Parent’s Attitudes to Immunisation

(in the HSE West – Donegal, Sligo, Leitrim, W. Cavan)

Childhood Immunisation Research Study 2005

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Context

Every year more than 3 million people die from vaccine preventable diseases:

<table>
<thead>
<tr>
<th>Disease</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measles</td>
<td>540,000</td>
</tr>
<tr>
<td>Hib</td>
<td>386,000</td>
</tr>
<tr>
<td>Pertussis</td>
<td>294,000</td>
</tr>
<tr>
<td>Tetanus</td>
<td>198,000</td>
</tr>
<tr>
<td>Diptheria</td>
<td>4,000</td>
</tr>
<tr>
<td>Polio</td>
<td>&lt;1,000</td>
</tr>
</tbody>
</table>

*Source WHO 2002*
Why we carried out this research

1. Lack of Irish research.
2. To ascertain parental knowledge and attitudes at local level.
3. Recognition of parental opinion and concerns regarding childhood immunisation.
4. Identification of service need and improvements needed for best practice.
This study was carried out in a predominately rural area much of it with high levels of deprivation.

Literature would suggest that:

- Knowledge of vaccines
- Influential factors eg. media, internet
- Personal and economic factors eg. transport

have an impact on the uptake of childhood vaccines.

“Parents with lower income and less education have more reservations about the benefits of immunisation and the risk of contacting disease, as well as a higher belief that serious side effects will result from immunising their children than did those with higher income and more education.”

(The Epidemiology and Surveillance Division of the Centre for Disease Control)
The aim of this study was to identify reasons why parents in the North West region do not commence or complete the immunisation program for their child.
Objectives

- To identify what factors influence parents decision making.
- To ascertain the level of knowledge amongst parents.
- To explore communication channels between health professionals and parents.
- To identify any particular organisational barriers.
Target Population

- All children born between: 1\textsuperscript{st} June 2002 and 31\textsuperscript{st} August 2003.
  (who had not commenced or completed the recommended immunisation schedule)

- 1,205 children

- Each child was checked with either the practice nurse or public health nurse to ensure that our immunisation database was holding accurate information regarding their immunisation status.

- A comparative group of fully vaccinated children born during the same time period were used as controls.
Methodology

- A sample size calculator was used to generate the number needed to be surveyed.

- 1244 questionnaires were sent out in total:
  - 623 (Control) to fully vaccinated children
  - 621 (Target) to unvaccinated / not fully vaccinated

- A cover letter and a stamped addressed envelope was sent with each anonymous questionnaire and a reminder postcard 1 month later.

- 40% of questionnaires were returned & analysed.
Questionnaires Sent Out

- Control group – 623 children
  All children had received their vaccinations according to the schedule (+/- 6 months)

- Target group – 621 children
  Required:
  
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{st}, 2\textsuperscript{nd} &amp; 3\textsuperscript{rd} 5 in 1, Men.C &amp; MMR</td>
<td>71</td>
</tr>
<tr>
<td>2\textsuperscript{nd} &amp; 3\textsuperscript{rd} 5 in 1, Men.C &amp; MMR</td>
<td>100</td>
</tr>
<tr>
<td>3\textsuperscript{rd} 5 in 1, Men.C &amp; MMR</td>
<td>203</td>
</tr>
<tr>
<td>MMR only</td>
<td>224</td>
</tr>
<tr>
<td>Refused</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>621</strong></td>
</tr>
</tbody>
</table>
Results

Section A: Background Information on your Child
Section B: Your Details
Section C: Immunisation History
Section D: Level of knowledge of Immunisation
Section E: Factors Influencing Immunisation
Section F: Reasons for **NOT** completing your Child’s Immunisation Programme
Section A - Background
481 (39%) questionnaires were returned
  • 325 (52%) from the Control Group
  • 151 (24%) from the Target Group

98% of questionnaires were completed by the child's mother
  (97% in the Control group and 99% in the Target group)

Of those who replied
  • 285 (60%) are resident in Donegal,
  • 191 (40%) are resident in Sligo/Leitrim
Section B - Your Details
What age are you?

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% Control</th>
<th>% Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 19 years</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>20-29 years</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>30-39 years</td>
<td>66</td>
<td>59</td>
</tr>
<tr>
<td>40-49 years</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>50 years+</td>
<td>0.3</td>
<td>0</td>
</tr>
</tbody>
</table>
Educational Attainment?

- **% Control**
- **% Target**

<table>
<thead>
<tr>
<th>Level</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>1%</td>
<td>40%</td>
<td>59%</td>
<td>13%</td>
</tr>
<tr>
<td>%</td>
<td>1%</td>
<td>31%</td>
<td>47%</td>
<td>10%</td>
</tr>
</tbody>
</table>

- Low: 1%
- Medium: 40%
- High: 59%
- Other: 13%

Control vs. Target Comparison:
- Low: 1% vs. 1%
- Medium: 40% vs. 31%
- High: 59% vs. 47%
- Other: 13% vs. 10%
Employment Status?

Do you work?

