

VACSATC
Vaccine Safety, Attitudes, Training and Communication

**Summary of a collection of attitudinal studies
from partner countries
on public perceptions of vaccines and methods used
(1992 – 2007)**

Work package 5
UK, Department of Health

Sept 2007/08

Introduction

Study papers were identified through an online search and submitted by collaborating partners. Any studies identified were noted and made available to all partners. Following subsequent workshops it was agreed that this should not be a static process but should be added to throughout the period of the study.

Initially, the main purpose was to describe the work already done and to gain a better understanding of parental attitudes across Europe. A secondary aim was to explore the possibility of developing a common approach for participating countries.

Thirty papers were assessed and emerging issues noted.

Twenty eight papers focused on childhood immunisations and the remaining two both focused on over 65 years high-risk groups, refusing influenza immunisation.

All papers have been scanned and appear on the VACSATC website alongside a summary in table format contained at annex 1.

Methods

A variety of methodologies were utilised in these studies from postal questionnaires, telephone sampling through to face-to-face interviews and focus groups. This range of methodologies were crafted to take account of the sampling sized required as well as the needs of the stakeholder and importantly, the budget.

Conclusion of summary

Common themes that emerged were:

- the need for communication programmes to support vaccination/ immunization
- the importance of the role of the health professional
- the increasing attention to vaccine safety (particularly on the part of parents)
- in general, parents are favourably inclined towards vaccination/immunization but in order to maintain uptake, parental views must be sought and provided for.

The main practical conclusions arising were:

- the amount of enquiry into parental attitudes widely varies from country to country. On the whole such approaches are not well developed across Europe.
- no single methodology was identified as being the best route to achieve data.
- resources (both financial and staff related) for this kind of research, vary widely across participating countries.

Discussion

This was by no means a comprehensive list of what is out there. With a wide range of studies being submitted all the time, it is often difficult to know where to draw the line and begin analysis. Often the difficulty is in choosing the right 'search' or key words used, for example 'attitude', 'parental confidence', 'vaccine coverage', 'vaccine safety', 'vaccine concerns', 'informed decisions' etc.

That said, knowledge, attitudes and behaviour studies remain one of the best methods of gaining a better understanding as to how immunization communications and interactions with professionals and the public are being viewed. It is especially valuable if these studies can be over a long-term period. All immunization programmes are complex and require careful long-term planning to ensure continued high-levels of uptake of established vaccines and to introduce new vaccines.

Parents, children and health professionals have specific information needs, each of which needs to be addressed. Even within these groups, information requirements can often vary. Parents, for example, can be subdivided into those that 'trust', those that are 'compliant' and those that are 'resistant'. How can one communication tool adequately address the requirements of these groups? How can we best communicate to those who have complete faith in those who make the judgement about the risk and benefits of, say for example, a new vaccine, against those who are likely to question, vocalise their opposition to, and ultimately reject government advice? Can one communication tool adequately address this? How can we adequately address these parents standpoint?

Comparisons suggest that nurses/health professionals in several ways resolutely work to inform parents about childhood vaccinations/immunizations – however, there is also evidence that this is often alongside conflicting information that comes from other communication channels in society. How can we adequately ensure that our messages are taken more note of? How can we best ensure that the media and other information sources adequately reflect these?

At times there is difficulty in drawing parallels from studies conducted in other countries. The social and cultural context can often differ as well as the overall vaccination/immunization programmes.

However, for any immunisation programme to be successful, investment has to be made in ensuring that the information is accessible, transparent and understandable to all who need it. This may be particularly so in countries where immunization programmes have achieved high coverage rates over a number of years, and hence low rates of disease. In this case, there is a tendency for greater concern about vaccine safety rather than the disease they prevent. Thus, any perceived risk associated with the vaccine gains greater influence as the memory of the disease fades. Vaccine safety is then more likely to influence parents' decisions on whether or not to immunise their children.

The investment in research made by countries may often reflect the importance attached to ensuring that parents' concerns are heard and addressed. Their concerns will then influence the decisions made about the delivery of the immunization programmes – so that it can be delivered responsively and thus contribute to the protection of children and adults.

