

Rheinland-Pfalz



ROBERT KOCH INSTITUT



PAE



Survey on the Vaccination Status of Midwives and on their Knowledge, Attitudes and Behaviour regarding Vaccination, Germany 2007

ESCAIDE 2008, Berlin

Florian Burckhardt, FETP Germany

Midwives in Germany

- Midwives support parents during pregnancy, delivery and in the first months after birth of their child (statutory standard)
- Access to parents
- Midwives often seen as trusted, independent consultant on child health issues
- Ca. 18,000 MW, 16,000 (88%) organised in professional association “Bund Deutscher Hebammen” (BDH)

Vaccination in Germany

- National recommendations by the German standing committee on vaccination (STIKO)
- Recommended vaccinations are NOT mandatory
- Health insurance covers STIKO-recommended vaccinations
- Responsibility of vaccination advocacy lies primarily with medical doctors
- Limited data on vaccination coverage of healthcare workers, esp. for midwives

Aims and Objectives

- Describe awareness, attitudes and practices of midwives regarding vaccination
- Measure vaccination status of midwives

in order to

- Work with BDH to improve vaccination coverage in Germany

Survey

- Cross sectional study
- Sampling
 - convenience sample
 - no access to sampling frame/ addresses
 - visitors of XI. German Midwives' Association Congress of BDH, May 07

Questionnaire

- Demography
- Place of training
- Further training
- Opinion on vaccination related statements
- Vaccination status of midwives (tetanus, diphtheria, pertussis, hepatitis b, influenza)
- Advocacy of routine childhood vaccinations

Methods: Analysis

- Descriptive analysis
- Prevalence ratios of advocated childhood vaccinations stratified by
 - place of training (East-West)
 - vaccination status of midwives
 - type of further training
 - opinion on vaccination related statements

Response

XI. German Midwives' Association Congress

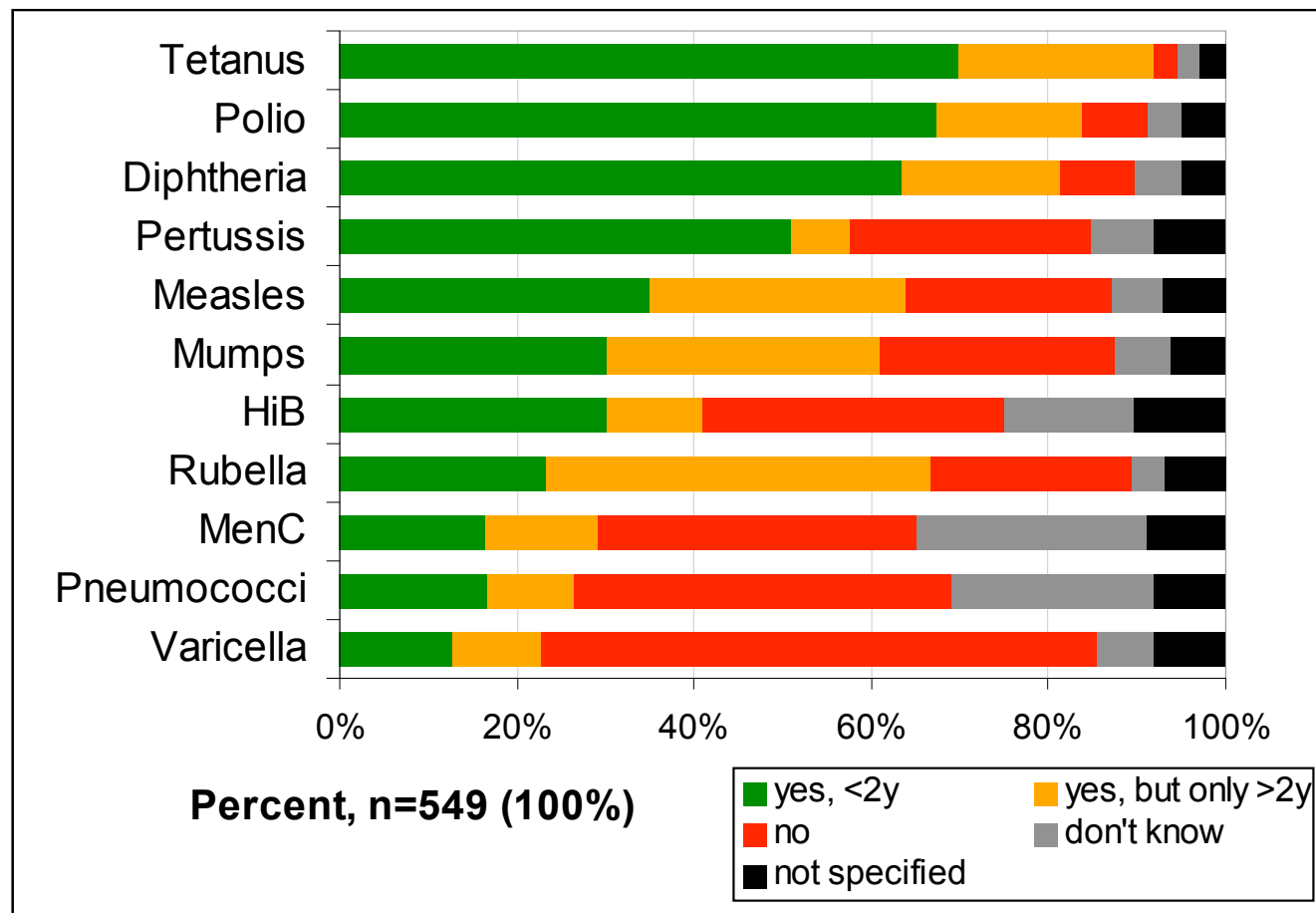
- 2300 participants
- 1200 questionnaires distributed
- 552 (46%) questionnaires returned (549 valid)

