

**Explanatory Memorandum to The Child Measurement Programme
(Wales) Regulations 2011**

This Explanatory Memorandum has been prepared by the Health Improvement Division of the Welsh Assembly Government and is laid before the National Assembly for Wales in conjunction with the above subordinate legislation and in accordance with Standing Order 24.1.

Minister's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of The Child Measurement Programme (Wales) Regulations 2011 and I am satisfied that the benefits outweigh any costs.

EDWINA HART , MBE

Minister for Health and Social Services

28 March 2011

1. Description

The Child Measurement Programme (Wales) Regulations 2011 ('the Regulations') will implement in Wales recommendations from The Public Health Observatory for Wales' feasibility study 'Measuring childhood heights and weights in Wales' and provide the legal framework to implement a child measurement programme for Wales.

2. Matters of special interest to the Constitutional Affairs Committee

None.

3. Legislative background

The provision enabling these Regulations to be made is set out in paragraph 7B of Schedule 1 to the National Health Service (Wales) Act 2006. These paragraphs were inserted by section 144 of the Health and Social Care Act 2008. Section 144 will be commenced by the Welsh Ministers by a Commencement Order to be made on the same day as these Regulations.

Paragraph 7A of Schedule 1 to the National Health Service (Wales) Act 2006 enables the Welsh Ministers, by arrangement with (i) a local education authority ('LEA') to provide for the weighing and measuring of junior pupils in attendance at any school maintained by the authority, or (ii) a proprietor of a school that is not maintained by an LEA to provide for the weighing and measuring of junior pupils in attendance at that school.

Paragraph 7B of Schedule 1 to the National Health Service (Wales) Act 2006 enables the Welsh Ministers to make regulations: (i) authorising the disclosure of information by any person with whom arrangements are made under paragraph 7A; (ii) requiring the weighing and the measuring to be carried out in a specified manner; (iii) make provision for the information to be communicated to the parent of the child; and (iv) any other provision regulating the processing of information resulting from such weighing or measuring.

Section 12 of the National Health Service (Wales) Act 2006 enables the Welsh Ministers to direct LHBs in relation to any of their functions relating to the health service.

Section 13 of the National Health Service (Wales) Act 2006 enables the Welsh Ministers to direct Local Health Boards ('LHBs') to provide for functions exercisable by LHBs to be exercised jointly with another LHB.

Section 203 of the National Health Service (Wales) Act 2006 enables the Welsh Ministers to make regulations and directions which apply to specified cases or classes.

Section 204 of the National Health Service (Wales) Act 2006 provides that any direction made under section 12 (other than section 12(1)(a)) may be made by an instrument in writing or by regulations.

These Regulations apply to Wales.

The instrument is subject to the negative resolution procedure.

Implementation

It is intended that the Regulations be signed on 24 March 2011 and laid on 25 March 2011 to allow time for familiarisation of the new requirements and preparatory work before the Regulations come into force on 1 August 2011 prior to the start of the 2011/12 school year.

4. Purpose & intended effect of the legislation

There is a background of rising levels of overweight and obesity in both children and adults. Childhood rates in Wales appear to compare poorly with many other areas in Europe. The individual adverse health consequences of overweight and obesity in adults are understood. Obesity is a risk factor in many chronic diseases and is overtaking smoking as a preventable cause of disease and premature death. Adverse health social and psychological effects of obesity are now being seen among children as well as adults.

The 2008 Children and Young People's Well-being Monitor for Wales identified some key information gaps; including 'comprehensive data on the levels of underweight, normal weight, overweight and obesity of children and young people'¹.

The Regulations will form part of a package of documents needed to provide the legal framework to implement a programme ('the Programme') of height and weight measurements of reception and year 4 children in Wales. The package of documentation will include the Regulations, Commencement Order and Directions to LHBs and Public Health Wales National Health Service Trust. Currently there is no national programme of childhood measurements in Wales; many LHBs record height and weight but this is carried out at different ages. Data collected are not recorded or analysed centrally, and are not in a format in which central utilisation could be implemented. In addition, there is no quality control of these measurements, with different qualities of equipment and variation in levels of training of those taking the measurements seen across Wales.

¹Welsh Assembly Government, November 2008- 2008 Children and young people's well-being monitor for Wales <http://wales.gov.uk/about/aboutresearch/social/ocsropage/2008monitor?lang=en>

The Programme to be introduced by the proposed Regulations will standardise current practice and allow more accurate monitoring of childhood obesity levels in Wales. This will enable better targeting of services, provide data to inform targets (for example in the child poverty strategy) and contribute to the measurement of the impact of two of the priorities in Our Healthy Future: increasing participation in physical activity and reducing unhealthy eating.