Annex 1

	Paper	Who and what surveyed Parental attitudes /Professional attitudes		Type of methodology used	Emerging issues
1	<i>Parents attitudinal and social influences on childhood vaccination</i> Bennett P, Smith C University of Wales UK, 1992	3 Groups of Parents attitude towards vaccinations		Focus groups	<ul style="list-style-type: none"> • Those who declined immunisation showed concern over long term health problems plus a risk perception for MMR • Implications for health education are discussed.
2	<i>Mothers and Vaccination: knowledge, attitudes, and behaviour in Italy</i> Angelillo, I, Ricciardi, G et al Italy, 1999	Knowledge, attitudes and behaviour of mothers attending kindergarten in Cassino and Crotone, Italy		Letter and questionnaire with return envelope to 841 infants who attended public kindergarten in 2 towns Multiple logistic regression analysis. Non-returners were chased for a response.	<ul style="list-style-type: none"> • Mothers with higher education level or older at time of child's birth had better knowledge of immunisation therefore adhered to mandatory programme. • Children who had at least one older sibling in the household were significantly less likely to be age appropriately vaccinated. • Education programmes promoting immunisation, accessibility and follow up should be targeted at the entire population.
3	<i>The two-dose measles, mumps and rubella (MMR) immunisation schedule: factors affecting maternal intention to</i>	300 mothers in Birmingham surveyed prior to routine MMR on		Cross sectional survey 300 mothers using a postal questionnaire.	<ul style="list-style-type: none"> • Fewer mothers approaching 2nd MMR intended to take their child than those for 1st vaccination.

	<i>vaccinate</i> Pareek M and Pattison H University of Birmingham, 2000	their intention to immunise, psychological variables, knowledge of the vaccine and socioeconomic status.		Response rate was 59%	<ul style="list-style-type: none"> • 29.8% cited autism as side effect. • GP most trusted source of information • Television cited as common source of information on side effects. • Major reason for low uptake of MMR is that it is not perceived to be important for children's health, particularly the second dose. • Health Education from GP likely to have a considerable impact.
4	<i>Factors influencing vaccine uptake in Italy</i> Bonanni, P and Bergamini M Italy, 2001	80% of mothers favoured vaccine	Older professionals still tend to overweigh false contraindications yet those with <20yr experience are better informed. The advent of acellular vaccines has helped. The involvement of GP is vital in prevention.	Questionnaire based study on 300 women taking their children to mandatory vaccination services.	<ul style="list-style-type: none"> • Stronger efforts should be made to educate parents and healthcare providers on true and false contraindications. • Wide and in-depth campaigns on the benefits of vaccinations need to be planned and implemented by central and local health authorities to avoid risk of a dramatic drop of coverage. • Favourable attitudes towards vaccination by 80% of women but knowledge on disease and vaccines is largely insufficient.
5	<i>Children's vaccinations</i>	Attitudes and knowledge of	<ul style="list-style-type: none"> • District and paediatric 	Quantitative with qualitative elements.	<ul style="list-style-type: none"> • A need for "producer neutral" vaccination material through

	Meeuwisse, A Sweden 2003	immunisation. 300 Questionnaires handed out to nurses and parents in 30 health centres.	nurses. <ul style="list-style-type: none"> • 77% response • All gave out information on diseases and side effects • Professionals can be thought to be dismissive. 	Questionnaires, letters and return envelopes to nurses and parents in 30 health centres.	child health organisations is a justified wish from parents as opposed to vaccine manufacturers. <ul style="list-style-type: none"> • Small numbers and quick time frame for returns limited the attitudes captured • Many parents considered the MMR jab a bigger threat than measles. • Parents experience risk in broader religious, cultural and personal context. • Rational risk analysis is overshadowed by other attitudes and psychological processes.
6	<i>Parents rely on child vaccinations. But at the same time they distrust the medical establishment</i> Samuelsson K and Blennow M. Sweden, 2003		<ul style="list-style-type: none"> • Trust shown from parents in health care staff and their information • Also a trust in medical 'companies' included in society. 	Quantitative study. Interviews- written out word for word (20-60mins) Phenomenological analysis method.	10 descriptive categories. <ul style="list-style-type: none"> • The age of the child and its place among siblings. • Fears as vaccines are seen as unnatural. • Fear of side effects.
7	<i>Parental attitudes to childhood immunisations</i> Samuelsson K and Blennow M	5 parents whose children attended Child health centres in		Phenomenographic method (systematic analysis of taped interviews)	<ul style="list-style-type: none"> • Attitudes of parents varied with respect to view on vaccine preventable diseases, in their trust in

