Review of Pre-School Vaccination Delivery Model

Summary

Vaccination of children plays a vital role in the prevention of deaths and disability from a range of infectious diseases such as diphtheria, tetanus, pertussis, measles and meningitis. At present Northern Ireland achieves some of the highest uptake rates of pre-school vaccination in the United Kingdom.

In 2015, the introduction of a new vaccination programme to immunise infants against meningococcal type B disease (Men B) highlighted difficulties which, if left unaddressed, could impact on the delivery of all current pre-school vaccination programmes in Northern Ireland.

There is a perceived inequity in the arrangements for delivering the vaccination programme due to a variation in how nurse support is provided and funded in individual General Practices. The current arrangements partly reflect decisions taken when a new contract for General Practitioners was introduced in 2004 but do not take account of changes both in the immunisation schedule and individual General Practices since then. Trusts have not been provided with recurrent funding to match the growth in provision of nurse support for new vaccines.

In some General Practices, the nurse support is being provided by Health Visitors and this is impacting significantly on their ability to deliver other key priority programmes for children e.g. the Healthy Child Healthy Future programme.

This report sets out the conclusions of a group established to design a sustainable delivery model for administering existing and future routine vaccines to pre-school children in Northern Ireland with the aim of ensuring that adequate funding is directed to the appropriate agents.

One of the main points agreed by the group was that **responsibility for pre-school vaccination should continue to be held by General Practice.**

The Group concluded that funding for nursing support should be provided on an equitable basis to all General Practices to allow all of them to employ nursing staff

either by practices on an individual basis, by practices on a collective basis, including the potential for employment through GP Federations, or by engagement of nurses through contractual arrangements with Health and Social Care Trusts.

It was agreed that an appropriate level of nursing to carry out this role is Band 5 Nursing.

Health Visitors should continue to play an important role in pre-school vaccination in supporting families who have not accessed vaccination services but **should not** deliver routine vaccination clinics. This will release time for Health Visitors currently involved in this role to support their delivery of other key programmes for children, which will ultimately improve outcomes for children.

The report is being submitted to the Department of Health for consideration. Implementation of the arrangements will require a carefully planned transition programme to ensure that levels of pre-school vaccination are maintained.

The Working Group for the Review of Pre-School Vaccination Delivery Model
15 December 2017

Contents

Summary 2

Contents 4

1. Introduction 5

2. Terms of Reference 10

3. Approach 12

4. Background 14

(i) Immunisation Rates in Northern Ireland 14

(ii) Immunisation Arrangements in Northern Ireland 18

(iii) Funding arrangements for GPs 19

(iv) Funding arrangements for Trusts 22

(v) Immunisation Arrangements in England, Scotlaand and Wales 23

5. Assessment of Current Arrangements 25

(i) Arrangements which are working well 25

(ii) Arrangements requiring clarification or enhancement 26

6. Consideration of Options for Nurse Support for Pre-school Vaccine Delivery 33

7. The Proposed Future Model for Pre-school Vaccination Delivery 41

8. Potential Resource Implications 44

9. Report recommendations 46

10. Next Steps 48

11. Appendices 49

11.1 Appendix A - Membership of Working Group 49

11.2 Appendix B – Full Terms of Reference 50

11.3 Appendix C – Northern Ireland vaccination schedule 53

1. Introduction

The impact of vaccination policy on vaccine-preventable diseases worldwide has been listed as one of the top public health achievements. Immunisation policy for Northern Ireland is set by the Department of Health, on advice from the independent Joint Committee for Vaccines and Immunisation (JCVI). The vaccination policies are aimed at producing immunity to vaccine preventable diseases. Besides individual protection from getting ill, the policies also aim to provide the community as a whole with herd immunity by achieving high uptake rates. This helps to protect those unable to receive a vaccine due to health reasons, such as age, allergies or having received an organ transplant etc.

Each year, the various vaccination programmes help to avert deaths and major complications, across all age groups, from diseases such as diphtheria, tetanus, pertussis, meningitis and measles. The vaccination programmes also reduce the impact of these illnesses on the health service as a whole by reducing visits to GPs and emergency departments; the long term care required to treat the illness in hospitals and in some instances having to deal with the long-term after effects such as limb amputation(s), hearing loss, seizures and brain damage.

In order to achieve these goals, it is essential that Northern Ireland has sustainable systems in place that allow eligible patients to be identified and receive their vaccines at the appropriate age, as recommended by JCVI. At present Northern Ireland achieves some of the highest uptake rates across the UK and the UK as a whole has some of the best uptake rates in the world.

In order to ensure a vaccination programme is cost effective, JCVI normally try to recommend that a new vaccine fits into the current vaccination schedule, if possible. For example, a new vaccine may be given at the 2 and 3 months of age visit because other vaccines are already administered at that age, rather than creating additional visits at say 7 and 9 months of age. While this helps to make the new programme cost effective, it means that it would be very difficult to change the current delivery model. It would not be practicable to have different vaccination teams administering different vaccines at different locations.

Pre-school vaccines are the vaccines that are offered to children when they are aged between 2 months and under 4 years of age. These vaccinations have to date, taken place at their GP Practice. Pre-school vaccinations account for the majority of vaccines given as part of the national vaccination schedule. A full list of all the vaccines offered as part of the national immunisation schedule is available at Appendix C.

While the arrangements for the seasonal influenza vaccination programme for children were noted, due to the fact that the programme is delivered in a very short timeframe outside of the normal childhood vaccination schedule, it was not considered as part of this review.

As with other public health programmes, vaccination programmes are largely invisible when they are working well. However, as new vaccines become available and are then added into an already busy vaccination schedule this can lead to additional pressures which if not addressed, could threaten the entire vaccination schedule. Adding any new vaccine to the schedule adds to the professional time required, including the time needed to explain to parents the details of the vaccine and any follow-up care they may need to give their children.

Emerging issues

During the preparation for introducing the Men B vaccine into the vaccination schedule in 2015, it became clear there were underlying problems with the current vaccination arrangements in NI. Trusts advised the Department that they could not sustain a further expansion to the vaccination schedule in those GP practices where they provide nursing support without additional funding. There are major differences to the level of support provided to practices both within and between Trusts with no clear rationale to explain these. Trusts have advised that there is a high risk that this problem, if left unresolved, could lead to a complete breakdown of the current vaccination arrangements. The introduction of the Men B programme was supported by non-recurrent funding provided by the HSCB/PHA, but the underlying system issues remain unresolved.

Since 2012 there have been seven new programmes or major changes made to the vaccination schedule and while Northern Ireland has achieved high uptake rates, for many years, there are now indications, based on the coverage statistics compiled by the PHA, that our uptake rates are showing some slight but consistent reductions.

Concerns have also been raised that the involvement of Health Visitors in the provision of routine vaccinations is having a significant impact on the delivery of priority programmes for children, in particular the Healthy Child, Healthy Future programme.

The main area of concern brought to the attention of the Department of Health was in relation to how new GP based pre-school vaccination programmes are funded and in particular how the nursing support, which is vital for ensuring a programme is delivered, is funded.

Previous Reviews relating to Childhood Immunisation Programmes

a) In 2011, the Public Health Agency (PHA) commissioned the Northern Ireland Practice and Education Council for Nursing and Midwifery (NIPEC) to undertake an initiative, in partnership with relevant stakeholders to clarify the role, contribution and relationship of Health Visitors within primary care teams, including their role in childhood immunisation programmes. The report of the initiative (separate attachment at Appendix E) described much variation between the arrangements in the administration of immunisation within and between Trusts with immunisation rates appearing to be high where there is an effective partnership between Health Visitors and GPs.

The Health Visiting Initiative report set out a number of principles for moving forward including:

- Maintain current high immunisation rates
- Health Visitor's role in immunisation is clarified
- Immunisation funding arrangements are clarified for all relevant stakeholders

- All childhood immunisations are administered by a Nurse or GP
- Safe, effective processes to support childhood immunisation are in place including;
    - Child Health Systems to be updated easily without duplication of practice records
    - Effective organisation of immunisation clinic and scheduling of children is discussed with practitioner who is administering the vaccines
    - Colour coding boxes, scanners and numbering
    - Direct delivery of vaccines to all General Practices

b) At the request of the Department of Health, a review was undertaken by the HSCB in 2015/16 which gathered information from GP Practices and the Trusts, including information on who actually administered vaccines. The information was broken down by Trust area showing:

a. administration of vaccine by General Practice staff only;
b. administration by HSC staff only, and
c. partnership arrangements whereby GP and HSC staff work together to administer vaccinations.