The Programme will describe population prevalence of underweight, overweight and obesity at national and local authority levels. It will allow anonymised population level information to be used for surveillance, research, monitoring or audit purposes and planning of health services.

To inform the development of a standardised Programme the Public Health Observatory for Wales undertook a study into the feasibility of measuring children's heights and weights in Wales². The report recommended that a national measurement programme should be introduced in Wales:

- as a minimum this programme must include the standardisation of height and weight measurement in at least one age group
- the programme should allow reporting of prevalence trends of underweight, overweight and obesity that are comparable across Wales and with data produced internationally
- the programme should include height and weight measurements to be undertaken in a standard way in reception year (age 4/5)
- the programme should include height and weight measurement in a second age group. Year 4 (age 8/9) is recommended which would contribute to the European Childhood Obesity Surveillance Initiative.

The proposed Regulations take on board recommendations from the Public Health Observatory for Wales' report as well as comments received from the consultation (further details are given in the Regulatory Impact Assessment below) and as such will establish;

A. Annual population measurement in reception year to:

- allow LHBs to weigh and measure all children in reception year (age 4-5) who are willing and able to stand unaided on scales and under a height measure
- allow parents the right to withdraw their child from any such measurement (opt-out consent)
- ensure privacy throughout the process
- ensure arrangements are managed by an appropriate health professional (probably a school nurse)
- provide the potential to give parents feedback relating to their child's height and weight
- provide the potential for advice to parents

²Public Health Observatory for Wales, June 2009- Measuring childhood heights and weights in Wales <http://www.wales.nhs.uk/sitesplus/888/page/46589>

- allow anonymised population level information to be used for surveillance, research, monitoring or audit and planning of health services and be shared, without this sharing being restricted to a relevant healthcare professional or someone who has an equivalent duty of confidentiality
- allow data in relation to the programme to be released to a relevant health professional for use in accordance with good practice for the provision of care and treatment of a particular child.

B. Provision for biennial sampled measurement in Year 4 to:

- allow the weighing and measuring of a sample of children in Year 4 (age 8-9) who are willing and able to stand unaided on scales and under a height measure
- allow parents the right to withdraw their child from any such measurement (opt-out consent)
- ensure privacy throughout the process
- ensure arrangements are managed by an appropriate professional
- provide the potential to give parents feedback relating to their child's height and weight
- provide the potential for advice to parents
- allow anonymised population level information to be used for surveillance, research, monitoring or audit and planning of health services and be shared, without this sharing being restricted to a relevant healthcare professional or someone who has an equivalent duty of confidentiality
- allow data in relation to the programme to be released to a relevant health professional for use in accordance with good practice for the provision of care and treatment of a particular child
- enable LHBs to undertake Year 4 measurements to feed into the national sample.

The Regulations will comprise directions which will enable LHBs to exercise the power in paragraph 7A of Schedule 1. The Regulations also require the weighing and measuring undertaken for the purpose of the Programme, by the LHBs or the Welsh Ministers, to be carried out in a prescribed manner and after compliance with prescribed requirements. They also require the Welsh Ministers and the LHBs to take steps to give each parent of a child who will be measured as part of the Programme opportunity to withdraw that child from the exercise. They also deal with the processing of information collected as a result of any weighing or measuring exercise and set out the purposes for which such data may be further processed.

5. Consultation

Details of the consultation are included in the Regulatory Impact Assessment below.

PART 2 – REGULATORY IMPACT ASSESSMENT

Options

The following options were actively considered:

- *Option 1: Do nothing*

Practice will continue as now with decisions about child measurements being taken at LHB level.

- *Option 2: Implement Regulations to introduce a national childhood measurement programme in Wales*

Regulations would be made as part of a package of documentation to implement a Child Measurement Programme for Wales and standardise current practice thus allowing more accurate monitoring of childhood obesity levels at local and national levels.

Costs & benefits

Option 1: Costs & Benefits

The cost of purchasing equipment to take measures will continue to be borne by LHBs. LHBs will continue to take an inconsistent approach to measuring the heights and weights of children in terms of age of those measured, equipment and techniques used. Quality of data will not allow for reliable local and national analysis.

Option 2: Costs & Benefits

In addition to recommendations made in the Public Health Observatory for Wales Study responses to the consultation exercise demonstrated overwhelming support for the introduction of a Child Measurement Programme for Wales. Therefore, Option 2 is being taken forward and the costs and benefits of implementing this option have been considered and are given below.