- Yes: % Control 46%, % Target 59%
- Full time: % Control 52%, % Target 55%

Does your partner work?

- Yes: % Control 80%, % Target 83%
- Full time: % Control 91%, % Target 95%
What is your average gross household income per year?

- Less than 20,000: 40% Control, 30% Target
- 21,000 - 40,000: 35% Control, 30% Target
- 41,000 - 60,000: 22% Control, 18% Target
- 61,000+: 13% Control, 12% Target
Do you have a Medical Card / Private Medical Insurance?

- Medical Card?
  - % Control: 40%
  - % Target: 32%

- Private Medical Insurance?
  - % Control: 42%
  - % Target: 52%
How many cars do you have?

- % Control
- % Target

<table>
<thead>
<tr>
<th>Number of Cars</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>7%</td>
</tr>
<tr>
<td>One</td>
<td>51%</td>
</tr>
<tr>
<td>Two</td>
<td>39%</td>
</tr>
<tr>
<td>More than two</td>
<td>2%</td>
</tr>
</tbody>
</table>
98% of the Control Group and 97% of the Target Group said that their permanent residence was a house.
Section C – Immunisation History
Immunisation History

- **BCG**: Control 99%, Target 92%
- **3rd 5 in 1**: Control 99%, Target 87%
- **3rd Men C**: Control 95%, Target 82%
- **MMR**: Control 98%, Target 60%
Age when MMR vaccine was given

- Less than 12mths: 10% (Control Group), 8% (Target Group)
- 15months: 54% (Control Group), 22% (Target Group)
- 18 months: 24% (Control Group), 33% (Target Group)
- 24 months: 11% (Control Group), 34% (Target Group)
- 30 months: 1% (Control Group), 3% (Target Group)
Parental confusion regarding age of administration of MMR vaccine

Control group (who were all fully vaccinated):
- 20% did not answer this question
- 10% said they had received the MMR vaccine under 12mths
- 78% said they had been given the MMR between 12 & 18mths

Target group (in which no child had received the MMR):
60% thought that their child had received the MMR, of these:
- 8% said that they had received the MMR vaccine under 12mths
- 55% said they had been given the MMR between 12 & 18mths
- 34% said they had been given the MMR between 19 & 24mths
Section D - Immunisation Information
How Serious do you consider?

- Very Serious
- Serious
- Not Very Serious
- Not at All Serious
- Not Sure
How Serious do you consider?

- Very Serious
- Serious
- Not Very Serious
- Not at All Serious
- Not Sure

Men C Control Target
Measles Control Target
Rubella Control Target
Mumps Control Target
Parental perception of the most serious vaccine preventable disease

<table>
<thead>
<tr>
<th>Disease</th>
<th>Control</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meningitis C</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Polio</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Hib</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Rubella</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Measles</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>8&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Mumps</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Tetanus</td>
<td>9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Whooping Cough</td>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
<td>9&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Please tell us if you believe the following statements are true or false?

1. Immunisations are provided free of charge
   - Control 99%  Target 98%

2. Your child is vulnerable if not up to date with their immunisations
   - Control 98%  Target 93%

3. Immunisation not only benefits your child but protects the entire community
   - Control 95%  Target 91%

4. Your child does not need to be immunised because the diseases that immunisation protect against no longer exist
   - Control 4%  Target 6%

5. Immunisation is a necessary part of your child’s health program
   - Control 100%  Target 91%

6. Your child needs 3 doses of the 5 in 1* and Men C vaccine to be fully protected against these diseases
   - Control 98%  Target 94%
### Do you agree or disagree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Control</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccines are carefully and consistently tested for safety</td>
<td>Strongly agree/agree: 78%</td>
<td>Target: 60%</td>
</tr>
<tr>
<td></td>
<td>Neutral: 8%</td>
<td>Disagree or Disagree: 2%</td>
</tr>
<tr>
<td>Children no longer die from vaccine preventable diseases such as measles</td>
<td>Strongly agree/agree: 33%</td>
<td>Target: 27%</td>
</tr>
<tr>
<td></td>
<td>Neutral: 6%</td>
<td>Disagree or Disagree: 48%</td>
</tr>
<tr>
<td>Healthy children do not need immunisations</td>
<td>Strongly agree/agree: 4%</td>
<td>Target: 7%</td>
</tr>
<tr>
<td></td>
<td>Neutral: 1%</td>
<td>Disagree or Disagree: 95%</td>
</tr>
<tr>
<td>A child with a cold should not get immunised</td>
<td>Strongly agree/agree: 84%</td>
<td>Target: 92%</td>
</tr>
<tr>
<td></td>
<td>Neutral: 4%</td>
<td>Disagree or Disagree: 4%</td>
</tr>
<tr>
<td>It is difficult for me to find the time to take my child to get immunised</td>
<td>Strongly agree/agree: 8%</td>
<td>Target: 15%</td>
</tr>
<tr>
<td></td>
<td>Neutral: 5%</td>
<td>Disagree or Disagree: 87%</td>
</tr>
</tbody>
</table>

Note: The table shows the percentage distribution of responses for each statement, with options ranging from Strongly agree/agree, Neutral, Strongly disagree/disagree, to Don't Know.
Section E –
Factors Influencing Immunisation
Has your child completed his/her immunisation programme?