The results of the survey set out in the report (separate attachment at Appendix D) indicated that there continued to be a wide variation in arrangements.

While the HSCB review (separate attachment at Appendix D) could not agree on a model, it made the following recommendations:

- "While the Health Visiting Initiative Report received wide support, it had not been consistently implemented across all Trusts. It was agreed by all parties that a group be established to agree a model and implementation plan that would apply to all GP practices, not just to those currently receiving support from Trusts".
- "That following agreement on a universal model, a funding model and contract negotiation is undertaken that supports a service model. The funding of

Trusts and Primary Care should reflect the input required from each party to the agreed service model. If our model of delivery is different from elsewhere in the UK, then our funding model must take account of these differences".

- "Following agreement on the model, a 3 year implementation plan and funding is agreed that removes the need for the annual cycle of negotiation and enables the recruitment of permanent staff".
- "The working group could not agree on a model that could be implemented prior to 1st April 2016. The group recommends that Trusts should be funded to provide the additional support similar to 2015/16. The cost has been estimated at £243,266 (in relation to the Men B vaccination programme only). In addition, the remuneration of Primary Care should be part of the GP contract negotiations as in 2015/16".

In order to move this issue forward it was agreed that the Department commission a small group of experts, led by an independent chair, to design and cost a new pre-school vaccination delivery model for Northern Ireland. The aim was to ensure a consistent, sustainable and equitable model for all pre-school childhood vaccination programmes could be put in place across the whole of the region.

2. Terms of Reference

Following Ministerial approval to commission a small group of experts to design and cost a new pre-school vaccination delivery model for Northern Ireland, the Terms of Reference (ToR) for the review group were drawn up and agreed. The full terms of reference are available at Appendix B. A brief outline of the ToR are set out below.

The task of the group was to design a sustainable delivery model for administering existing and future routine vaccines to pre-school children in Northern Ireland with the aim of ensuring that adequate funding is directed to the appropriate agents.

It was requested that the delivery model should be based on the following principles.

1 Fairness: Funding for the programme should be allocated appropriately in line with the roles which the respective partners carry out.
2 Effectiveness: Northern Ireland's high uptake rates for childhood vaccines should be maintained.
3 Patient focus: The delivery model should be designed to best meet the needs of children and their families.
4 Minimising harm: As far as possible, any potential adverse consequences of a change to vaccine administration arrangements, e.g. aggravation of health inequalities, should be prevented or mitigated.
5 Value for money: Having regard to the first four principles, the cost of administering these vaccines should be minimised.
6 Flexibility: The delivery model should be flexible to allow for the introduction of new vaccines or changes to current vaccination schedule.

The design team were asked to take into account current delivery arrangements for delivering pre-school childhood vaccination programmes in England, Scotland and Wales.

The group noted that there were different arrangements for the children's influenza vaccine and these were considered to be working well. Specific storage and

distribution contracts are also in place for this particular vaccination programme. The children's influenza vaccination programme is therefore excluded from this review.

The design team was chaired by Dr David Stewart, who recently retired as Medical Director of the Regulation and Quality Improvement Authority and was previously a Director of Public Health in one of the then Health Boards.

It also included key stakeholders from:

- the Northern Ireland General Practitioners Committee (NIGPC),
- the Royal College of General Practitioners (RCGP),
- a Health Protection expert representative from the Public Health Agency (PHA),
- a Specialist Registrar in Public Health Medicine,
- General Medical Services Health and Social Care Board (HSCB),
- Head of GMS (HSCB),
- Medical Advisor (HSCB),
- Trust and PHA nursing representatives,
- the Community Practitioners' & Health Visitors' Association (CPHVA),
- the Royal College of Nursing (RCN), and
- Departmental reps from Primary Care, Nursing and Health Protection branches.

3. Approach

The Review Group, made up of key stakeholders, met for the first time in February 2017 and mapped out what was working well and what the challenges are with the current administration system.

It was quickly established that there was a broad consensus that the preferred immunisation model for pre-school children should be primary care led but with appropriate nursing support.

There was also a strong view within the group that the appropriate level of nursing support. . This has been a long running issue. Some GPs have insisted that the vaccinator should be a Health Visitor while some Trusts also appear to have insisted that a HV should be involved in the actual administration of vaccines. The group agreed that nursing support should be at Band 5 level and that the role of Health Visitors in the process should be in supporting vaccination for hard to reach families rather than vaccinating children at clinics. .

It was agreed that future meetings of the group would take a workshop format with a focus on identifying options for the future vaccination delivery model. Information was requested by the group as and when required, such as asking Trusts to identify a practice in each Trust that use only Band 5 nurses. This helped inform the development of a ratio for the requirement of Band 5 nurse time for vaccination of numbers of children in a practice.

The group agreed to develop and consider a range of options which included an option of continuing with the current system unchanged. Criteria were then drawn up to assess the various vaccination model options (see page 33). The group then jointly ranked the criteria in order of importance. Criterion 2 (the extent to which the option will ensure that a high uptake of vaccination is maintained) was rated the highest by the group.

The group then scored the options against the criteria and option D (practices funded for all nurse vaccination support) scored the highest although it was recognised that

this was also rated the riskiest option in the short term. The two highest scoring options (B & D) were then qualitatively assessed against the principles contained in the terms of reference, with the conclusion that option D was favoured.

The group then considered what the new model would look like once it was working effectively and identified the obstacles which would prevent the model from being implemented. This enabled the group to develop an implementation plan should the preferred option receive approval and funding from the Department of Health and the Health Minister.

4. Background

(i) Immunisation Rates in Northern Ireland

The uptake of primary immunisations in Northern Ireland is consistently equal to or higher than other areas of the UK. However there is variation of uptake by local commissioning groups (LCG) area, with uptake lower in Belfast than other areas. There is also evidence to suggest that general uptake rates across NI are starting to slip downwards.

Immunisations up to 12 months of age

In 2015-16 the immunisation schedule for all babies was a course of primary immunisations at the ages of 2, 3, and 4 months to protect against diphtheria, tetanus, polio, pertussis, *Haemophilus influenza* type B (DTaP/IPV/Hib), pneumococcal disease (PCV), rotavirus, and meningococcal group C (Men C).

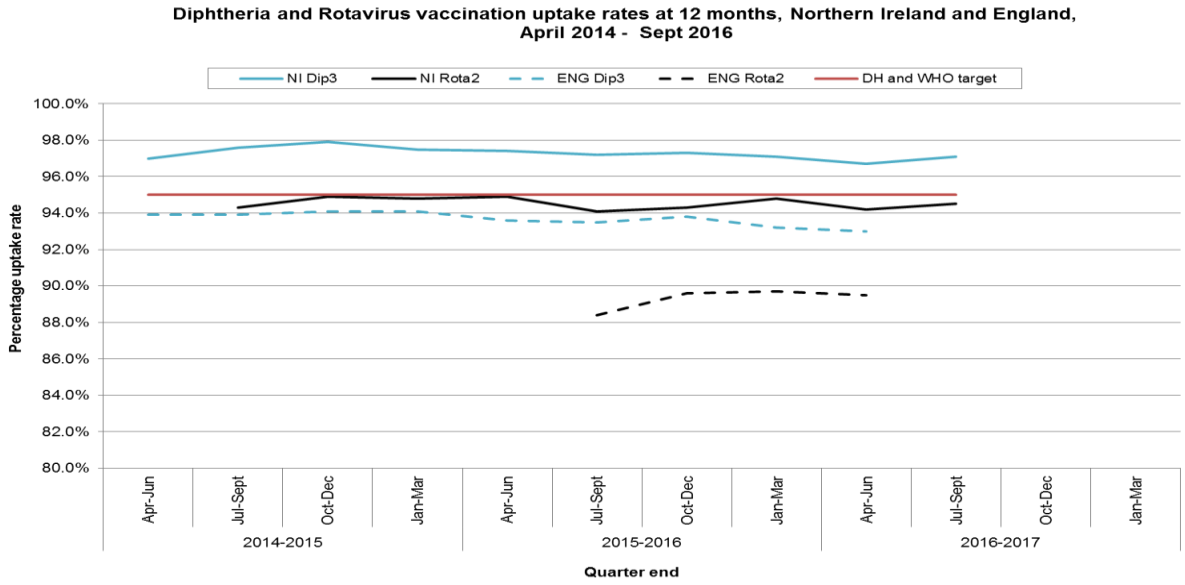
Figure 1 Completed primary immunisations by 12 months of age, 2015-16, Northern Ireland and GB

Area	DTaP/IPV/Hib3	Men C	PCV2	Rota2
Belfast	95.0%	97.0%	94.8%	93.1%
South Eastern	97.4%	98.2%	97.4%	94.4%
Northern	97.8%	98.3%	97.7%	94.7%
Southern	97.9%	98.2%	97.7%	94.7%
Western	97.7%	98.6%	97.8%	94.1%
NI Total	**97.2%**	**98.1%**	**97.1%**	**94.3%**
England	**93.6%**	*****	**93.5%**	**^**
Scotland	**97.2%**	**97.5%**	**97.1%**	**92.9%**
Wales	**96.6%**	**97.4%**	**96.4%**	**93.4%**

* data not reported for England due to data quality issues; ^ data not available

Source: Quarterly COVER returns (NI Child Health System and Public Health England)

Figure 2 below compares the Diphtheria and Rotavirus uptake rates at 12 months of age achieved in Northern Ireland and England.



