Communication to parents is crucial to achieve high adherence rates to a cocooning program

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abstract

- Approach: cocoon is defined as a strategy to reduce the risk for transmission of pertussis to newborn infants by vaccinating household members including parents and siblings. Programmatic challenges make implementation of cocooning program complex. At the health care unit ASL Napoli Centro 1 (ASL), a one-year pilot project was set up to evaluate the local feasibility of the cocoon strategy.
- Methods: after a purpose and implementation letter was sent to all ASL involved parties, the project was started on May, 1st 2011. Healthcare providers (HCPs) offer for free a dTpa booster dose to all newborns parents (mothers are immunized after delivery) and household contacts.
- Results: until June 30th, overall only 7 dTpa booster doses out of 261 newborns (2.6%) were administered for cocooning. Then, an improvement in communication strategy to the families was introduced by increasing the HCPs full-time equivalents (FTEs) devoted to the cocoon, and focusing the interaction with families during the visiting time at the maternity ward. Between July 1st and October 15th, 281 dTpa booster doses for a total of 425 newborns (66.1%) were administered; postpartum women reached the highest (39.5%) compliance to cocooning.
- Conclusions: preliminary results suggest that a cocoon strategy is feasible at the ASL. High acceptance rates can be reached providing that proper communication tools and enough FTEs of skilled HCPs are engaged in the interaction with the families.
- Relevance: This report is, to our knowledge, the first to document successful implementation of pertussis cocooning in an Italian hospital setting.

Approach (I)

- Pertussis is still diffuse in Europe including Italy and most of the cases are observed in children < 1 year of age
- In most of the cases, household members and siblings are the source of pertussis for infants
- Cocoon is defined as a strategy to reduce the risk for transmission of pertussis to newborn infants by vaccinating household members including parents and siblings.

Figure 1. Incidence category of reported pertussis cases per 100,000 inhabitants, 2009