As part of the Public Health Observatory for Wales feasibility study a pilot in geographical areas in Wales was conducted to investigate the feasibility and associated costs of conducting a Programme in Wales. The five pilot areas were representative in terms of type of setting in Wales, as they ranged from rural to urban setting. The costs outlined below are those taken from the feasibility study and where possible have been extrapolated to provide estimated costs for the whole of Wales. The 'Cost Analysis of the Feasibility Study Measuring Childhood Heights and Weights' is provided in full at Annex A.

On going costs

There is only limited financial burden associated with the introduction of the Programme on LHBs. Although the cost analysis conducted as part of the study (attached at Annex A) estimated costs at LHB level of between £2500 and £4807 it did not take into account work already carried out. As annual measurement collection of children's heights and weights at either reception year or year one is already conducted routinely across Wales the implementation of the Programme should not impose any new financial burdens on LHBs in terms of delivery. The Programme implemented by these Regulations will simply standardise practice and introduce the provision to sample year 4 pupils biennially. The feasibility study also calculated the cost of providing parents with results at £2 per letter. The development of a system to produce automated letters for families would substantially reduce these costs. As demonstrated in the pilot conducted as part of the feasibility study if given the option to receive feedback (as is anticipated for the Programme) most won't take up the offer.

Although provision has been made for collection of measurements on a sample basis of year 4 pupils this practice will not be obligatory and therefore no additional costs have been forecast for delivery.

Set up costs

LHBs will need to obtain and maintain new approved equipment and deliver training to ensure consistency of approach. The estimated cost of a complete set of new equipment to include weighing scales, height measure and carry bag is £264 + VAT. Based on equipment utilisation in the study, approximately one set per 800 children would be required. Based on the figures of reception age children in the school year 2009/10³ it would cost in the region of **£13,000 (inc VAT)** to provide enough sets to cover the whole of Wales. It is estimated that it will cost in the region of £1,800 to deliver a training session to 20 individuals. It is estimated it will cost approximately **£21,600⁴** to train all school nurses in Wales.

The Child Health System 2000 will require updating to accommodate the new data e.g. improving the data entry screens. This was anticipated to cost in the region of **£3,000**.

Central management costs

It is proposed that it will cost in the region of **£110,000** per annum for central staff to manage the programme. These staff costs include staff to maintain a surveillance database and production of annual reports, steering group membership, programme lead and management, database management and analysis, general administrative support and regional support.

³ Welsh Assembly Government- School Census 2010, table 1.10 All school pupils by age

⁴ Based on a figure of 240 nurses for the whole of Wales

Summary of Costs

| | |
|--------------------|----------|
| Set Up | £37,600 |
| Central Management | £110,000 |

Further to the feasibility study, a more detailed analysis of the work required to implement and manage the programme has been undertaken. This has indicated maximum cost for setting up and running the programme in the first year to be £221K, and ongoing costs to be a maximum of £128K per annum.

Financial implications for the rolling out of a measurement programme for reception year pupils were agreed in a previous submission (SF/EH/0409/10) in which £221,000 was agreed for 2010-11, £128,000 for subsequent years (2011-12 and 2012-13 in the first instance). However the preliminary work planned for 2010-11 has not gone ahead. This means that the set up costs now need to be spent in 2011-12.

As a result an additional £93,000 is required in 2011-12, bringing the initial costs for the programme to £221,000 for 2011-12. Costs can be accommodated within the existing Health Improvement & Healthy Working budget line.

Consultation

The Welsh Assembly Government conducted a shortened 6 week consultation on the draft Regulations from 1 October to 12 November 2011. The consultation requested views on some issues for which there was insufficient evidence from the feasibility study. This included the impact on the school nursing service; and the involvement of a research agency in some measurements. In total, 21 responses were received from a range of health-related services. There was broad agreement with the principle of implementing a national measurement programme for Wales. It was generally felt that the Programme should be managed by a qualified health professional, probably the school nurse, and that parents of all children being measured should be provided with feedback. Most of those who responded did not think the Programme would impose significant increased costs.

Changes to the Programme have been made as a consequence of comments received to the consultation and are summarised below.

- Changing the name of the Programme to the 'Child Measurement Programme for Wales'.
- Changing the name of the Regulations to the 'Child Measurement Programme (Wales) Regulations 2011'.
- Making provision in the Regulations for any child to be accompanied by a person that the relevant child wishes to accompany them.
- Deleting Regulation 6(2). (The LHB will not be permitted to take the weight and height of a child whose parent has excluded them from the exercise

because of the condition in Regulation 5(1)(b), but they will not be precluded from noting, for example, that the child has moved/has not participated in the exercise.)