Results

- Median age 38 years (19–68)
- Median professional experience 13 years (0–46)
- 368 (67%) midwives advise parents on vaccination
- Respondants geographically representative of BDH membership per state
- Age distribution of BDH members unknown, no comparison with survey

Childhood vaccinations advocated by midwives

- Advocacy: vaccination completed by age two (STIKO)



Advocated vaccinations by Alternative Medicine Training

| Vaccination advocacy | no AM | AM | PR (95%CI) | p-value |
|----------------------|-------|-----|-----------------|---------|
| Polio | 80% | 68% | 1.2 (1.1 - 1.3) | <0.01 |
| HiB | 49% | 32% | 1.6 (1.2 - 2.0) | <0.01 |
| Hepatitis B | 12% | 6% | 2.1 (1.1 - 3.9) | 0.02 |
| Measles | 45% | 35% | 1.3 (1.0 - 1.6) | 0.03 |
| Mumps | 39% | 30% | 1.3 (1.0 - 1.7) | 0.04 |
| Rubella | 30% | 22% | 1.4 (1.0 - 1.8) | 0.05 |
| Varicella | 20% | 11% | 1.8 (1.2 - 2.9) | 0.01 |
| Pneumococci | 30% | 20% | 1.5 (1.0 - 2.1) | 0.03 |