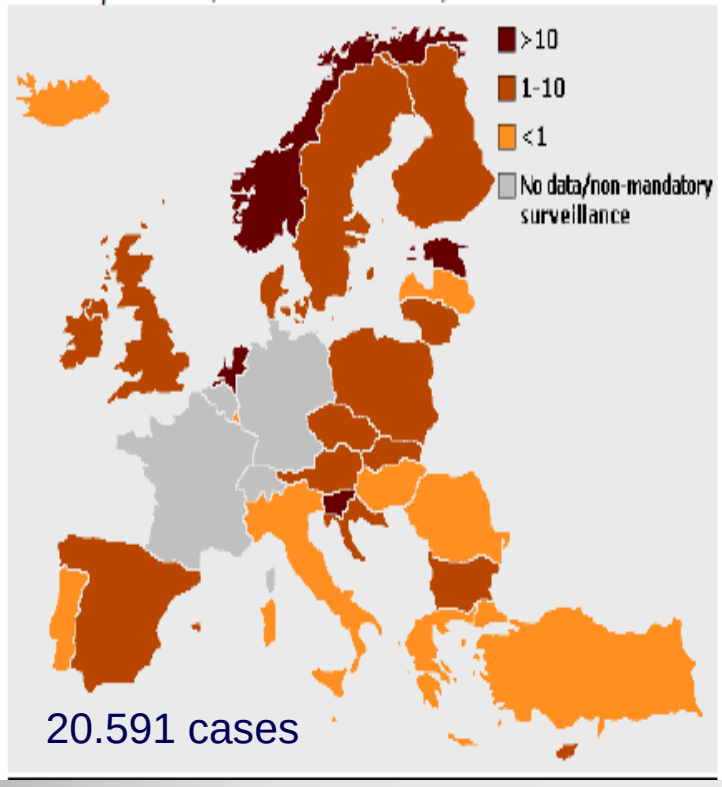
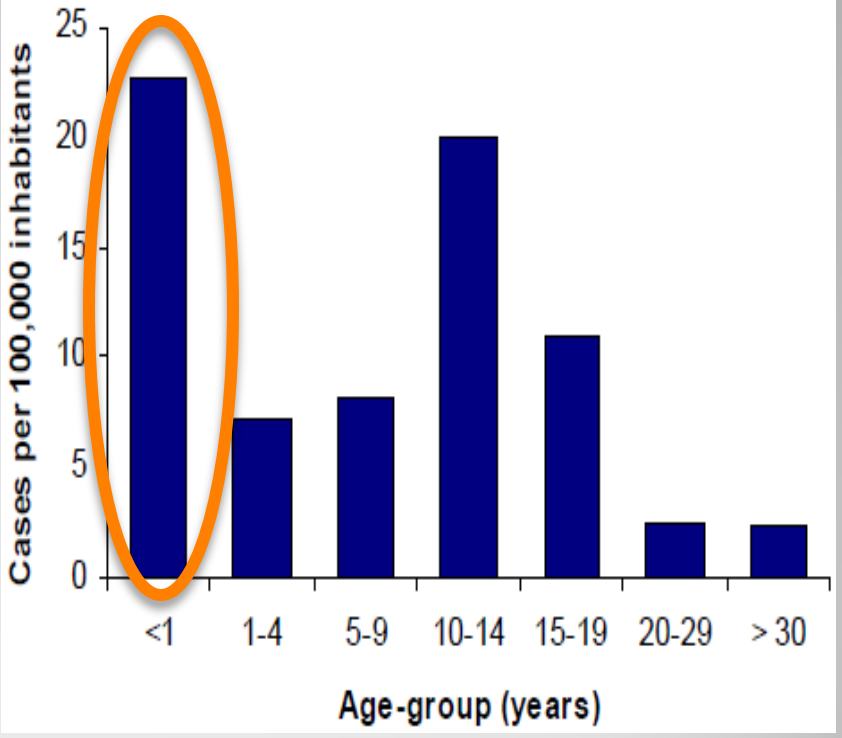
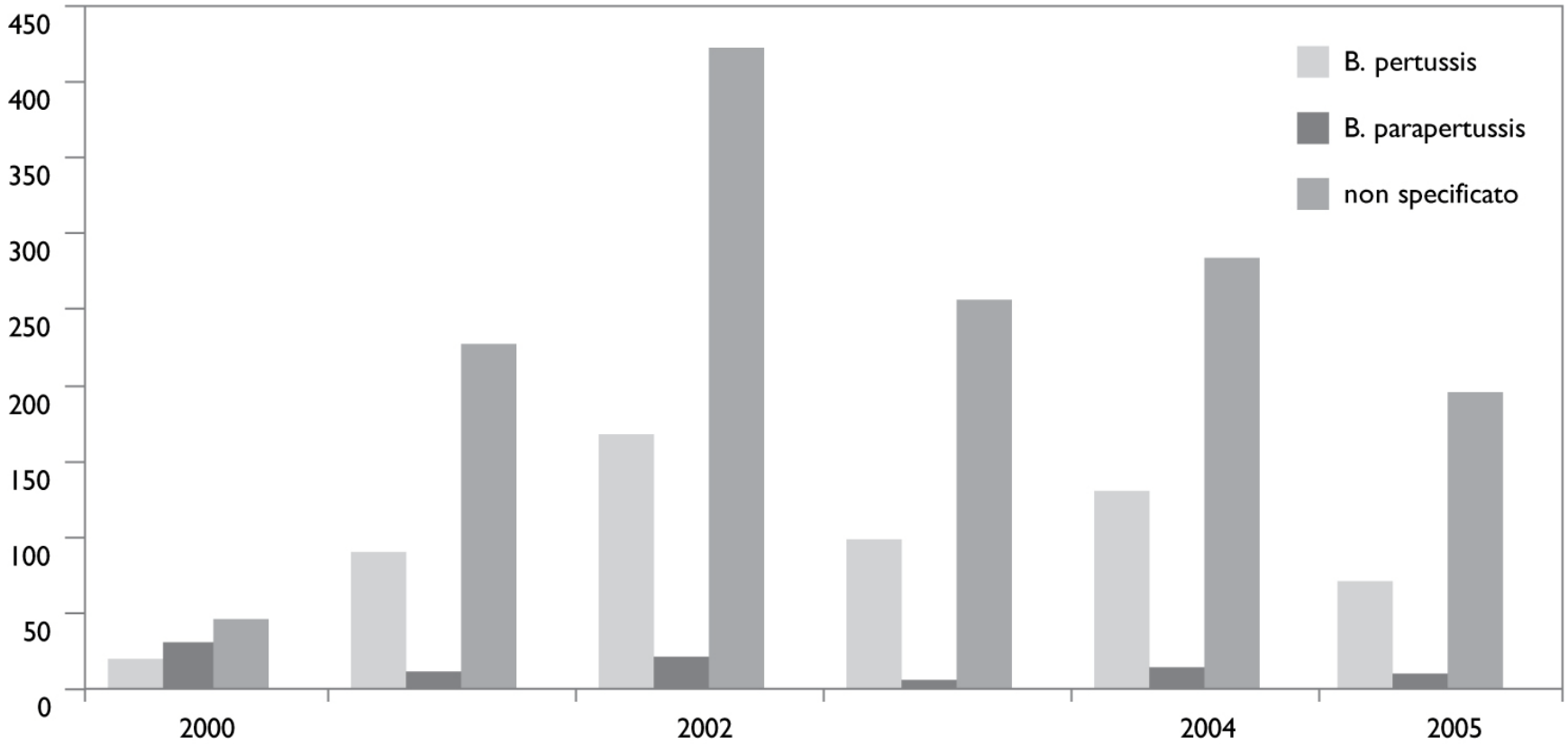