- Keeping the option for a research company to undertake the Year 4 measurements; but Welsh Ministers will look at ways of drawing a sample for which school nurses can take the measurements.
- Amending the Regulations so that the data in relation to the programme can be released to a relevant health professional for use in accordance with good practice for the provision of care and treatment of a particular child.
- Amending the Regulations so that for the particular purposes set out in regulation 7(1)(d) (i.e. surveillance, research, monitoring or audit and the planning of health services), then anonymised data can be shared, without this sharing being restricted to a relevant healthcare professional or someone who has an equivalent duty of confidentiality.

A summary of the response to the consultation will be published on the Welsh Assembly Government's website www.wales.gsi.gov.uk.

Competition Assessment

The Regulations will have no effect on competition.

Equality Assessment

No issues around equality were raised in either the Public Health Observatory for Wales feasibility study or in any of the consultation responses. A detailed Equality Impact Assessment has therefore not been carried out but an Inclusive Policy Making screening template has been completed and published at www.wales.gov.uk. This impact on equality will be reviewed in September 2013; the existing evidence will be reviewed along with any new evidence and emerging findings from the monitoring of the implementation of the Regulations.

Post Implementation Review

A review of the Programme implemented by these Regulations, Commencement Order and Directions will be undertaken by 31 July 2014 to assess (1) data quality; (2) availability of information; and (3) how the information produced has been used.

Provision of Guidance

Guidance on the implementation of the Programme will be provided by Welsh Ministers. This will include the development of standards covering training, instruments used, measuring environment, taking the measurements, communication, data entry, quality assurance, and sharing of information. It will also include the development of standardised materials to send to schools and parents, and information to support families receiving feedback.

Guidance will clarify that:

- all parents can receive feedback, whether requested or not, but that this is not obligatory i.e. the proposal of feedback if requested is maintained
- all of Year 4 can be measured, although it will not be obligatory for this to happen.

As a result of the Regulations, any person exercising functions relating to weighing or measuring must have regard to the guidance.

Annex A

[NB-When this study was conducted school nurses were employed by NHS Trust not as is now Local Health Boards]

Cost Assessment Cost Analysis of the Feasibility Study Measuring Childhood Heights and Weights.

**Authors: Sharon Hillier Specialty, Registrar in Public Health and Ciarán Humphreys, Consultant in Public Health/Health Intelligence, NPHS
June 2009**

1.1 Introduction

1.1.1 The task

To estimate the financial cost of implementing the feasibility study measuring childhood heights and weights in the pilot areas in Wales.

To estimate the costs of implementing a quality assured All-Wales programme of measuring childhood heights and weights.

1.1.2 Background

A pilot study was set up in five geographical defined areas in Wales to investigate if it was feasible to undertake a childhood heights and weights study that would provide data suitable for surveillance. The five areas were representative in terms of type of setting in Wales, as they ranged from rural to urban settings. All state schools located within the five areas were included, except Swansea, where 60 of the 86 schools were included. The pilot areas are detailed below:

| Pilot Area | Type of Area | Description |
|-------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------|
| Pembrokeshire | Rural | formerly covered by Pembrokeshire & Derwen NHS Trust, now a part of Hywel Dda NHS Trust |
| Flintshire and Wrexham | Urban Towns | formerly covered by North East Wales NHS Trust now a part of North Wales NHS Trust |
| Powys | Rural | covered by Powys Teaching LHB |
| Merthyr Tydfil and the Cynon Valley | Post industrial Valleys | formerly covered by North Glamorgan NHS Trust, now a part of Cwm Taf NHS Trust) |
| Swansea | Urban | formerly covered by Swansea NHS Trust, now a part of Abertawe Bro Morgannwg University NHS Trust |

All pupils identified by the schools in reception year (age 4-5) and year 4 (age 8-9) were included in the study. For the reception year the current method of consent was used and letters were sent to parents by the school/community nursing service. However in year 4 there was a random allocation of schools into Group A (these were sent a standard opt-out letter) and Group B (these were sent a standard opt-in letter). The measurement assessment took place in the school by the trained assessors and was carried out in a private room or a private screened area.

1.2 Method

1.2.1 Costing of visits to undertake measures

For each school a school return form was completed usually by school staff in advance of the visit by the assessor and returned to the research officer. After each visit to a school a workload form was completed by the staff undertaking the visit and returned to the research officer. The workload form was entered onto an access database by staff at Swansea University and the data was analysed.

1.2.2 Other staff work load

Information on workload for the regional co-ordinators and time spent by staff managing the school visits and data entry was obtained by the co-ordinators completing a questionnaire at the end of the study and this was collated by a member of the team.

1.2.3 Numbers of children registered and measured

Numbers of children were based on the numbers of children taken from the National Community Child Health Database and presented elsewhere in this report.

1.2.4 Data validation

Once most of the data from the individual pilot areas had been collated the preliminary costs were presented to the members of the steering group to ensure that the estimates were reasonable. Where concerns were raised these estimates were reviewed by those supplying the estimate.

