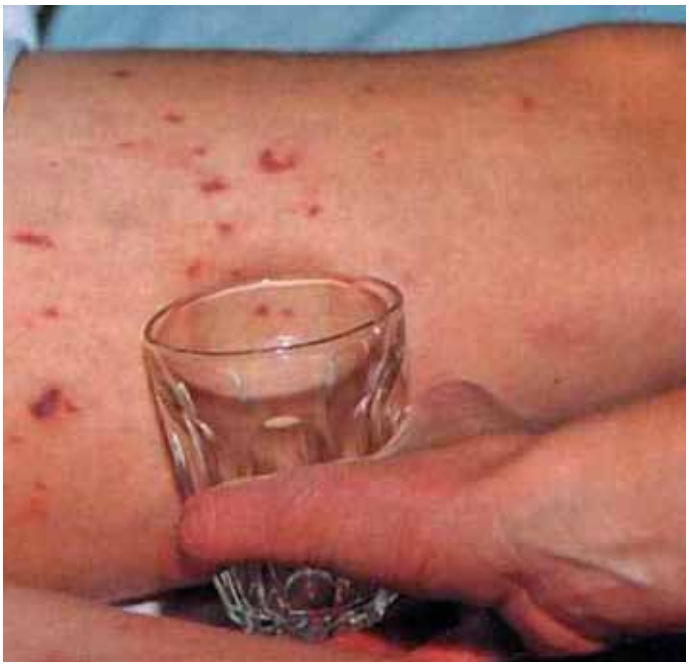
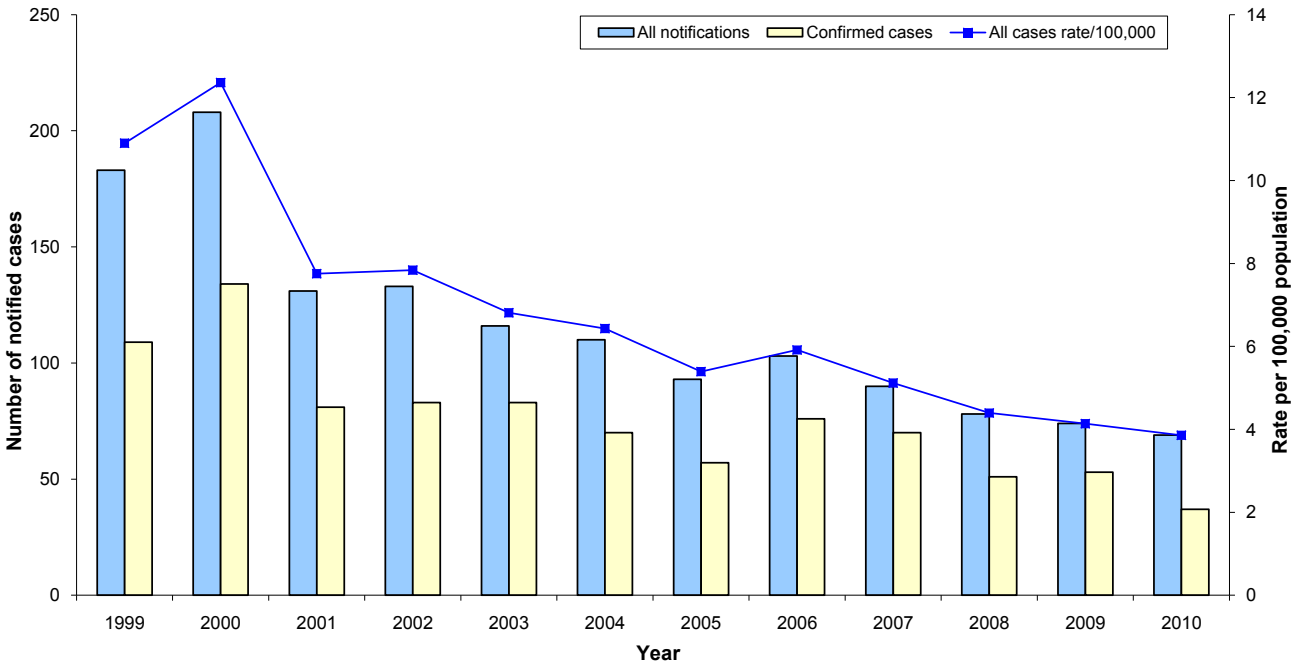