**„Midwives with AM training are less
likely to advocate vaccinations“**

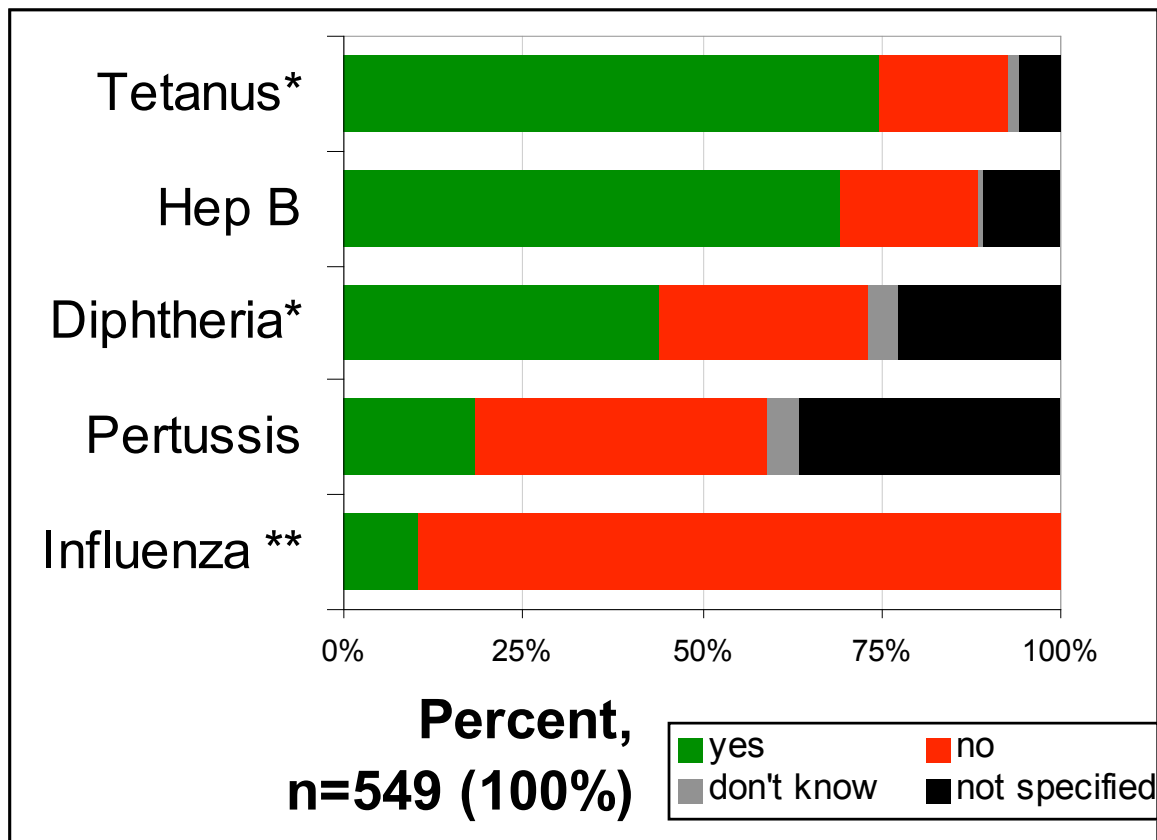
Results: Midwives 2007, Germany

Advocated vaccinations: more factors

| Stratified by | Interpretation |
|-------------------------|--|
| Training in AM | Midwives with AM training are less likely to advocate vaccinations |
| Counselling parents | Midwives who counsel parents are less likely to advocate vaccinations |
| Place of training | Midwives who were trained in the west are less likely to advocate vaccinations |
| Training in vaccinology | Midwives with vaccinology training are less likely to advocate vaccinations (sic!) |

Advocacy: vaccination completed by age two (STIKO)

Midwives' Vaccinations (of last 10 years)



*STIKO recommendation (once per 10y)

**vaccination received during season 2006/07

Advocated childhood vaccinations by midwife's own vaccination

| Vaccination advocacy | | | Midwife vaccinated | Midwife not vacc. | PR (95%CI) | p-value |
|----------------------|---------|-----|--------------------|-------------------|-----------------|---------|
| | Tetanus | yes | 314 | 49 | 1.5 (1.2 - 1.8) | <0.01 |
| | no | 78 | 42 | | | |
| Dipht. | yes | 196 | 69 | 1.6 (1.2 – 2.0) | <0.01 | |
| | no | 36 | 65 | | | |
| Pertussis | yes | 84 | 89 | 1.8 (1.5 - 2.1) | <0.01 | |
| | no | 13 | 94 | | | |
| Hep B | yes | 35 | 1 | 9.1 (1.3 - | 0.03 | |
| | no | 296 | 85 | 65.4) | | |