Immunisations up to 24 months

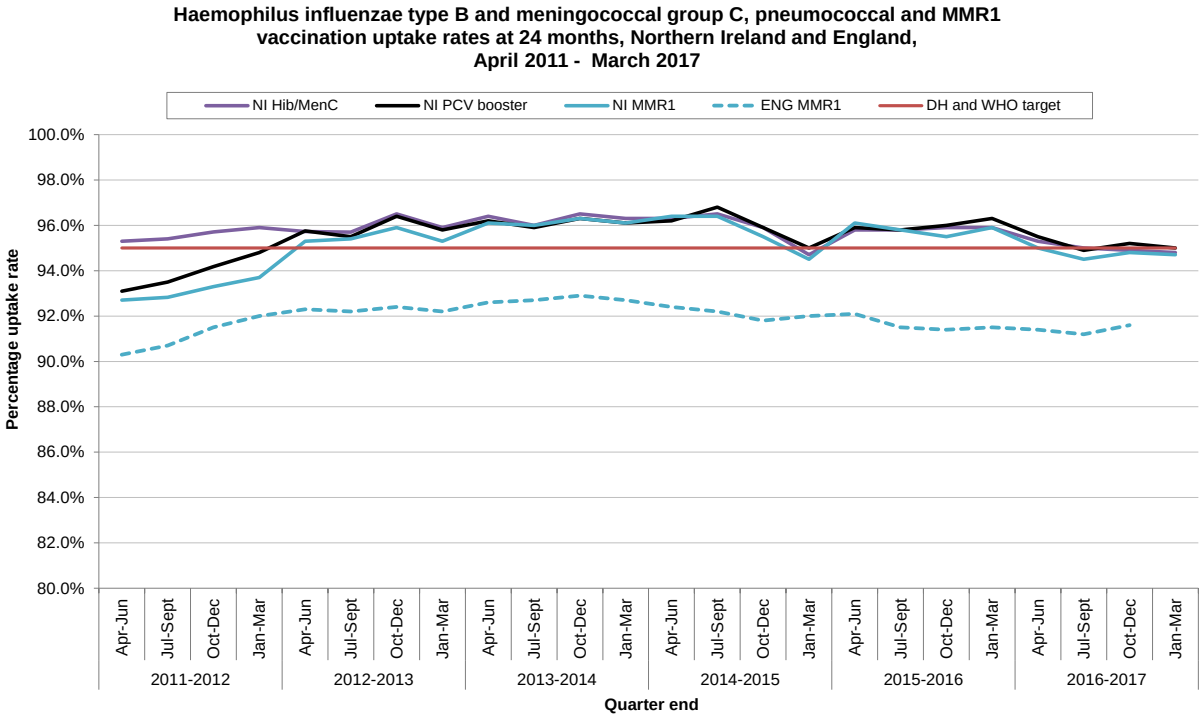
Infants are offered immunisations just after their first birthday to protect against measles, mumps and rubella (MMR), pneumococcal disease (PCV), meningococcal group C and *haemophilus influenza type B* (Hib/Men C). Uptake of these immunisations is measured at their second birthday. Uptake rates of all immunisations at 24 months for 2015-16 (Table 2) are all above the 95% target and higher than the uptake across the other parts of the UK.

Figure 3 Completed primary immunisations by 24 months of age, 2015-16, Northern Ireland and GB

Area	DTaP/IPV/Hib3	PCV booster	Hib/Men C	MMR1
Belfast	96.6%	92.5%	92.4%	92.9%
South Eastern	98.4%	95.8%	95.7%	95.9%
Northern	98.5%	97.5%	96.7%	96.4%
Southern	98.8%	96.5%	96.5%	96.9%
Western	98.8%	98.2%	96.8%	96.4%
NI Total	**98.2%**	**96.1%**	**95.7%**	**95.8%**
England	**95.2%**	**91.5%**	**91.6%**	**91.9%**
Scotland	**97.9%**	**95.3%**	**95.4%**	**95.4%**
Wales	**97.0%**	**95.6%**	**94.7%**	**95.3%**

Source: Quarterly COVER returns (NI Child Health System and PHE)

Figure 4 below compares the Hib B, Men C, pneumococcal and MMR 1 uptake rates at 24 months of age achieved in Northern Ireland and England.



Immunisations up to five years of age

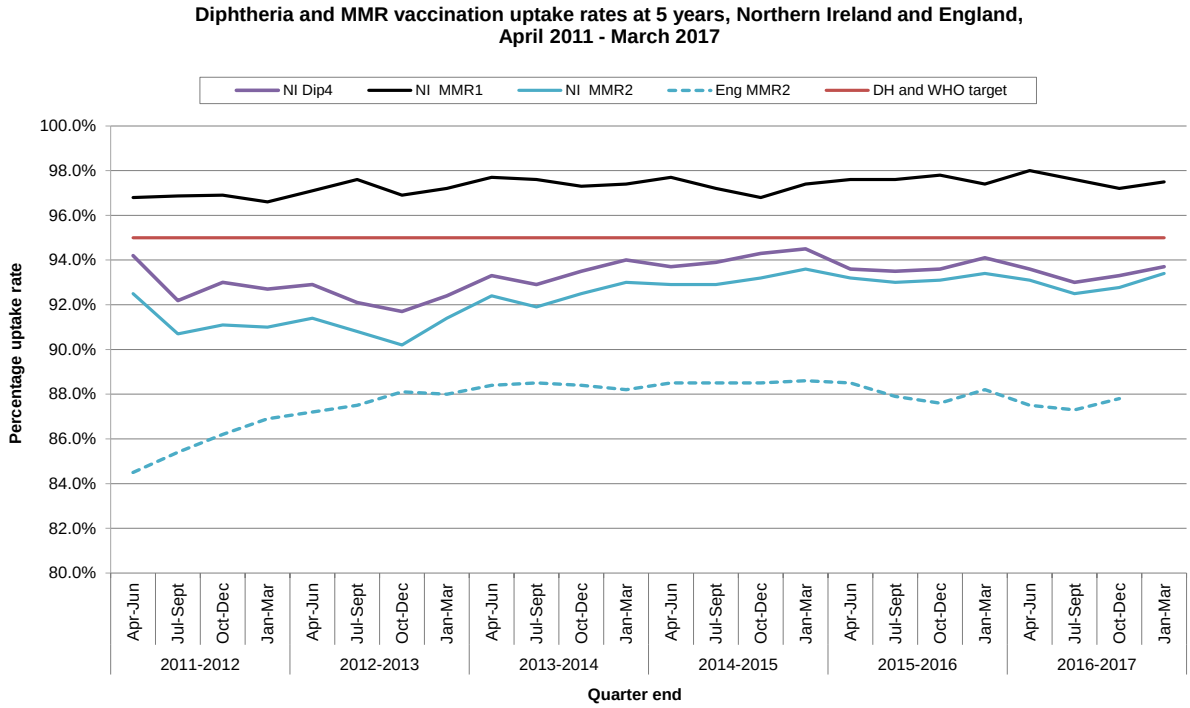
Children are offered “pre-school booster” immunisations from the age of 3 years and 4 months, providing a fourth dose booster of protection against diphtheria, tetanus, polio and pertussis (DTa/IPV) and a second dose of MMR vaccine. Uptake of these vaccines is measured at their fifth birthday.