1.3 Results

1.3.1 Local (Health Board/Trust) costs

Staff time organising measurements, entering data, providing results to parents and other related activities

Table 1 Time spent organising the activity for example collating and distributing letters, organising school visits, responding to concerns, producing list, updating information.

| | Measuring | | Providing results | | Children health system entry | | Other | | Total cost (cost of staff * time) |
|-------------------------------------|-------------|----------------------|-------------------|----------------------|-------------------------------------------------------|----------------------|-------------|----------------------|-----------------------------------|
| | Staff Grade | Number of days (WTE) | Staff Grade | Number of days (WTE) | Staff Grade | Number of days (WTE) | Staff Grade | Number of days (WTE) | |
| Pembrokeshire | 3 | 14 | 7 | 4 | 2 | 20.0 | 7 | 4 | £4,799 |
| | 2 | 3 | 2 | 3 | | | | | |
| Flintshire and Wrexham | 3 | 64 | Not provided | | Estimated as 50p per entered record (n=4806) = £2,403 | | 7 | 11 | £10,225 |
| | | | | | | | | | |
| | | | | | | | | | |
| Powys | 3 | 52 | | | 4 | 3.5 | 8b | 3 | £6,708 |
| | | | | | 3 | 8.0 | | | |
| | | | | | 2 | 1.6 | | | |
| Merthyr Tydfil and the Cynon valley | | | 8a | 4 | 4 | 9 | | | £2,895 |
| | | | 6 | 1.5 | 3 | 9 | | | |
| Swansea | 5 | 2 | | | 6 | 5.0 | 7 | 1 | £8,020 |
| | 3 | 21.2 | | | 3 | 2.1 | 5 | 13 | |
| | | | | | 2 | 38.9 | | | |

Note: WTE = whole time equivalent. Hours in a working day = 7.5. Cost taken as proportion of salary where number of annual leave days: 27 + 8 bank holidays.

When more than one member of staff at same grade total number of days is for all staff at that grade.

Costs is Agenda for Change pay band (as of April 2009) midpoint of scale used and has on-cost (22%) included.

This does not include time on 'research' activities, such as contributing to protocol development.

Table 2 Costs of stationery and postage.

| Pilot Area | Cost |
|-------------------------------------|------|
| Pembrokeshire | |
| Flintshire and Wrexham | |
| Powys | £50 |
| Merthyr Tydfil and the Cynon Valley | £400 |
| Swansea | £41 |

Cost analysis of school visits to take measurements.

Table 3 Travelling Costs

| Pilot Area | Number of Schools | Number of visits to schools | Total Mileage | Cost of travel (total miles * cost per mile) |
|-------------------------------------|----------------------------------------------|-----------------------------|---------------|----------------------------------------------|
| Pembrokeshire | 62 | 125 | 1327 | £663.5 |
| Flintshire and Wrexham | 154 | 117 | 922 | £461 |
| | #Adjusted by 31.62% as database not complete | 154 | 1,214 | £607 |
| Powys | 107 | 112 | 2020 | £1010 |
| Merthyr Tydfil and the Cynon Valley | 54 | 131 | 1063 | £531.5 |
| Swansea | 63 | 118 | 610 | £305 |

Mileage costs per mile= 50 pence

Table 4 Time associated costs (travel and measuring time)

| Pilot Area | Grade of staff undertaking most of measurements | Total time spent travelling (hours) | Total time spent at the schools (hours) | Cost of time (total hours x cost per hour) |
|-------------------------------------|-------------------------------------------------|-------------------------------------|-----------------------------------------|--------------------------------------------|
| Pembrokeshire | 3 | 80.36 | 159.25 | £2,883.4 |
| Flintshire and Wrexham | 3 | 27.55 | 61.92 | £1,076.7 |
| | *Adjusted by 31.62% as database not complete | 36.26 | 81.50 | £1,417.1 |
| Powys | 3 | 88.13 | 85.63 | £2,091.0 |
| Merthyr Tydfil and the Cynon Valley | 3 | 20.77 | 59.90 | £970.8 |
| Swansea | 3 | 22.12 | 216.80 | £2,875.1 |

*Interrogating the workload database revealed that there were less workload forms than schools for Flintshire and Wrexham. To take this into account the time and travel costs were adjusted to one visit per school (increased by 31/62%)

Costs is Agenda for Change pay band (as of April 2009) midpoint of scale used and has on-cost (22%) included

Staff time giving results to parents

Two of the three areas that provided results to children gave an estimate of the staff time involved in providing these results. The costs of this staff time were:

- £980 in Pembrokeshire where results were supplied to 421 families, or £2.33 per letter (95p per child measured in this instance) to
- £1,134 in Cwm Taf where results were supplied to 601 families, or approximately £1.89 per letter (105p per child measured in this instance).