Advocacy: vaccination completed by age two (STIKO)

(Dis)Agreement on vaccinations (selection)

| | strongly disagree | rather disagree | no opinion | rather agree | strongly agree |
|--|-------------------|-----------------|------------|--------------|----------------|
| Statement | | | | | |
| <i>Vaccines protect effectively against infectious diseases. n=542</i> | 5% | 20% | 3% | 45% | 27% |
| <i>As many children as possible should be vaccinated to protect those who cannot be vaccinated. n=545</i> | 18% | 29% | 14% | 26% | 13% |
| <i>Getting childhood diseases such as measles are important for the personal development of a child. n=542</i> | 17% | 24% | 10% | 34% | 14% |
| <i>Measles can kill. n=541</i> | 2% | 11% | 11% | 33% | 41% |

Measles vaccination advocacy by opinion on measles

| | | | | | |
|-----------------------------|-------------|---|-----------------|-------------------|----------------|
| Vaccination advocacy | | <i>“Measles important for personal development“</i> | | | |
| | | agree | disagree | PR (95%CI) | p-value |
| | Measles yes | 31 | 144 | 0.2 (0.1 – 0.3) | <0.01 |
| | no | 186 | 68 | | |
| | | <i>“Measles can kill“</i> | | | |
| | | agree | disagree | PR (95%CI) | p-value |
| | Measles yes | 161 | 14 | 2.0 (1.2 – 3.2) | 0.03 |
| | no | 203 | 49 | | |

Advocacy: vaccination completed by age two (STIKO)

Discussion

- Vaccination seen as:
 - instrument for preventing infections ✓
 - improvement for individual health ✓
 - ...but not contribution to population health ✗
- Advocacy of vaccination depends on:
 - place of training, regional tradition
 - being vaccinated
 - training in AM
 - counselling parents

Limitations

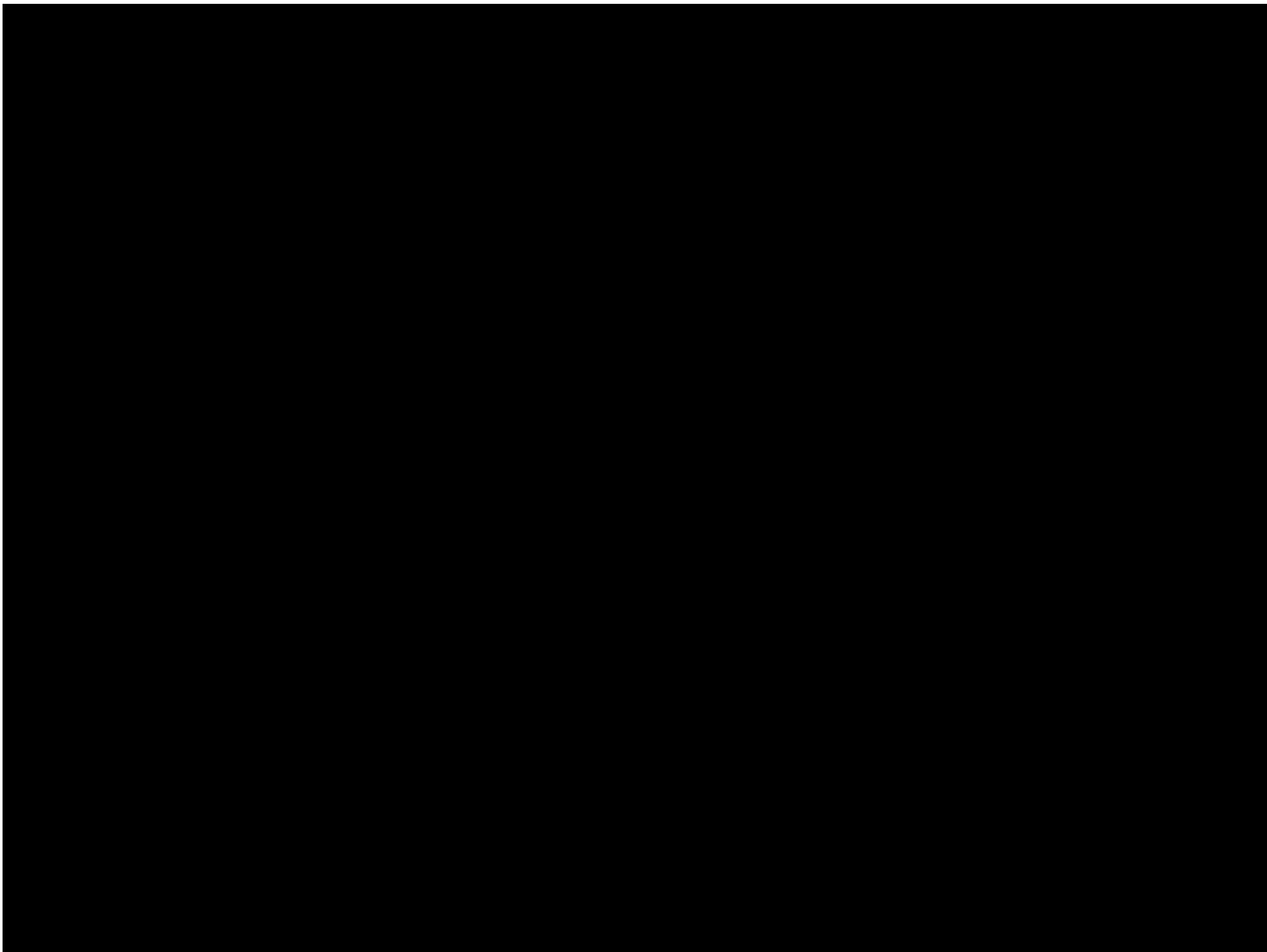
- Cross sectional study, low causality
- Difficult generalisability
 - convenience sample
 - response rate: 24% of congress visitors (participation bias)
- Vaccination status not confirmed by inspection of international certificate of vaccination
- No external reference group (beware of scapegoating!)