	Sweden, 2003	Stockholm			society and health services.
8	<p><i>Reasons for non-vaccination during national immunization days: a case study</i></p> <p>Harmanci H, Garbuz Y et al. Istanbul, 2003.</p>	Not stated		Cluster survey 2102 children conducted 3-10 days after 2 nd round of National Immunisation Days	<ul style="list-style-type: none"> • Vaccine coverage rate 82.2% on National Immunisation Days (NIDS) To achieve better results improved publicity on national campaigns is required using mass media and improved use of mobile teams. • Purpose of these days was not known to some of the population.
9	<p><i>Why do parents hesitate to vaccinate their children against measles, mumps and rubella?</i></p> <p>Alfredsson R, Svensson E et al Sweden, 2004</p>	Survey of 300 parents		Comparative study by questionnaire	<ul style="list-style-type: none"> • Principal reason both for and against vaccination was strengthening the child's immune system. • Insufficient time was allocated for information and discussion of immunisation • Study indicated that data underestimated the number of vaccinated children and vaccine safety is a major concern for parents.
10	<p><i>Parents reasons for avoiding MMR</i></p> <p>Dannetun, E Sweden, 2005</p>	Parents of 203 children (not immunised)		Telephone survey	<ul style="list-style-type: none"> • 60% of parents reported that vaccination was postponed. • 40% had decided against immunisation. • Fear of side effects given as reason against immunisation.

					<ul style="list-style-type: none"> • Media stated as principal source of information.
11	<p><i>Tracking mothers attitudes to childhood immunisation. 1991-2001</i></p> <p>Yarwood, J., Noakes, K et al London, 2005</p>	<p>Survey of knowledge understanding and attitudes to the childhood immunisation programme in England</p> <p>Questionnaire 20 surveys Over 15,000 interviews in ten years</p>		Face-to-face, computer assisted interviews of parents in the home setting	<ul style="list-style-type: none"> • Challenge in maintaining high levels of vaccine coverage. • In absence of disease threats fade and anxieties about vaccine safety increase. • Immunisation programmes are complex and require long term planning for high uptake of established vaccines and to introduce new vaccines.
12	<p><i>Parents' knowledge of and attitude towards the primary childhood immunisations</i></p> <p>Deady J and Thornton L Dublin, 2005</p>	Parent's knowledge and attitude to primary childhood immunisations.	Not stated	93 parents randomly selected for a cross-sectional survey. Parents reported uptake was compared with general practitioner and official records.	<ul style="list-style-type: none"> • 70% of responders with a low standard of education were less aware of the severity of the diseases. • Older parents (58%) questioned immunisation safety more than younger parents (28%) • Better use of identification numbers could improve records.
13	<p><i>Feeling bad about immunising our children</i></p> <p>Wroe A, Bhan A et al Kings College, London, 2005</p>	Investigates parental decisions about MMR and single vaccinations.	Not stated	Longitudinal study of 114 parents on their perceptions of benefits and risks of immunisation, and emotional-related variables. They were followed up to ask	<ul style="list-style-type: none"> • Parental decisions were explained by emotion-related variables, specifically anticipated responsibility and regret.