Costs in relation to activity

Table 7. Estimated cost of school visits per 1,000 children measured by area

| | Area type | Staff time at school* | Staff time travelling* | Travel expense * | Total | Number of children measured | Cost per 1,000 children measured |
|--------------------------------------------|--------------------------------|-----------------------|------------------------|------------------|--------|-----------------------------|----------------------------------|
| Pembrokeshire | Rural | £1,916 | £967 | £664 | £3,547 | 2077 | £1,708 |
| <i>Flintshire & Wrexham unadjusted</i> | | £745 | £332 | £461 | £1,538 | 4806 | £320 |
| Flintshire & Wrexham adjusted# | <u>Urban/mixed</u> | £981 | £436 | £607 | £2,024 | 4806 | £421 |
| Powys | Rural | £1,030 | £1,061 | £1,010 | £3,101 | 2051 | £1,512 |
| Merthyr and Cynon valley | Post industrial valleys | £721 | £250 | £532 | £1,502 | 2331 | £644 |
| Swansea | Urban | £2,609 | £266 | £305 | £3,180 | 2867 | £1,109 |

* Estimated from visit workload form; †From Table 1.

Increased by 31.62% as database not complete. Interrogating the workload database revealed that there were less workload forms than schools for Flintshire and Wrexham. To take this into account the time and travel costs were adjusted to one visit per school.

Table 8. Estimated cost of height and weight data entry per child registered*/measured

| | Staff time, data entry | Number registered | Cost per 1000 children registered | Number measured | Cost per 1000 children measured |
|--------------------------|------------------------|-------------------|-----------------------------------|-----------------|---------------------------------|
| Pembrokeshire | £1,575 | 2452 | £642 | 2077 | £758 |
| Flintshire & Wrexham | £2,403 | Not given | | 4806 | £500 |
| Powys | £1,217 | 2619 | £465 | 2051 | £593 |
| Merthyr and Cynon valley | £1,761 | 2552 | £690 | 2331 | £755 |
| Swansea | £4,028 | 3725 | £1,081 | 2867 | £1,405 |

*Data entry may include updating information on children not measured.

Table 9, Other costs per child measured

| | Other staff costs associated with organising measurements * | Other staff costs* | Additional stationary/postage costs | Total other costs | Children measured | Other costs per 1000 children measured |
|--------------------------|-------------------------------------------------------------|--------------------|-------------------------------------|-------------------|-------------------|----------------------------------------|
| Pembrokeshire | £1,500 | £744 | £0 | £2,244 | 2077 | £1,080 |
| Flintshire & Wrexham | £5,776 | £2,046 | £0 | £7,822 | 4806 | £1,628 |
| Powys | £4,693 | £798 | £50 | £5,542 | 2051 | £2,702 |
| Merthyr and Cynon valley | £0 | £0 | £400 | £400 | 2331 | £172 |
| Swansea | £2,166 | £1,826 | £41 | £4,033 | 2867 | £1,407 |

*From Table 1

Summary of local costs and adjustments for a future programme

Costs by area, excluding costs of feedback of results to families

| | School visits | Data entry | other | Total | Total per 1,000 children measured |
|--------------------------------------------|---------------|------------|--------|---------|-----------------------------------|
| Pembrokeshire | £3,547 | £1,575 | £2,244 | £7,365 | £3,546 |
| <i>Flintshire & Wrexham Unadjusted</i> | £1,538 | £2,403 | £7,822 | £11,763 | £2,448 |
| Flintshire & Wrexham Adjusted | £2,024 | £2,403 | £7,822 | £12,249 | £2,549 |
| Powys | £3,101 | £1,217 | £5,542 | £9,859 | £4,807 |
| Merthyr and Cynon valley | £1,502 | £1,761 | £400 | £3,663 | £1,571 |
| Swansea | £3,180 | £4,028 | £4,033 | £11,241 | £3,921 |

Note: This does not include time on 'research' activities, such as contributing to protocol development.

Table 10. Costs per 1,000 children for school visit by urban/mixed or rural

| | School visit costs | Adjusted to account for additional return visits* | Further adjusted estimate for year 4 as an 'additional measurement' [†] | Estimate of costs for reception, as a 'baseline measurement' [‡] |
|---------------------------------------------------------------------------------|--------------------|---------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Median of 5 pilot sites | £1,109 | £1,775 | £1,127 | £2,423 |
| Urban/mixed (Flintshire and Wrexham, Merthyr and Cynon Valley, Swansea) average | £725 | £1,160 | £828 | £1,491 |
| Rural (Pembroke, Powys) average | £1,610 | £2,576 | £1,429 | £3,723 |

Based on Table 7.