Figure 5 Completed primary immunisations by 5 years of age, 2015-16, Northern Ireland and GB

Area	DTaP/IPV/Hib3	MMR1	MMR2	DTaP/IPV booster
Belfast	96.8%	96.4%	87.3%	87.3%
South Eastern	98.4%	97.8%	94.5%	95.2%
Northern	98.5%	97.7%	94.6%	95.4%
Southern	97.9%	97.4%	93.9%	93.9%
Western	98.8%	98.2%	95.7%	95.7%
NI Total	**98.1%**	**97.5%**	**93.0%**	**93.6%**
England	**95.6%**	**94.8%**	**88.2%**	**86.3%**
Scotland	**98.1%**	**97.1%**	**93.1%**	**93.7%**
Wales	**96.3%**	**96.8%**	**91.6%**	**92.1%**

Source: Quarterly COVER returns (NI Child Health System and PHE)

Figure 6 below compares the Diphtheria and MMR uptake rates at 5 years of age achieved in Northern Ireland and England



(ii) Immunisation Arrangements in Northern Ireland

In Northern Ireland all childhood immunisation programmes are based on the recommendations from the Joint Committee on Vaccination and Immunisation (JCVI), which is an independent expert committee that advises the 4 UK Health Ministers on matters relating to vaccination and immunisation.

Following a JCVI recommendation and subsequent Ministerial approval to implement the recommendation, the Department issues a HSS letter across the Health and Social Care system and to all GP practices setting out the details of the forthcoming vaccination programme. The Public Health Agency has lead responsibility for implementing all vaccination programmes in NI and will work with GPs and Trusts to ensure all the necessary arrangements and training have been put in place. A Health Protection duty room is run by the PHA which deals with any clinical queries from those involved in the vaccination programme.

All of the vaccines used in the childhood vaccination schedule are procured by Public Health England on behalf of the whole of the UK. As part of the implementation arrangements, funding is provided to Trusts to purchase the vaccine. Trust pharmacy units then store and distribute the vaccine to school health teams or GP practices within their area, as required.

All vaccination programmes are administered either via GP practices or in schools as part of a school based programme. All vaccines offered as part of the national vaccination programme to children aged between 2 months and under 4 years of age are delivered via their GP Practice while school-based programmes are administered by the Trusts' school health service.

For new programmes, funding has been directed accordingly to either GPs via an IoS fee, for GP based programmes, or to Trusts, for school based programmes.

(iii) Funding Arrangements for GPs

Some GP surgeries employ their own nursing staff, while others receive nursing support provided by their local Trust for which they are not charged in line with previous agreements. This varies from practice to practice and seems to reflect the situation when new GP contracts were introduced in 2004. Since 2004 some practices have closed while others have merged with neighbouring practices which may have operated under different arrangements. During the planning for the introduction of the Men B programme there was some dispute about the extent to which childhood vaccines delivered in GP surgeries were delivered by Trust staff, by GP staff or by both working together.

Before the introduction of the 2004 General Medical Services (GMS) Contract, most vaccinations were paid for on an Item of Service (IOS) basis for each vaccination given. In addition to IOS fees, GPs could receive payments for achieving specified target rates for the uptake of certain pre-school vaccinations, the aim of which was to promote take up levels and thereby increase population protection.

In 2004, the existing arrangements for vaccinations and immunisations, including pre-school childhood vaccinations (known as the Red Book Regulations) were carried across into the new GMS contract to become an *Additional Service*. Funding for Additional Services is included in the Global Sum (GS) allocated to each practice to recognise the costs, including staff costs, of delivering both its essential (core) services and any additional services the practice contracts to undertake. Payments for vaccinations which had previously been made on an IOS fee basis were therefore transferred into Global Sum on the introduction of the new GMS contract.

The Review Group was advised that the IoS fee is the payment a GP receives for facilitating the vaccination and for providing any follow-up care required in the hours and days after vaccination. It does **not** cover the cost of providing nursing staff to help administer the vaccination.

There are 2 Additional Services relating to vaccinations and immunisations. These are:

(i) Vaccines and Immunisations which cover a specific list of vaccines and the patient groups they should be offered to. This covers some

vaccines including diphtheria, tetanus, polio and MMR to adults that they missed as part of the childhood schemes and some vaccines including Hepatitis A, typhoid and rabies for people with specific social, occupational or other risks and

(ii) Childhood Vaccines and Immunisations which make up a large element of the current Childhood Vaccination Scheme.

Should a practice, for whatever reason, not undertake to provide these Additional Services, its Global Sum will be decreased by a specified level - the percentage reduction is set out in the Statement of Financial Entitlements (SFE)[1].

Since 2004, childhood vaccinations have changed as some single vaccinations have combined and other new ones have been introduced. Some new childhood vaccinations which have been introduced, whilst provided as part of the Childhood Vaccinations and Immunisations Additional Service, are not funded within a practice's Global Sum. Payments are instead made to practices on the basis of an Item of Service fee[2] with defined conditions attached to the IOS fee payment set out in the SFE. For example, for the rotavirus vaccination, an IOS fee of £7.64 is currently payable in respect of each child registered with the contractor who receives a completed course of immunisation – i.e. 2 vaccinations, one at 2 months and the second at 3 months.

In addition to the funding available to GP practices for Childhood Vaccinations and Immunisations through the Global Sum and IOS fees, a *Directed Enhanced Service* (DES) is in place to promote the uptake of a number of routine childhood vaccinations and immunisations. There are 2 elements to this - the *Two Year Old Immunisation Payment (TYOIP)* and the *Five Year Old Immunisation Payment (FYOIP*). Under this arrangement, payments are available to practices that achieve

[1] The General Medical Services Statement of Financial Entitlements sets out how payments to General Practice contractors are to be made.

[2] Childhood vaccinations currently paid by way of IOS fee are Pneumococcal conjugate vaccine, HIB/MenC booster, Rotavirus and Meningococcal B

specified immunisation target rates (set at 70% and 90%) for 2 and 5 years old for certain childhood vaccines set out in the Statement of Financial Entitlements[3].

The target payments available under the DES aim to optimise the uptake of vaccination and promote greater herd immunisation. Practices can choose whether or not to participate in the DES. If they choose not to, whilst they will not receive payments under the DES for achieving the targets, they will still receive funding within their Global Sum for those childhood vaccinations provided as an additional service.

Although practices can opt out of the Additional Services and Directed Enhanced Service, at present all practices in Northern Ireland continue to provide these services.

As noted above, in Northern Ireland, pre-school vaccinations are delivered in primary care in GP practices. There are different arrangements in place for the administration of childhood vaccinations for pre-school children, namely:

- Vaccinations are administered by staff employed and funded by the GP practice, including GPs, Practice Nurses or Treatment Room Nurses employed by the practice;
- Vaccinations are administered by staff employed and funded by HSC Trusts – this can include Treatment Room Nurses, Health Visitors or Public Health Nurses;
- Vaccinations are administered via a partnership of both GP practice and Trust staff working together.

The model of nursing support for pre-school childhood vaccinations varies from practice to practice and partly reflects the situation when the new GMS contract was introduced in 2004.

[3] Childhood vaccinations which are included in the DES for 2 and 5 year old targets are: diphtheria, tetanus, poliomyelitis, pertussis, haemophilus and (from October 2017) Hepatitis B; Measles, Mumps and Rubella; and (until July 2016 Meningitis C. Details about how funding is calculated under this DES are included at Section 8 of the Statement of Financial Entitlement (SFE)

When the new GMS contract was introduced in 2004, the costs of Practice or Treatment Room Nurses who were employed by GP practices at that time were taken into account in calculating the practice's Global Sum. Where a practice did not employ Practice Nurses but had access to Trust funded nurses, there were no nursing costs built into the practice's Global Sum as this was not a direct cost to the practice. Over time practices may have taken on additional directly employed nursing staff, but the Global Sum calculations are based on the historic baseline position in 2004.

(iv) Funding arrangements for Trusts

Trusts receive funding for all school based programmes. They do not receive any specific funding to administer vaccines that are delivered by Trust staff via GP **practices** although funding for nurses in general would have been included in Trust baselines. The GPs receiving this assistance are not charged for the service in line with the agreements reached with GPs in 2004.

Trusts have raised concerns that they do not receive any additional funding to implement new GP based vaccination programmes. Under the current arrangements all funding provided for new GP based programmes is available for GPs to claim via an IoS fee.