Figure 6: Number of notified and confirmed cases, and rates of cases, of invasive meningococcal disease (IMD) in Northern Ireland, 1999–2010



Next steps

Maintaining high immunisation levels is obviously crucial and is dealt with in the chapter 'Childhood immunisation programme is a great success'.

Mechanisms for reporting cases and dealing with contacts are kept under constant scrutiny and audit to ensure they are delivering the best possible services.

If and when a meningococcal group B vaccine becomes available, the PHA will lead on its introduction, aiming to ensure high uptake rates.

Key facts

- Vaccine preventable forms of meningitis are now very rare in Northern Ireland.
- Group B meningococcal disease remains a problem and can be very serious.
- Rapid diagnosis and treatment improve outcomes.
- Secondary cases are very rare because of the rapid provision of antibiotics to close contacts.

Further information

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Sexually transmitted infections remain a problem

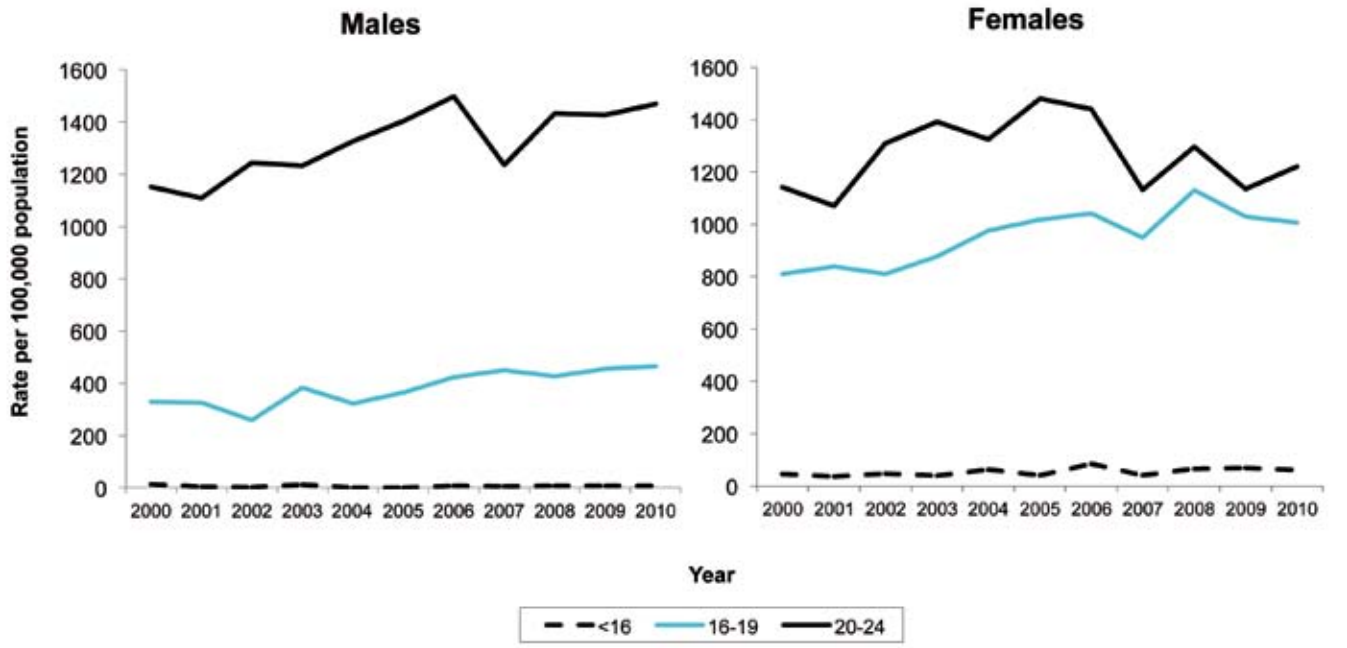
Public health challenge

The control of STIs in Northern Ireland continues to present a major public health challenge, with increasing numbers of new diagnoses.[81] If left untreated, STIs can have implications for the individual's health and can increase the risk of contracting HIV, or of passing HIV on to others if already infected.

More than half (54%) of new diagnoses of the five main STIs (chlamydia, gonorrhoea, syphilis, genital warts and genital herpes) in Northern Ireland during 2010 occurred in young people aged under 25 years, a figure that has changed little since 2000. Diagnostic rates are consistently highest in the 20–24 years age group for both males and females (see Figure 7).

The challenge is now to empower young people to take responsibility for their sexual health through the provision of targeted information, development of skills and ensuring access to the right health services.

Figure 7: Rates of selected STIs diagnosed in Northern Ireland GUM clinics among those aged under 25 years, by gender, 2000–2010*



Source: KC60 returns from GUM clinics

* Age group information is available for uncomplicated chlamydia, uncomplicated gonorrhoea, primary and secondary syphilis, genital herpes (first episode) and genital warts (first episode).

These data represent diagnostic episodes and not individuals. An individual may contribute to more than one episode.

Actions

The DHSSPS *Sexual health promotion strategy* identifies young people as a group at particular risk and highlights the key components of any STI prevention and control programme, which include:

- delaying the age of first intercourse;