* Return visits were not undertaken by most Trusts to measure children missed on the first visit due to time limits. An increase of 60% on cost of visits has been applied to account for these extra visits that would be anticipated in a future programme.

† Whole population measurements for year four would usually take place on the same day as reception year measurements. Cost of travelling for year four has been reduced to 20% to account for this. Cost of time spent at the school is unchanged (different factors might increase or decrease this time).

‡ This is intended to estimate the cost of undertaking reception year measures without undertaking year four measures. It has been assumed an equal number of years four and reception year pupils are measured; in this study 45% of those measured were year 4; 55% were in reception year.

Table 11. Cost per 1,000 children for other activities (excluding giving results to parents)

| | Data entry | Other | Total | Data entry including additional data entry for European study (year 4) | Total year 4 |
|---------|------------|--------|--------|------------------------------------------------------------------------|--------------|
| Median | £755 | £1,407 | £2,162 | £906 | £2,313 |
| Minimum | £500 | £172 | £672 | £600 | £772 |
| Maximum | £1,405 | £2,702 | £4,170 | £1,686 | £4,338 |

Based on Table 8 and Table 9. Additional data entry items for participation in European Childhood Obesity Initiative, year 4, accounted for by a 20% increase in cost of data entry.

Table 12. Estimated cost per 1,000 children measured

| | Reception alone | Year 4 additional | Average cost for a combined reception/year 4 programme |
|---------------------|-----------------|-------------------|--------------------------------------------------------|
| Rural minimum | £4,395 | £2,200 | £3,297 |
| Rural maximum | £7,830 | £5,816 | £6,823 |
| Urban/mixed minimum | £2,163 | £1,600 | £1,882 |
| Urban/mixed maximum | £5,598 | £5,216 | £5,407 |

Based on Table 10 and Table 11.

Additional administrative costs may be incurred on Trusts in checking the school register for year 4 pupils. This may not be currently undertaken by Trusts.

1.3.2 Additional costs to consider to support a national programme in Wales.

Equipment costs and training costs based on this study

Per set of equipment: weighing scales, height measure and carry bag = £264 + VAT. Based on equipment utilisation in this study, approximately one set per 800 children measured or 1.25 per 1,000 children would be required.

Annual calibration per set of equipment = £60

Training session on taking measurements for approximately 20 individuals (accommodation, trainer, room booking) = £1,771.97

Cost of creation of new screen with data entry items on the Child Health System 2000 by Health Solutions Wales⁵; approximate estimate: £2,500-£3,000⁶.

Costs of letters and support information

The above figures do not include costs of production and translation of letters or information sheets for parents or children, or any material for providing results of measurements to parents.

1.3.3 Proposed costs for implementing the programme across Wales

Below are proposed costs of implementing key central aspects of a national programme. This is based on a programme including year four. These would be lower if year four was not included.

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All-Wales level staff costs To maintain a quality assured national measurement programme with maintenance of surveillance database and production of annual report. |
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| |
|------------------------------------------------------------------------------------------------------------|
| Steering Group; membership taken to be part of existing role so no additional staff costs included. |
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⁵ Health Solutions Wales became part of the NHS Wales Informatics Service (NWIS) on 01 April 2010

⁶ Verbal estimate

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Programme Lead - Consultant in Public Health Role: Responsibility for programme, Quality assurance, Reviewer of annual report Time: 1 session per week | Grade 8d/Consultant salary scale £8,550 |
| Programme Manager- Role – operational manager for programme, quality assurance processes, writing annual report, training Full time | Grade 7 £41,980 |
| Database managers/ Data analysts Role – managing database for surveillance, quality assurance, assistance with data collection queries, analysis of data for annual report Full time | Grade 6/7 £38,568 |
| Administrative support Role – coordinating meetings, supporting business activities, data entry of European school return forms and other administrative support for programme 0.4 Whole time equivalent. | Grade 4 £23,784 |
| Regional Level, likely employer: Health Board (NHS Trust); most of costs have been accounted for within Trust level estimates | |
| Regional Co-ordinator (nurse manager) Role – co-ordination of programme in region, liaising with schools, operational issues, reporting to programme level 0.4 WTE per area | Grade 7 |
| Assessors Role – liaising with school, obtaining consent, undertake measurements of children Full time/part time | Grade 3 |

Salary based on midpoint of salary scale and 22% on costs.

Other non-staff resources would depend on the hosting organisations involved.