The level of nursing support provided by Trusts to GP Practices varies between and within Trusts. Based on advice from the HSCB it has not been possible to identify which type of settlement each Practice received in 2004 and it was also acknowledged that since the settlement, some Practices have closed or merged. The medical Advisor representative from the HSCB advised the group that she was aware of some Practices where Trust support has been discontinued.

Trusts have advised that if the current approach to funding continues, they would struggle to maintain nursing support for the Men B vaccination programme and would definitely not have the capacity to deliver any new pre-school GP based vaccination programmes.

As a result of the additional work arising from the new GP based vaccination programmes being added to the schedule, some Trusts have also decided to redirect their Health Visitor staff away from their primary duties in order to help administer vaccines in those GP practices that the Trust continue to provide support to. Data were not available on what proportion of Trust staff supporting GPs are Health Visitors.

(v) Immunisation Arrangements in England, Scotland and Wales

The group sought clarification on arrangements regarding vaccines in GB as arrangements differ throughout.

England

In England all pre-school vaccinations are administered in GP surgeries by practice nurses with no involvement of Trust nurses.

Scotland

In Scotland, as in NI, there is a variety of approaches for pre-school vaccine delivery. These involve Practice Nurses employed by GP practices, or Health Visitors and Staff Nurses employed by NHS Boards, some of whom work within an 'immunisation team'. In 2016 Scotland undertook a review of immunisation. The Scottish review was carried out as part of a broader review of health visiting and school nursing services and consideration of changes to immunisation schedules. In 2017 the Department of Health Scotland established a new programme, the Vaccination Transformation Programme (VTP) to consider ways in which other parts of the healthcare system could become responsible for the delivery of vaccines.

This will mean a move away from the GPs being the *de facto* providers of the bulk of the vaccination programmes, towards empowering Health Boards to implement delivery of the programmes in a way that best suits their areas. That may mean that the Boards contract GPs in their area to deliver, or that they will establish other mechanisms. It will be locally decided what is the best way to manage.

GPs will move away from being the assumed providers of vaccination programmes but will retain a degree of involvement in the programmes in helping promote uptake;

follow-up care as part of their clinical duties; managing premises if they and the Board reach agreement about using their premises for vaccinations. There is still a lot of detail to be worked through but GPs will not be stepping away entirely from all vaccination involvement, just that the level of involvement will be something that will be negotiated locally rather than contracted nationally.

Wales

Within the last few years all seven Health Boards in Wales have largely moved to all pre-school immunisations being administered by practice nurses. This required a training programme for the practice nurses during the first year. There was a slight reduction in immunisation uptake but this quickly returned to normal levels.

5. Assessment of Current Arrangements

The remit of the working group was to design a sustainable delivery model for administering existing and future vaccines to pre-school children with the aim of ensuring that adequate funding is directed to the appropriate agents. In order to do this, the working group identified those aspects of the vaccination programmes that are working well and those areas where there is scope for improvement.

(i) Arrangements which are working well

High uptake rates of pre-school vaccines reflect the strong commitment of General Practice and Health and Social Care Trust staff to the delivery of immunisation programmes in Northern Ireland.

The arrangements for setting immunisation policy nationally and regionally are considered to be working well. Appropriate information is disseminated to staff when new vaccines are introduced or there are changes to recommended vaccine schedules.

A regional duty room has been established by the Public Health Agency. This facilitates the provision of immediate advice to staff in response to queries concerning vaccines.

The Public Health Agency (PHA) provides training and updates for Trust and General Practice staff about immunisation practice. The PHA's training is not currently provided for doctors training to be General Practitioners. It has been agreed that the potential for this input will be explored by the Public Health Agency and the Northern Ireland Medical and Dental Training Agency.

Funding is provided in their baselines to Health and Social Care Trusts to purchase all pre-school vaccines using nationally agreed contracts. Trust pharmacies have arrangements in place for the ordering, storage and distribution of vaccines although for one Trust this currently involves the use of holding centres where vaccine has to be collected for use in a GP practice.

While not subject to this review, arrangements for the annual seasonal flu vaccination of all children aged between 2 and 11 years of age were considered to be working well. This programme differs from normal childhood programmes as due to the nature of the vaccine production and the illness the programme has to be delivered over an 8 week period in the autumn and therefore cannot fit into the normal childhood vaccination schedule. In addition it was noted that a specific storage and distribution contract has been put in place by the PHA with a private provider which is very effective at distributing the vaccine to GPs and school health teams.

(ii) Arrangements requiring clarification or enhancement

a. Variation trustnursing support to practice level

At present there is wide variation in the arrangements for the delivery of vaccinations at practice level, in terms of the way nursing support is obtained by GPs. Some of the variation appropriately reflects differences between practices in areas such as: the size of the practice population; the premises occupied; the geographic area of the practice; and the staffing profile of the practice. Such flexibility for general practices to develop their own approach is welcome as it enables practices to design their local arrangements to best meet the needs of the population they serve.

The amount and grading of nursing support provided by Trusts to support the delivery of vaccination to pre-school children also varies by practice. Some practice teams deliver all vaccinations without any Trust nurse input. In some practices all vaccinations are delivered by Trust nursing staff. In others, vaccinations are delivered by practice teams working in partnership with Trust nurses. The patterns are different within and between Trust areas.

The wide range in arrangements has been previously documented in both the NIPEC Report on Health Visiting (Appendix E) and the HSCB Review (Appendix D)

Figure 7 below shows the regional summary of information gathered by the HSCB in 2015 of pre-school vaccines split between GPs, HSC Trust and a combination of both who administered the vaccine

	Number of Practices	8 week visit	12 week visit	16 week visit	1 year visit	4 year visit
GP staff only	354	54%	36%	38%	37%	40%
HSC staff only	354	34%	53%	53%	53%	47%
GP & HSC staff	354	12%	10%	9%	9%	11%

The group considered why this variation in nursing support to practices has occurred. No clear single reason has been identified with the differences reflecting:

- Historic arrangements for vaccine delivery in particular localities and practices
- Changes to General Practice contracts over the past 25 years
- Changes to arrangements and local policies for the delivery of community nursing services
- Levels of funding available within Practices' baselines following the 2004 settlement.
- Local preferences of both General Practice and nursing staff as to who should participate in vaccine delivery.

There is no apparent correlation between the nature of the arrangements for nursing support and the uptake rates for pre-school vaccination. Good uptake is generally being achieved in all models.

The variation in arrangements has led to concerns about lack of equity of provision for both Trusts and General Practices.

For Trusts, the lack of any common policy about what nursing support should be provided to practices creates difficulty in responding to requests for support by practices or in changing the nature or amount of nursing time provided.

For some General Practices there is a perception that they are being unfairly treated compared to neighbouring practices, in that they are not being provided with support by Trust nurses and instead are required to source and fund their own nursing support. The relationship between this arrangement and the 2004 settlement is poorly documented and understood, at the level of the HSCB and the practices themselves.

b. Input by Health Visitors to Pre-school Vaccination Programmes

The role of the Health Visitor is critical to the delivery of priority programmes for child health, in particular the Healthy Child, Healthy Future programme. The Public Health Agency has supported the development of the Health Visiting Service to deliver on these objectives.

Health Visitors play a key role in supporting and promoting the importance of immunisation when families are not responding to invitations to attend for vaccination.

There is a strong consensus that delivery of vaccination at routine clinics is not an appropriate function for skilled Health Visitors to undertake and that the appropriate level of nursing support required should be provided at Band 5 level.

In Northern Ireland there has been an increase in the number of vaccine clinics where nurse support is provided by Trusts at Band 5 level but a significant amount of nurse support is provided by Health Visitors, although it has not been possible to produce data on what proportion of Trust staff supporting GPs are Health Visitors. This is impacting on the amount of skilled Health Visitor time available to deliver on agreed priority functions.

A progress report, published in October 2017 by the Department, on *Health and Wellbeing 2026: Delivering Together*, advised that while progress has been made on the Healthy Child, Healthy Future programme, due to workforce capacity issues the programme remains to be fully delivered. Health Visitors involvement in carrying out routine vaccinations is considered to be an important component of the difficulties in achieving progress goals.

While Health Visitors have made a major contribution to the achievement of high uptake levels of vaccinations, the current variable arrangements are not considered to be sustainable for the future. There is a need to support vaccination with nurses at an appropriate level of expertise and thus release skilled Health Visitor time.