				their final decision.	
14	<p><i>Attitudes and risk perception of parents of different ethnic backgrounds regarding meningococcal C vaccination</i></p> <p>Timmermans D et al Amsterdam , The Netherlands, 2005</p>	<p>Parents attitudes towards vaccination and their perception of disease and vaccination.</p>	Not stated	<p>1763 interviewed (Dutch, Turkish, Moroccan, Surinamese + others)</p>	<ul style="list-style-type: none"> • Results show large differences of knowledge, largely overestimated risks of contracting disease and dying. • Dutch parents were best informed, least worried had critical attitude towards the campaign and lowest vaccination levels compared to other parents. • Outcomes include taking more notice on parents' perspectives when designing information.
15	<p><i>Mothers as active partners in the prevention of childhood diseases: maternal factors related to immunization status of preschool children in Italy</i></p> <p>Impicciatore P et al Milan, Italy, 2005.</p>	<p>Studied how maternal socio-demographic factors together with maternal education, knowledge and perceptions of immunisations can affect uptake of optional vaccination of preschool children.</p>	Not stated	<p>Mothers interviewed using a structured questionnaire by a trained interviewer with no specific medical competence.</p>	<ul style="list-style-type: none"> • 1035 mothers interviewed. • 59% had allowed their child MMR vaccinations • 54% had allowed their child pertussis immunisation. • Findings suggest that mothers' attitudes, educational level, socio-demographics as well as socio-economic factors plus local health policies can influence children's immunisation uptakes. • Health promotion based on a partnership between parents and health professionals should be a priority in Italy.

16	<p><i>Negative attitudes of highly educated parents and health care workers towards future vaccinations in the Dutch childhood vaccination program</i></p> <p>Hak E et al Utrecht, The Netherlands, 2005</p>	<p>Behavioural determinants associated with negative attitudes and attitudes of parents. 283 respondents.</p>	Not stated	<p>Questionnaire study for parents of children between 3 months and 5 years of age in day-care centres. Determinants of a negative attitude to future programme against example 6 serious diseases</p>	<ul style="list-style-type: none"> • 283 respondents, 43% reported a positive attitude towards all vaccinations, 46% had a positive attitude to vaccination against some diseases and 11% had no intention to comply with any new vaccinations. • Conclusion: determinants mainly based on lack of specific knowledge. Barriers could be overcome by improved health education targeted at educated parents and health care workers.
17	<p><i>Parents' attitudes towards Hepatitis B vaccination for their children</i></p> <p>Dunnetun, E, Tegnell A et al Sweden 2005</p>	<p>Aim of study to assess parents' knowledge of Hep B and their attitudes towards vaccination their child with HBV. No questions to verify that the respondent were not confused with 'Hepatitis A or B'</p>	Not stated	<p>Population-based cross sectional survey by mail. Group of 1001 answered a paper questionnaire. Second group of 1001 given password to electronic questionnaire. Reminders were sent.</p>	<ul style="list-style-type: none"> • Response rates were: 55% for paper and 15% for electronic. • Knowledge of the disease Hep B was high (90%) with best seen in parents with education beyond high school/these also had tendency to reply via Internet. • Acceptance of Hep B vaccine for their child correlated to the acceptance of childhood vaccination programme. • Results revealed that a high level of knowledge of the disease gives a positive parental attitude to childhood