Figure 2. Incidence of reported pertussis cases by age-group, 2009



EUVAC.NET, 2010

Absolute number of pertussis cases/ year in children < 1 year of age according to the hospital discharge forms national database



http://www.salute.gov.it/ricoveriOspedalieri/ric_informazioni/default.jsp

Source of infection in infants

Relationship with index infant	No. of persons	First cases		Source cases	
		No. of persons	Percentage of persons (95% CI)	No. of persons	Percentage of persons (95% CI)
Index infant	164	68	35 (29–42)	…	…
Mother	164	46	24 (18–30)	52	38 (30–46)
Father	155	21	11 (7–16)	23	17 (11–24)
Other adult	28	4	2 (1–5)	6	4 (2–9)
Adolescents aged 14–19 years	12	0	0 (0–2)	0	0 (0–2)
Sibling aged 9–13 years	27	11	6 (3–10)	11	8 (4–13)
Sibling aged 5–8 years	85	17	9 (5–13)	20	15 (9–21)
Sibling aged 1–4 years	92	25	13 (9–18)	25	18 (12–25)
Sibling aged 0 years (ie, twins)	1	0	0 (0–2)	0	0 (0–2)
Total	560	192[a]	100	137	100

De Greeff et al, Clin Infect Dis. 2010 May 15;50(10):1339-45.

Prevention of pertussis: Recommendations derived from the second Global Pertussis Initiative roundtable meeting