1.4 Discussion

1.4.1 Costs analysis for the feasibility study

The results show that the estimated costs of measurement at a Trust level per 1,000 children measured ranged substantially from approximately £2,500 to £4,807 across the pilot areas (excluding cost of feedback). The costs of school visits per child measured were over double that in rural areas than urban/mixed areas. This is likely to be primarily related to the greater distances involved, but may also be related to high proportions of small schools. The estimation of other costs varied substantially. Depending on the estimate of other costs rurality is likely to increase costs for local aspects of a measurement programme by between 26 and 75%.

There was also variation in the grade of staff undertaking some of the roles and this affected the cost calculated.

Costs are mostly presented per 1000 children measured; these will be higher than the cost per 1000 children registered; both costs would be affected by the uptake rate.

It is impossible to accurately separate out the costs of measurement in reception year and year four. Whereas measurement of children in reception

year is likely to take longer than those in year four, participation in European Surveillance involves collection of additional data items including a 'school return form'. An estimate of the cost of school visits if measurements were undertaken in reception year alone, and the additional cost of measurement when year four is also included are provided.

1.4.2 Cost implications of introducing a national programme

Reception year

Currently the heights and weights of reception or year one children are measured across Wales by NHS Trusts and therefore implementation of this feasibility study would not have a significant additional cost for this reception year age group (as a 'once-off' Trusts currently measuring in year one may have to do an additional measure in this age group to avoid a year missing the local height and weight measurement programme).

The main additional costs for this age group would include purchasing equipment, training and ongoing equipment calibration costs.

Year 4

A population approach to measuring year 4 by NHS Trusts/Health Boards would incur additional costs.

The analyses suggests that the cost of school visits for a joint reception year/year 4 measurement programme might be only about a third higher than a reception year programme alone (due to a reduced average cost per child measured); however, data entry costs per child measured would be expected to increase. Combining these effects the average cost per child measured appears lower when year four is added onto a programme measuring reception year; however, the effect is greater in more rural areas and areas with lower estimated data entry costs.

Substantial staff time is spent in organising the measurements, as well as undertaking measurements and entering data. This needs to be reflected in the cost if the programme is implemented across Wales.

As costs of data entry on the child health system substantially impact the overall cost, ensuring that data processing was as efficient as possible would reduce overall cost. Entering all of the data on one screen which also had instructions would reduce the time taken and this would need input from Health Solutions Wales.

Costs were estimated for providing results to parents by two areas; the costs were estimated at around £2 in staff time per letter produced. It is anticipated that in a future programme any decision to routinely offer results would be accompanied by the development of a system to produce automated letters for families which would be expected to substantially reduce these costs. However, the initial outlay required to produce such a system would require further exploration.

Costs estimated here are on the basis of a population approach to year 4 measurement. If a sampled approach were taken the costs would be substantially reduced as the number measured would be 2,800 every two years rather than an estimated 34,800 children annually in year 4 across Wales. However, this sampled approach would require a separate organisation

process outside of the remit of the Trusts/Health Boards, and would therefore need separate funding.

1.4.3 Limitations of the data

The data estimates for time spent on managing the study were estimated retrospectively and more accurate estimates might have been made if this had been collected prospectively.

The time taken for measurements at the school also included other tasks at some of the schools such as year one screening and vision screening. There were also several occasions that the children were in assembly or break-time and the staff had to wait; however, such delays are to be expected within any national programme that is rolled out.

There is considerable variation across the pilot areas for time spent on some of the tasks and this may relate to differences in approaches to estimation as well as true differences.

It was not possible to empirically assess the impact of year 4 as an additional measure above and beyond reception year measurements. The factors used to adjust the measures are subjective.

1.4.4 Strengths of the data

The time taken for travel and undertaking the measurements were recorded concurrent to these activities and therefore should be an accurate account. The co-ordinators of the different pilot areas organised the data return and ensured that it was realistic as they understood how the project had worked in their area. The data were entered into a database and this enabled prompt analysis. Once the data had been collected across the different pilot areas the findings were presented to the co-ordinators, as a group, and feedback was sought to ensure that the overall results were reasonable and consistent.

The pilot areas were diverse in their populations, geography and staffing structures and undertaking the study in these different areas added to the knowledge of issues that would enable good practice and highlighted any potential problems.

1.5 Recommendations

The cost analysis identified that staff needed to be adequately resourced in terms of time spent organising the study. Some of these costs will be for central coordination and running of the programme some will be local in particular for organising and taking measures, and for data entry. There was a variation in time spent entering the data on the child health system across the pilot areas and the data entry needed to be improved by developing one screen in which to enter the data. If feedback is to be offered to the parents then an automatic generation of the feedback is essential to reduce staff time.

If an All-Wales programme is implemented it is important that a quality assured national measurement programme is resourced with maintenance of surveillance database and production of annual report.