					vaccination.
18	<p><i>Children's health and the social theory of risk: Insights from the British measles, mumps and rubella (MMR) controversy</i></p> <p>Casiday RE Durham University, UK, 2005</p>	<p>Study of parent's decision-making about MMR vaccine and their perception of Risk and models of vaccination acceptance and resistance. Risks of infectious disease and autism.</p>	Not stated	<p>87 parents. Focus groups and interview discussions.</p>	<ul style="list-style-type: none"> • Parents balanced other risk concerns-both biological and social-in making their decisions. • Such decisions, made on behalf of children, in the midst of contradictory information and uncertainty symbolised 'good parenting' • Parents sought explanations for why some children seem more vulnerable than others do.
19	<p><i>Survey of parents' knowledge and factors affecting application of vaccines recommended for their children</i></p> <p>Mrozek-Budzyn D, Kieltyka A. Poland, 2006</p>	<p>360 parents.</p>		<p>360 interviewed Selection process could have influenced results.</p> <p>Study performed by physicians at Regional Vaccination Clinic in Krakow</p>	<ul style="list-style-type: none"> • Respondents were well educated parents and results showed information gained from Internet, the press and physicians. • Knowledge on vaccinations against severe disease was more common compared to milder disease.
20	<p><i>Vaccine coverage and reasons for non vaccination in a district of Istanbul</i></p> <p>Torun S and Bakirci N Istanbul, 2006</p>	<p>Parental and maternal education plus immigration influenced vaccination of children</p>	Not stated	<p>Cluster sampling 30 streets selected at random. Questionnaires, face to face with parents of 221 children. A Chi-square test and logistic regression used for analysis.</p>	<ul style="list-style-type: none"> • 3.25% of children were totally non-vaccinated and their siblings. • Reasons stated: unable to reach healthcare services. • Costs. • No parental knowledge about vaccinations. • Father of child did not 'allow' • Concurrent illness of child

					<p>during time vaccination was due.</p> <ul style="list-style-type: none"> • Missed opportunities such as not opening vial of vaccine for only one child. • Measles Vac 79.3% • Efforts to increase coverage should take into account the reasons gained from those not vaccinated.
21	<p><i>Parental response to the introduction of a vaccine against Human Papilloma Virus</i></p> <p>Noakes, K, Yarwood, J and Salisbury D, London, 2006</p>	<p>Indication of parental views Assessed parents preferences Prioritized parents information requirements</p>	<p>General Practitioners, Health Visitors Practice Nurses.</p>	<p>Qualitative study</p> <p>Six small group Discussions.</p>	<ul style="list-style-type: none"> • High levels of awareness of vaccine issues. Parents took diseases seriously and made them part of their responsibility. • They were aware of risks and the MMR debate has impacted on the deliberation process. • They gain their information from NHS, GPs, government and the media. • 3 attitudinal groups (trusting, compliant and resistant) • If HPV vaccine had been presented as for cervical cancer rather than sexual health it may have been more acceptable to most parents.
22	<p><i>Is the cultural context of MMR rejection a key to an effective</i></p>	<p>Mothers' experiences of and</p>	<p>Not stated</p>	<p>Ethnographic study linked to information</p>	<ul style="list-style-type: none"> • Mothers interpret MMR risk through concepts of child

	<p><i>public health discourse?</i></p> <p>Cassell J et al Royal Free and University College London, UK, 2006</p>	attitudes to the MMR. in Brighton		on Child Health Database.	<p>health embedded in family health history with a majority holding that their child's immune system is unique.</p> <ul style="list-style-type: none"> • Cultural risk factors for non-compliance relate to the use of complementary healthcare such as homeopathy. • 40% did not consider the possible benefits to other children of MMR. • Paradoxical and challenging consequences in the policy context of health choices. Demonstrates the need for information to address lay concepts of immunity.
23	<p><i>Future acceptance of adolescent human papilloma virus vaccination: a survey of parental attitudes</i></p> <p>Brabin L, Roberts S et al. University of Manchester, UK, 2006</p>	Assessed parental consent and potential HPV uptake in 8 secondary schools	Not stated	Used stratified randomisation according to school type and ethnicity.	<ul style="list-style-type: none"> • Results suggested that in socially/ethnically mixed populations HPV vaccine uptake rate of 80% may be likely if vaccine is perceived to be safe and effective. • Lack of knowledge about HPV and sexual health issues would arise. • Important to confirm role of HPV in cervical cancer without stigmatising vaccine.
24	<p><i>An internet-based survey on parental attitudes towards immunization</i></p>	To assess current attitudes of parents regarding issues related to	Not stated	Internet survey 6025 participants.	<ul style="list-style-type: none"> • 22.6% felt that immunisations are administered "too early" in life