In moving to models where Band 5 nurses deliver vaccination, it is recommended that this should not be their only nursing role to enhance job satisfaction and retention of nursing skills.

c. Information Systems to support vaccination

The Child Health Information System (CHIS) underpins the delivery of pre-school vaccination in Northern Ireland. It facilitates the issuing of invitations to attend for vaccination; scheduling of clinics; and monitoring of uptake. Not all GP practices use the CHS in the same way. Some practices issue their own invites to their eligible patients.

Overall the system is considered to be very helpful. However it has been in place for since 1986/87. There are 5 CHIS, one in each Trust. It is not very flexible to change and requires a lot of paperwork. It does not link directly to ICT systems in General Practice.

The group was advised that there are options available within the system which enable some individual tailoring to better meet the needs of individual General Practices. This flexibility is not always being fully utilised. Training to raise awareness of how to make maximum use of the system is recommended.

In the longer term, the replacement of the system to provide a paperless solution fully integrated with General Practice systems would provide significant benefits. (See section 9 for a full list of recommendations)

- **It is recommended that awareness and update sessions on the use of the Child Health Information System are provided for General Practice staff.**
- **It is recommended that all GP Practices make use of the CHS call/recall system to avoid unnecessary duplication of effort.**

- **It is recommended that a project is established to examine the provision of future ICT support for the delivery of pre-school vaccination in Northern Ireland is linked to the ongoing development of the Electronic Care Record.**

d. Monitoring of Vaccine Uptake

The group was advised that the Public Health Agency identified that, while overall vaccine rates are high, there were some practices where there were reported to be significant queues of children waiting to be vaccinated.

Potential reasons were investigated and found to vary by practice such as staff sickness or a temporary reduction in vaccine delivery clinics. Some practices were not using the Child Health System to the full extent.

The Public Health Agency is enhancing its monitoring in relation to queues and is providing additional information to practices about uptake rates and delivery of vaccines.

e. Maintaining the Cold Chain

Advice relating to ensuring that vaccines are stored and distributed at an appropriate temperature (i.e. maintaining the Cold Chain) is included in Public Health Agency

training. Trust pharmacies provide advice when there are concerns about cold chain failures and discarding vaccines.

Trusts have different arrangements in place for the distribution of vaccines. Two trusts use a commercial supplier for storage and distribution to practices. In one trust, the current arrangement is under review where staff collect vaccines in approved bags from holding centres.

No specific concerns were raised with the group in relation to maintaining the cold chain until the vaccines are delivered to practice premises. There is some concern that at times of peak vaccine use, in particular at the start of the influenza season, there is a lack of capacity in vaccine fridges at practice level. This has resulted, on occasions, in the loss of vaccine due to inadequate cold storage. Some vaccine fridges are owned and maintained by Trusts and some by General Practice potentially leading to confusion about the responsibility to maintain the cold chain.

There is no central source of information about how much vaccine has not been able to be used due to cold storage issues but the scale of the issue is currently being investigated by the Regional Pharmaceutical Procurement Service.

f. Responsibility for the provision of consumables

The group was advised that some concerns have been raised as to the responsibility for the provision of consumables, such as wipes and plasters, for vaccination.

- **It is recommended that in designing a future model, the responsibilities for delivering each aspect of the vaccine programme such as providing consumables, fridges, including maintaining the cold chain, IT, nursing staff etc should be clearly set out.**

Conclusions

The group concluded that:

- The responsibility for the future delivery of the pre-school immunisation programme should remain with General Practitioners.

- Nurse support should be obtained at an appropriate level (Band 5) with nursing posts encompassing wider roles that are within the competences of that grade, as well as vaccination.

- Health Visitors should not provide routine vaccination services but should continue to support immunisation programmes in ensuring vaccination is delivered when families do not avail of routine services.

The next section of the report reviews options for how practices obtain nurse support and how this is financed by government on an equitable basis to ensure that high uptake of vaccines is maintained.

6. Consideration of Options for Nurse Support for Pre-school Vaccine Delivery

Options

Five possible options for the provision of nurse support for pre-school vaccination were identified for consideration.

A. Do nothing option, continuing with the current arrangements
B. Provide funding to General Practices to employ additional nurses to remove Health Visitor direct vaccination input where required*.
C. Provide funding to Trusts to engage additional nurses to remove Health Visitor direct vaccination input and increase equity across practices.
D. Move to a model where all General Practices are provided with the funding to engage nursing support at Band 5 level for immunisation.
E. Move to a model where Trusts are provided with the funding to support all practices with Band 5 Level nursing support for immunisation.

**Please note, we are now viewing Option B to mean that those GP Practices that currently have anyTrust staff, not just Health Visitors, involved in vaccination programmes would receive funding. The funding would allow ONLY those practices in receipt of Trust support to pay for Band 5 nurses to carry out the vaccinations. These nurses could still be employed by the Trust if the Practice agrees to purchase their services from the Trust. GP Practices that currently receive no nursing support from Trusts for immunisation would receive no additional funding under this option.*

Criteria for assessment

Nine criteria were established against which to compare the options.

1. The extent to which the option promotes fairness across Trusts and General practices
2. The extent to which the option will ensure that a high uptake of vaccination is maintained
3. The extent to which the option will provide services designed to meet the needs of children and families

4. The extent to which additional nursing support can be most effectively and efficiently utilised
5. The extent to which Health Visitor time can be released to carry out core Health Visitor functions
6. The extent to which practice time can be released to carry out core GP functions
7. The extent to which the model is sustainable for the future
8. The extent to which the model is flexible for any future changes of the routine childhood immunisation programme
9. The extent to which the model can be easily implemented

Benefits Matrix for Options

The group carried out a 'Weighting and Scoring' Exercise to facilitate comparison of the merits of each of the options. The criteria were considered initially to identify their relative importance and so that relative weightings could be applied in the assessment. Each option was then allocated a score from 1 -10 against each criteria. The results of the exercise are set out in the table below.

Pre- school vaccination workshop - Benefits Matrix for Options

		Option A		Option B		Option C		Option D		Option E	
	Weighting	Score	WS	Score	WS	Score	WS	Score	WS	Score	WS
1. Promotes Fairness for GPs and Trusts	12.5	2	25	6	75	4	50	10	125	8	100
2. Maintains Vaccine Uptake	20	6	120	10	200	8	160	2	40	4	80
3. Meets needs of children and families	15	2	30	6	90	4	60	10	150	8	120
4. Uses nurse time efficiently & effectively	10	2	20	8	80	4	40	10	100	6	60
5. Releases HV Time for core functions	10	2	20	8	80	6	60	10	100	4	40
6. Releases GP Time for core functions	10	2	20	4	40	6	60	8	80	10	100
7. Is sustainable for the future	12.5	2	25	6	75	4	50	10	125	8	100
8. Is flexible to changes in vaccination	5	2	10	6	30	4	20	10	50	8	40
9. Can be easily implemented	5	10	50	6	30	8	40	2	10	4	20
Total	100		320		700		540		780		660

Assessment of preferred options against Terms of Reference

Further comparison of Option B and Option D

Following the Benefit Matrix exercise, the group gave further consideration to Options B and D which were the two highest scoring options and which both would move to funding nursing support through General Practices. The Options were compared against the six principles set out in the Terms of Reference on which a future delivery model should be based.

Option B- Provide funding to General Practices to employ additional nurses or pay for Trust nurses time to remove Health Visitors from direct vaccination where required.

Option D- Move to a model where **all** General Practices are provided with the funding to engage nursing support at Band 5 level for immunisation.

1. Fairness

The group considered that Option B would lead to increased fairness in relation to the funding of services provided by Trusts. However it would lead to a two tier model of funding for General Practices based solely on what the position of a practice was at the time of introduction of the new model. As set out in the report there is no clear basis for why some practices now receive Trust input and some do not. The Group was made aware of examples of Practices where Trust support was initially provided for several years before being withdrawn. The Group was advised that implementing option B could lead to some Practices reconsidering their involvement in pre-school vaccinations. The group were not aware of any official documents which could provide robust evidence for the basis of the 2004 settlement and underpin retention of this historical difference between practices.

Option D would provide funding to all practices based on the number of children requiring immunisation and was considered by the group to be significantly better in

relation to fairness than Option B. Although practices which employed their own nurses received additional baseline funding as part of the 2004 settlement, the existing documentation was insufficient to provide a robust basis for distinguishing between the practices and the situation in the ground had in any case evolved since that time. It would therefore be fairer to start afresh and allocate funding to all practices on the same basis.