- using condoms;
- limiting the number of sexual partners;
- getting tested for infection if at risk.[82]

In response, the PHA has established a multi-agency Regional Sexual Health Improvement Network to take forward the strategy.

Impacts

Two evidence-based workshops were used to inform the development of a PHA action plan on sexual health and teenage pregnancy. Five key work areas were identified, which subgroups are taking forward:

- relationships and sexuality education (RSE);
- early childhood and youth development programmes;
- contraceptive and genito-urinary medicine (GUM) services;
- public information programmes;
- HIV/STI prevention in high risk groups.

The primary care subgroup has overseen the establishment of a pilot primary care provider (PCP) project with GUM services in the South Eastern HSCT area.

The RSE subgroup is running a trial training programme with schools and teachers in the North Eastern Education and Library Board area to support the delivery of RSE in schools.

Key facts

Between 2000 and 2010:

- in males aged 20–24 years, diagnostic rates for the selected STIs combined increased from 1,151 to 1,468/100,000 population (+28%), and in those aged 16–19 years, from 330 to 465/100,000 (+41%).
- in females aged 20–24 years, diagnostic rates for the selected STIs combined increased from 1,142 to 1,221/100,000 population (+7%), and in those aged 16–19 years, from 810 to 1,006/100,000 (+24%).

Next steps

Policies and guidance for staff and carers working with looked-after children are being developed by the relevant subgroup.

Information needs, behavioural interventions and prevention services for HIV/STIs in MSM and people living with HIV are being reviewed.

Further information

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New trial aims to prevent caries in young people

Public health challenge

The 2003 *Child dental health survey* reported that 43% of UK five year olds had decay (caries) in their primary teeth.[83] Children's dental care uses about 35% of the £69m Northern Ireland General Dental Services budget.[84] This preventable disease is a significant public health problem and was recognised in a Westminster Government agreement that has prioritised improving the oral health of school children. Across the UK, regional governments are trying to reform dental services to focus on prevention, but the evidence base to inform this change is lacking.

Actions

The Northern Ireland Caries Prevention in Practice (NIC-PIP) trial is funded by Health Technology Assessment and is being conducted in dental practices in Northern Ireland. It receives additional funding and infrastructure support from the HSC R&D Division through the NICRN (Children).