- **Control Group**
  - Immunisation database: All children were fully immunised
  - Parents replied: 80%

- **Target Group**
  - Immunisation database: No child was fully immunised
  - Parents replied: 42% immunised
Do you feel that your decision for getting / not getting your child immunised was influenced by any of the following?

- Family
- Friends
- GP
- Pract. Nur*
- PHN
- Media*
- Internet*
- Other

<table>
<thead>
<tr>
<th>Source</th>
<th>Control</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Friends</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td>GP</td>
<td>66</td>
<td>58</td>
</tr>
<tr>
<td>Pract. Nur*</td>
<td>57</td>
<td>39</td>
</tr>
<tr>
<td>PHN</td>
<td>68</td>
<td>58</td>
</tr>
<tr>
<td>Media*</td>
<td>42</td>
<td>64</td>
</tr>
<tr>
<td>Internet*</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
<td>10</td>
</tr>
</tbody>
</table>
### Who had the most Influence?

<table>
<thead>
<tr>
<th>Group</th>
<th>Control</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHN</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
<tr>
<td>GP</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Practice Nurse *</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Family</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Media</strong>*</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Friends</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Internet*</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Access to Immunisation Services?

1. Do you have access to immunisation at a time that suits you?
   - Control 88%
   - Target 83%

2. Do you have adequate transport to bring your child for immunisation?
   - Control 95%
   - Target 94%

3. Would any of the following made it easier to get your child immunised?
   - Evening Clinics
     - Control 53%
     - Target 55%
   - Weekend Clinics
     - Control 53%
     - Target 55%
   - When visiting G.P. for another reason
     - Control 36%
     - Target 42%

4. Did you receive a reminder for your child’s immunisation?
   - Control 30%
   - Target 44%
1. Do you have concerns regarding the side effects of immunisations?

2. Did this effect your decision to have your child immunised?

![Bar chart showing side effects and decision effects for Control and Target groups.]

- **Side effects**
  - % Control: 66%
  - % Target: 83%

- **Effect on decision**
  - % Control: 24%
  - % Target: 60%
If you have any fears or concerns regarding immunisation of your child whom would you discuss these with?

<table>
<thead>
<tr>
<th>Practice Nurse</th>
<th>Control Group</th>
<th>Target Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>9%</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GP</th>
<th>Control Group</th>
<th>Target Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>73%</td>
<td>67%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Health Nurse</th>
<th>Control Group</th>
<th>Target Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>11%</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Control Group</th>
<th>Target Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>18%</td>
<td></td>
</tr>
</tbody>
</table>
Did you have the facility to discuss your concerns about immunisation with a health professional?

Do you feel that there is sufficient information about the side effects of immunisation available to you?
Section F-
Reasons for not completing your child's immunisation programme

Completed by the target group only
Reasons for not completing your child's immunisation programme

1. Your child became unwell after their last dose of vaccine 18%
2. Another member of your family had a reaction to an immunisation 16%
3. Your previous experience attending for immunisation was unpleasant 11%
4. Child would be immunised against too many diseases at the same time 32%
5. You were unaware that your child needed more than one dose 9%
6. Your child received adequate protection after one dose of the vaccine 6%
7. You felt that too much time had elapsed to continue the programme 7%
8. You did not have the facility to discuss your concerns 12%
In Summary ............
To identify what factors influence parents decision:

- Control Group - PHN, GP, Practice Nurse,
- Target Group - Media, GP, PHN,

To ascertain the level of knowledge amongst parents:

- The Control group scored 75% compared to 76% in the Target group for the level of knowledge about immunisation
- Measles, Mumps & Rubella were not seen as serious disease

To explore communication between health professionals and parents:

- 84% of the Control group and 80% of the Target group were advised of the benefits of immunisation by a Health Professional
- 83% of the Target group had concerns regarding the side effects of immunisations, while only 67% discussed these fears with their GP

To identify any particular organisational barriers:

- Over 50% of both groups felt that evening & weekend clinics would have made it easier to get their child immunised
- 30% of the Control Group and only 44% of the Target group got a reminder about the vaccination
Factors Affecting Immunisation Uptake

Literature Suggests:

- Knowledge of vaccines
- **Media, Internet**
- Access to transport
- Deprivation – medical cards
- Low Income
- Lower Education

Our Results Show:

- Comparable knowledge
- **Target were;**
  - Influenced by Media, Internet
  - More access to transport
  - Higher Income
  - Higher Education
  - More likely to have private medical insurance
In light of this study what do we need to do differently in the NW

- Reminder letters to the defaulters
- Pilot evening and weekend GP clinics
- Using GIS to identify areas of low uptake
This study illustrates the value of Irish based research and also highlights the need and benefit of local research.

Currently we are working with local providers to implement the lessons learned from this study.
Acknowledgements

- Funding – Department of Health & Children
- Martina Walsh – Data Entry of Questionnaires
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