2. Effectiveness

Effectiveness is defined in the Terms of Reference as ensuring that Northern Ireland's high uptake rates for childhood vaccines should be maintained.

The group recognises that there will be a change in funding streams for both options B and D. This could provide a risk to maintaining vaccine uptakes rates and therefore there needs to be a clear implementation plan.

During consideration of the options, the group considered that there were more risks associated with option D as it would impact on all practices. It would therefore need to be implemented with a carefully designed implementation plan to mitigate this risk.

3. Patient Focus

The group considers that maintaining delivery of immunisation through General Practice will provide a strong patient focus for children and their families. This is provided by both Option B and Option D. Both options will also release Health Visitor time to enable them to focus on other priority programmes focused on children.

The group considers that the introduction of the more equitable service in Option D rather than Option B should enable all practices to examine their local arrangements to tailor them to the needs of their practice populations.

4. Minimising harm

The current arrangements for providing nurse support for immunisation through trusts vary between and within trusts. A key role for Health Visiting is that there is a clearly identified current and future role in supporting hard to reach families.
The group considers that moving to a more equitable arrangement for funding all practices in Option D, rather than those with historic support in Option B, has a greater potential for prevention of inequalities in provision of services to children.

5. Value for money

Under Options B and D, provision of additional nurse time to support vaccination in General Practices will release HSCT nursing/health visiting time to support other functions although it has not been possible to produce data on what proportion of Trust staff supporting GPs are Health Visitors. These include, the provision of the full Child Health Promotion Programme (DoH 2010) to all preschool children who are entitled to receive this; activities associated with the achievement of Programme for Government (draft); and the goals relating to Giving Every Child the Best Start.

For Option D, provision of funding on an equitable basis will facilitate the release of time to carry out other functions in General Practices where nurse support from Trusts is not currently being provided. Moving to a system where the funding for nursing support is provided to all practices on the same funding basis will ensure clarity that General Practice is responsible for the provision of pre-school vaccinations.

The cost of Option D has been estimated at £1,354,402 of which a previous recurrent investment of £325,120 made to trusts by the Public Health Agency could potentially be taken into account. (Chapter 8 Potential Resource Implications below). The potential additional costs of Option B were not estimated as this would require a detailed assessment of the relative nurse input to each practice by trusts where there is significant variation at present.

The group has recommended a more detailed costing exercise is carried out.While Option D will require more additional resource than option B, the group consider that

this will be value for money in view of the increased benefits set out against the first four principles above.

6. Flexibility

This project was established following the emergence of significant difficulties in introducing the Meningococcal B immunisation in 2015. In the light of this experience, the members of the group consider that the current arrangements could not be sustained when future changes to the pre-school programme are introduced.

While Option B would enable some immediate benefits to be realised, the group considers it does not provide a basis for the introduction of inevitable future changes to the vaccination programme and is thus not likely to be sustainable as a model for the future. Option D is considered to be a model which will enable future vaccines to be introduced in a planned and equitable manner.

Preferred Option

The preferred option which emerged through the 'Weighting and Scoring' exercise and in comparison with the Terms of Reference was Option D:

To move to a model where <u>all</u> General Practices are provided with funding to engage nursing support at Band 5 level for immunisation.

The group considered that this model would have significant advantages in relation to ensuring clarity of responsibility for the delivery of vaccination and ensuring equity for the populations served by General Practices and Trusts. It was in keeping with emerging thinking about other potential developments in primary care such as creating multi-professional primary care teams based around GP practices, and practices in an area working co-operatively through GP federations and would facilitate local service delivery at practice level. It would support the release of Health Visitor time to carry out core functions.

It was recognised during the weighting and scoring exercise that this option would require the greatest change to current delivery arrangements with regard to funding arrangements for nursing support. This will lead to different models of nursing support within Trust areas because the funding will be directed to GPs it will be for them to decide how they get their nursing support. Some may agree to the current arrangements continuing but will pay the Trusts for their nursing time while others may employ their own nurse directly or through a GP Federation. There would therefore be a need for carefully designed transitional arrangements to ensure that high vaccine uptake levels were maintained.

7. The Proposed Future Model for Pre-school Vaccination Delivery

The recommended future model for the delivery of pre-school vaccination would have the following characteristics.

Responsibilities

The responsibility for delivering pre-school vaccination programmes would continue to be held by General Practice. Funding would be provided to General Practices for the engagement of nurses to support the delivery of vaccinations.

The current arrangements for the procurement of vaccines would continue with Health and Social Care Trusts being funded for this function against nationally agreed contracts.

General Practices would continue to be responsible for provision of the premises where the vaccinations are delivered, provision of vaccine fridges, date loggers and maintenance of the cold chain once vaccines were received into the practice and for the provision of vaccine related consumables such as wipes/plasters/cotton balls and needles/syringes if required and appropriate, to allow vaccinations to be delivered.

Nurse grading and input

The appropriate grade for nurse input to delivering vaccinations is recommended to be Band 5 but there should be some flexibility to reflect the other duties of the nurse. In moving to models where Band 5 nurses deliver vaccination, it is recommended that this should not be their only nursing role to enhance job satisfaction and retention of nursing skills.

The group agreed that when vaccinations are being delivered to pre-school children, there is no requirement for there to be more than one nurse present, although it was

acknowledged that when an infant is due to receive 4 vaccines at one visit, practitioners may feel it is desirable to have a second nurse available.

Approach to Funding

The level of funding provided to General Practices to engage nurses should be based on the number of pre-school children registered with the practice.
An exercise was carried out to consider the current nursing input in a sample practice in each Trust area where the arrangements for delivering vaccinations were considered to be working well at present. The level of input varied between 8.3 to 16.7 hours per week per 1000 children under 5 years registered with the practice with a mean of 11.8 hours per week per 1000 children under 5 years.

Flexibility in approach to engaging nurse support

There should be flexibility in the approach to engaging nurses to support vaccine delivery in General Practices. Possible approaches include:

- Direct employment of nurses by practices on an individual basis
- Direct employment of nurses by practices on a collective basis, including the potential for employment through GP Federations
- Engagement of nurses through contractual arrangements with Health and Social Care Trusts

Input of Health Visitors to supporting Immunisation Programmes

Health Visitors should continue to support General Practices in the engagement with families to have children vaccinated where there are particular difficulties in their use of routine services.

Health Visitors should not be routinely involved in the delivery of vaccination clinics apart from in exceptional circumstances.

Conclusions

The group recommended that:

The Public Health Agency should continue to provide information to General Practices on their uptake of vaccination and monitor information to identify any areas where vaccine uptake needs to be improved or where queues for vaccination are emerging.

From a Population Health perspective the Public Health Agency should continue to provide information on the uptake of vaccination across Trust areas and identify any areas where vaccine uptake needs to be improved.

When changes to the vaccine schedule are being introduced, any impact on nurse time for vaccine delivery should be identified and when funding is required for this, this should be separately identified from other costs associated with the new arrangements.

8. Potential Resource Implications

The resource required to implement the recommended model (option D) is additional nursing time for delivery of vaccinations in all General Practices. The Group consider that the appropriate grade at which this should be costed at is Band 5 level.

To develop an estimate of the cost, an exercise was carried out to consider current inputs at Band 5 to General Practices where the current arrangements using this type of model are considered to be working well.

A practice was identified in each Trust area. The level of nursing staff input was assessed and the ratio of hours per week to the number of children in the practice under the age of 5 years.

The range of hourly input varied from 8.3 hours per week per 1000 children to 16.7 hours per week per 1000 children. The mean input was 11.8 hours per week per 1000 children under 5 years. It was noted that in rural areas there may need to be consideration of travel time.

The total number of children aged under 5 years registered with General Practices as at May 2017 in Northern Ireland is 121,461.

An estimate of the total nursing hours per week required at the average level of 11.8 hours per 1000 children is equivalent to 1433 hours per week of Band 5 Nursing Time.

The estimated total cost for this level of provision would be **£1,354,402**.

121.5 thousand children x11.8 hours = 1433.7 hours

1433.7 hours/37.5 = 38.3 Whole Time Equivalents

38.3 x £35,363 (Band 5 including goods and services) = £1,354,402

In 2014, the Public Health Agency invested £325,120 on a recurrent basis to Trusts for nursing support for immunisation programmes which could offset some of this additional funding requirement. The net estimate of the additional cost for the recommended model of provision is therefore £ 1,029,283. Any decision to withdraw funding from HSC Trusts in order to fund the change would need to be considered in the context of funding requirements associated with Delivering Care Phase 4 (Health Visiting) and an analysis of how much HSC nurse time is currently tied up in these activities.