	Heininger U Basel, Switzerland 2006	childhood vaccinations. Misconceptions have been identified as major barriers towards immunisation in children.			<ul style="list-style-type: none"> • Others thought overload of the immune system and induction of allergies, respectively, would be side effects of immunisations. • 5722 participants regarded their paediatrician as the most important source of information regarding immunisation, followed by leaflets, health magazines and the internet.
25	<i>Tracking mothers' attitudes to MMR Immunisations 1996-2006</i> Smith, A., Yarwood, J., and Salisbury D. London, 2007	Parents attitudes, knowledge and understanding of MMR immunisation.		Face to face interviews Random location sampling Questionnaires: open-ended and closed questions	<ul style="list-style-type: none"> • Mothers believe that MMR protects against diseases that are not considered to be serious. • MMR was considered least safe vaccine. Now moving away to a more positive perception. Takes time to uplift coverage. • The role of the media important. Mothers attitudes can be influenced more by media reporting than scientific evidence. • Some drop in level of trust in health professionals
26	<i>Factors influencing vaccine coverage in Malopolskie Voivodeship according to parents opinion</i> Mrozek-Budzyn D, Kieltyka A.	263 mothers		Structured questionnaire	<ul style="list-style-type: none"> • Main factors influencing high coverage were changing the parental attitudes to vaccination and gaining better co-operation between health care providers.

	Poland, 2007				
27	<i>Factors influencing vaccination coverage improvement in Malopolskie Voivodeship according to opinion of health care providers</i> Mrozek-Budzyn D, Kieltyka A. Poland, 2007		Programme to improve education and organising systems in this area.	Structured questionnaires among health care providers to identify essential factors influencing vaccinations	<ul style="list-style-type: none"> Increased coverage by 26% within six years. Better education, more knowledgeable health professionals led to continued higher coverage. Public Health Institutions need to continue training.
28	<i>Parents' attitudes towards hepatitis B vaccination for their children</i> Dannetun E <i>et al</i> Sweden, 2007	To assess knowledge and attitudes towards Hep B for children.	Not stated	Population based cross-sectional survey 50% parents sent postal questionnaires 50% parents questioned via internet	<ul style="list-style-type: none"> Responses were 55% Paper and 15% Internet. Knowledge of Hep B was increased 90% especially in parents who had further education. Conventional paper in postal method delivered a higher response than web based system.
29	<i>Influenza vaccination coverage and reasons to refrain among high-risk persons in four European Countries</i> Kroneman, M, van Essen <i>et al</i> , The Netherlands, 2006	Public attitude survey	<ul style="list-style-type: none"> Some professional held sessions. Patients also collected own vaccines at pharmacy and had to attend general practice with them Only some 	Vaccine Coverage Rates (VCR) Questionnaire Population base of an average 2300 persons in each country. Poland: face to face interviews. Sweden, Germany and Spain: telephone survey	<ul style="list-style-type: none"> Variations among countries meeting WHO targets. No information literature on risks available. VCR in the elderly not well documented. EU countries have policy to immunise elderly high risk groups. Germany and Spain –no charge. Poland and Sweden – co/payment required ie. cost implication for patients.

			professionals gave invitations to immunise.		<p>Noted barrier stop immunisation:</p> <ul style="list-style-type: none"> • Perceived sufficient resistance to flu (33-42% in all countries) • Forgetfulness (20%) <p>Reasons for not having flu vaccination:</p> <ul style="list-style-type: none"> • Misconceptions on natural resistance to flu • Lack of appointments • Personal invitations to patients resulted in significantly higher compliance in accordance with earlier research. • Small groups are hard to convince. • In Poland (25%) cost was an issue. Removal of financial barrier and a policy to reduce burden of patients in high-risk groups would be beneficial.
30	<p><i>Influenza vaccination coverage and reasons for non vaccination in over 65year olds, in Sweden.</i></p> <p>Dannetun, E et al Sweden, 2003</p>	Public attitude in >65yrs living in service homes.		Questionnaire	<ul style="list-style-type: none"> • Lack of knowledge of recommendations on immunisations given as reasons for non uptake.

UK WP 5 :Department of Health, London 2007/8

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