- The intervention being tested examines the effectiveness of applying fluoride varnish and providing free fluoride toothpaste, alongside standard dental education, as a preventive package.
- This treatment is given at each six monthly visit to children aged between two and four years who are caries free at baseline and regularly attend primary care dental services.
- The study will also examine the overall cost of providing this preventive treatment as part of routine dental care in this population of children.

Impacts

Recruitment for the trial is now well underway and the study is scheduled to run for a further three years to follow up the dental health of the participants. The research team has overcome significant challenges to successfully set up and conduct such a trial in the primary care environment.

Next steps

If the prevention package is shown to be effective, it has the potential to:

- improve the health of children;
- reduce unnecessary suffering from tooth decay;
- reduce the cost to the NHS of providing such dental treatment.

If prevention in practice is successful, it also has the potential to free up dentists' time and improve access to NHS dental services. The team would like to extend the research to examine the effectiveness of the intervention in preventing the progression of existing disease in children aged under five years who have already developed caries.

Key facts

- Dental caries is the most common childhood disease, with 40–60% of five year old children in the UK affected.[83]
- Children's dental care uses about 35% of the £69m Northern Ireland General Dental Services budget.[84]
- Little evidence is available to demonstrate the effectiveness of preventive dental interventions in real world situations and this research will help address some of these knowledge gaps.

Further information

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These tables are available to download as a PDF on the PHA website at www.publichealth.hscni.net

Further information

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Abbreviations and acronyms

A

A&E	Accident and emergency
ASCERT	Action on Substances through Community Education & Related Training
ASD	Autism spectrum disorder

B

BFI	Baby Friendly Initiative
BME	Black and minority ethnic
BMI	Body mass index
BSO	Business Services Organisation

C

CAWT	Cooperation and Working Together
CDSC	Communicable Disease Surveillance Centre
CF	Cystic fibrosis
CHD	Coronary heart disease
CMO	Chief Medical Officer

D

DAISY	Drug and Alcohol Intervention Service for Youth
DE	Department of Education
DHSSPS	Department of Health, Social Services and Public Safety
DPH	Director of Public Health
DSD	Department for Social Development
DWLG	Drinking Water Liaison Group

E

EU	European Union

F

FNP	Family Nurse Partnership
FSA	Food Standards Agency

G

GB	Great Britain
GUM	Genito-urinary medicine

H

HCAI	Healthcare-associated infection
HiB	Haemophilus influenzae type b
HIV	Human immunodeficiency virus
HSC	Health and Social Care
HSCB	Health and Social Care Board
HSCT	Health and Social Care Trust

I

IDPS	Infectious Diseases in Pregnancy Screening
IfH	Investing for Health
IMD	Invasive meningococcal disease
IPH	Institute of Public Health

L

LCG	Local commissioning group
LD	Learning disabilities
LGD	Local government district

M

MMR	Measles, mumps and rubella
MSM	Men who have sex with men

N

NHIP	Neighbourhood Health Improvement Project
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
NIC-PIP	Northern Ireland Caries Prevention in Practice
NICRN	Northern Ireland Clinical Research Network
NIHE	Northern Ireland Housing Executive
NIMACH	Northern Ireland Mother and Child Health
NRA	Neighbourhood renewal area
NSC	National Screening Committee

O

ONS	Office for National Statistics

P

PCHI	Permanent childhood hearing impairment
PCP	Primary care provider
PDF	Portable document format
PHA	Public Health Agency
PSNI	Police Service of Northern Ireland

Q

QUB	Queen's University Belfast

R

R&D	Research and development
RASDN	Regional Autistic Spectrum Disorder Network
RSE	Relationships and sexuality education

S

SEN	Special educational needs
STI	Sexually transmitted infection

U

UK	United Kingdom
UNICEF	United Nations Children's Fund

V

VOYPIC	Voice of Young People in Care

W

WHO	World Health Organization

Y

YJA	Youth Justice Agency

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