The Group recommend that a more detailed costing exercise is carried out based on the time required for vaccination input given the range of input identified in the exercise carried out for this report.

9. Report recommendations

Key Recommendations

1. It is recommended that the responsibility for the future delivery of pre-school immunisation should remain with General Practitioners.
2. It is recommended that nurse support should be provided at an appropriate level (Band 5) to support vaccination delivery, with nursing posts encompassing wider roles as well as vaccination.
3. It is recommended that funding for nurse support should be provided on an equitable basis to general practices to engage nursing support, to ensure that high uptake of vaccines is maintained.
4. It is recommended that Health Visitors should not provide routine vaccination services but should continue to support immunisation programmes in ensuring vaccination is delivered when families do not avail of routine services.

Supporting Recommendations

5. It is recommended that awareness and update sessions on the use of the Child Health Information Systems are provided for General Practice staff.
6. It is recommended that all GP Practices make use of the CHS call/recall system to avoid unnecessary duplication of effort.
7. It is recommended that a project is established to examine the provision of future ICT support for the delivery of pre-school vaccination in Northern Ireland, linked to the ongoing development of the Electronic Care Record.
8. In designing a future model, it is recommended the responsibilities for delivering each aspect of the vaccine programme **such as providing consumables, fridges including responsibility for maintaining the cold chain, IT, nursing staff etc** should be clearly set out.
9. The Public Health Agency should continue to provide information to General Practices on their uptake of vaccination and monitor information to identify any

areas where vaccine uptake needs to be improved or where queues for vaccination are emerging.

10. It is recommended that the Health and Social Care Board and the Public Health Agency should establish monitoring systems for the new arrangements in particular during the transition period while it is being introduced.
11. It is recommended that when changes to the vaccine schedule are being introduced, any impact on nurse time for vaccine delivery should be identified and when funding is required for this, this should be separately identified from other costs associated with the new arrangements.
12. The Group recommend that a more detailed costing exercise is carried out based on the time required for vaccination input given the range of time identified in the exercise carried out for this report.

10. Next Steps

This report has been prepared to set out a recommended model for the delivery of pre-school vaccination in Northern Ireland.

The recommended model is that the responsibility should remain with General Practices with funding provided on an equitable basis to all practices for nursing support for vaccination. Nursing support should be costed at Band 5 level. The estimated additional cost to implement the model is £1,029,283. When future changes to the immunisation programme are being considered, costs will include an IoS fee specific to the vaccination arrangements in Northern Ireland and the extra time required for the nursing support.

This report is now being submitted for consideration by the Department of Health. Implementation of the model will require a transitional implementation plan to ensure that there is no reduction in the level of vaccination of children in Northern Ireland. Transitional planning will need to include:

- Establishing effective communication arrangements with all involved in this change of model in General Practice and Trusts,
- Setting up the arrangements for the funding flows to practices by the Health and Social Care Board,
- Setting up arrangements for practices to be able to provide or contract for nurse input currently provided by Trust nurses,
- Agreeing a Go Live date. This may require to be on a phased basis due to the current shortages in the availability of nurses for recruitment in Northern Ireland.
- Planning for redeployment of any current Band 5 Nurses to ensure that scarce nursing skills are not lost during the transition process,
- Provision of staff training,
- Monitoring of delivery of the new arrangements.

11. Appendices

11.1 Appendix A - Membership of Working Group

Name	***Organisation***
Dr David Stewart	Chair of group
Ciara McCloskey	Community Practitioners & Health Visitors' Association (CPHVA)
Martin Coleman	Department of Health
Dr David Ross	Northern Ireland General Practitioners' Committee (NIGPC)
Karen Dawson	Department of Health
Dr Gillian Armstrong	Public Health Agency/DoH
Dr Grainne Doran	Royal College of General Practitioners NI (RCGPNI)
Dr Heather Livingston	Medical Advisor, HSCB
Linzi McIlroy	Royal College of Nursing
Dr Lucy Jessop	Public Health Agency
Dr Margaret O'Brien	Head of GMS, HSCB
Mary Frances McManus	Department of Health
Nicki Patterson	South Eastern Health and Social Care Trust
Una Turbitt	Public Health Agency
Laura Roddy (Secretariat)	Department of Health

11.2 Appendix B – Full Terms of Reference

TO DESIGN A SUSTAINABLE DELIVERY MODEL FOR THE ADMINISTRATION OF PRE-SCHOOL CHILDHOOD VACCINES IN NORTHERN IRELAND

Purpose and principles

1. The task will be to design a sustainable delivery model for administering existing and future routine vaccines to pre-school children in Northern Ireland with the aim of ensuring that adequate funding is directed to the appropriate agents.

2. The delivery model should be based on the following principles.

    - Fairness: Funding for the programme should be allocated appropriately in line with the roles which the respective partners carry out.
    - Effectiveness: Northern Ireland's high uptake rates for childhood vaccines should be maintained.
    - Patient focus: The delivery model should be designed to best meet the needs of children and their families.
    - Minimising harm: As far as possible, any potential adverse consequences of a change to vaccine administration arrangements, e.g. aggravation of health inequalities, should be prevented or mitigated.
    - Value for money: Having regard to the first four principles, the cost of administering these vaccines should be minimised.
    - Flexibility: The delivery model should be flexible to allow for the introduction of new vaccines or changes to current vaccination schedule.

Parameters

3 The delivery model will be for the following vaccinations.

- ***Two months old***

- Diphtheria, tetanus, pertussis, polio and Haemophilus influenza type b (Hib)
- Pneumococcal disease
- Rotavirus
- Meningococcal group B disease (Men B)

- ***Three months old***
  - Diphtheria, tetanus, pertussis, polio and Hib
  - Rotavirus

- ***Four months old***
  - Diphtheria, tetanus, pertussis, polio and Hib
  - Pneumococcal disease
  - Men B

- ***Between 12 and 13 months old***
  - Measles, mumps and rubella
  - Pneumococcal disease
  - Hib/Men C
  - Men B

- ***Three years & four months old or soon after***
  - Diphtheria, tetanus, pertussis and polio
  - Measles, mumps and rubella

4. The design team will take into account
   - the current arrangements for delivering the influenza vaccination programme for pre-school children aged 2, 3 and 4 years, and
   - current delivery arrangements for delivering pre-school childhood vaccination programmes in England, Scotland and Wales.

Design team

5 The design team will be led by Dr David Stewart. It will include representatives of the Public Health Agency, the Health and Social Care Board and a representative of the Health and Social Care Trusts. The Royal College of General Practitioners and the NI General Practice Committee of the BMA will be invited to be represented on the design team.

The group also invited representation from the Royal College of Nursing and the Community Practitioners & Health Visitors' Association.

Timescale

6 The Department aims to have the design and outline costing complete at the latest by 1st April 2017. The delivery model will be the basis for negotiations with NIGPC, which the Department will conduct.

11.3 Appendix C – Northern Ireland vaccination schedule

Please note that the group only considered the current arrangements for pre-school vaccinations

Age Immunisation is given	Diseases protected against	Vaccine
Two months old	diphtheria, tetanus, pertussis (whooping cough), polio and haemophilus influenza type b (Hib) pneumococcal infection rotavirus meningitis B	DTaP/IPV/Hib Pneumococcal conjugate vaccine, (PCV) Rotarix Men B
Three months old	diphtheria, tetanus, pertussis, polio and Haemophilus influenza type b (Hib) rotavirus	DTaP/IPV/Hib Rotarix
Four months old	diphtheria, tetanus, pertussis, polio and Haemophilus influenza type b (Hib) pneumococcal infection meningitis B	DTaP/IPV/Hib PCV Men B
12 to 13 months	haemophilus influenza type b (Hib) and meningitis C meningitis B measles, mumps and rubella pneumococcal infection	Hib/Men C Men B MMR PCV
Annually from two years old to Primary 7	flu	Fluenz Tetra
From three years four months old	diphtheria, tetanus, pertussis and polio Measles, mumps and rubella	DTaP/IPV or dTaP/IPV MMR
12 to 13 year old girls	human papilloma virus	HPV

	(HPV)	
14 to 18 years old	Diphtheria, tetanus, polio meningitis (meningococcal groups A,C,W and Y)	Td/IPV Men ACWY