Recommendation

- promote vaccination of midwives
 - pre-employment medical-examination
 - catch-up campaigns
- offer training in vaccinology and infectious diseases
 - add epidemiology, treatment, prevention of infectious diseases to curriculum
 - emphasise population health effects
 - integrate benefit of vaccination in belief system of midwives

Acknowledgements

- Yvonne Deleré, Miriam Wiese-Posselt
- BDH: Ms Albrecht, Ms Höfer, Ms Kerlen-Petri



(Dis)Agreement on vaccinations (Likert)

| | strongly disagree | rather disagree | no opinion | rather agree | strongly agree |
|---|-------------------|-----------------|------------|--------------|----------------|
| Statement | | | | | |
| Vaccines contain too many additives. n=545 | 2% | 11% | 32% | 31% | 23% |
| The public needs more information about vaccinations' side effects and complications. n=545 | 3% | 9% | 4% | 32% | 51% |
| Combination vaccines are too much of a burden on infant's immune systems. n=547 | 3% | 15% | 7% | 42% | 31% |

Further training in last 2 years

| n = 549 | Total | Percent |
|--------------------------|--------------|----------------|
| other training | 394 | 71% |
| obstetrics | 388 | 70% |
| alternative medicine | 297 | 54% |
| psychosocial counselling | 182 | 33% |
| vaccination | 114 | 21% |
| no FT in last 2y | 18 | 3% |

multiple answers possible

Endorsed vaccinations by East - West

| Vaccination endormsm. | Education in East-G. | Education in West-G. | Prevalence ratio (PR, 95%CI) | p-value |
|------------------------------|-----------------------------|-----------------------------|-------------------------------------|----------------|
| Pertussis | 75% | 55% | 1,4 (1,2 - 1,6) | <0,001 |
| Mumps | 43% | 32% | 1,4 (1,0 - 1,8) | 0,039 |