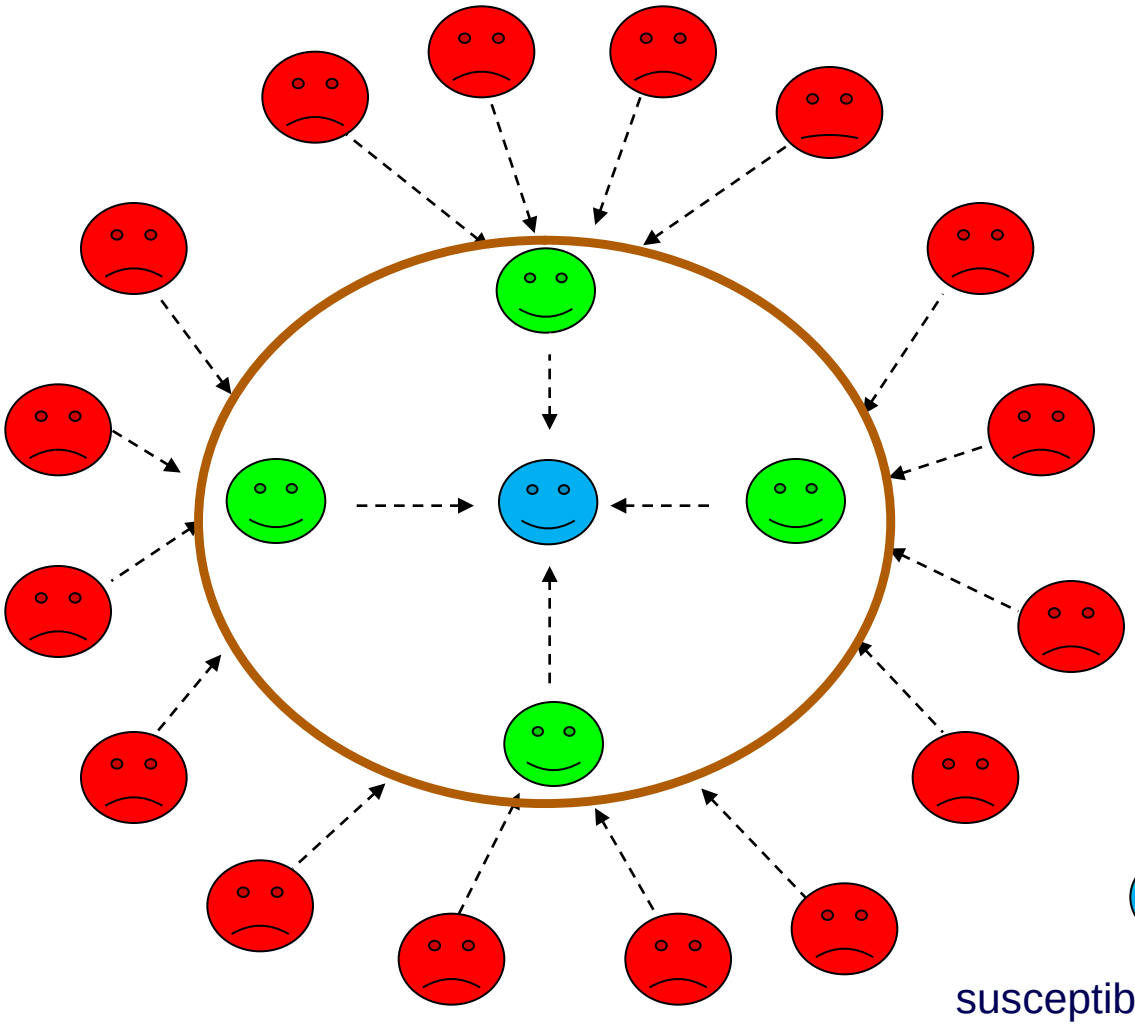
Kevin D. Forsyth [a,*], Carl-Heinz Wirsing von Konig [b], Tina Tan [c], Jaime Caro [d], Stanley Plotkin [e,f]

4.3. Cocoon strategy

Vaccination of household members (including parents and siblings) of newborns, known as the cocoon strategy, should be considered as a first step toward (or a component of) universal adult vaccination.

Vaccine 25 (2007) 2634–2642

the cocoon concept



immune

infected

susceptible but not infected

Ciarrocchi et al, XII Conferenza Nazionale di Sanità Pubblica, 2011

Approach (II)

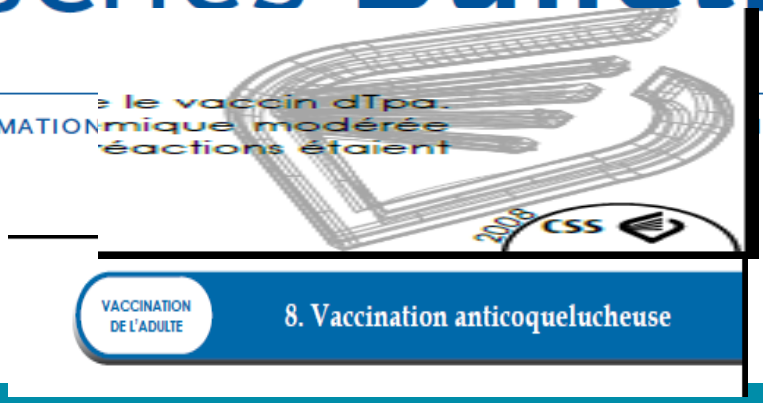
- Cocoon strategy is recommended in many EU Countries and USA
- However, programmatic challenges make implementation of cocooning program complex.
- At the health care unit ASL Napoli Centro 1 (ASL), a one-year pilot project was set up to evaluate the local feasibility of the cocoon strategy.

Cocoon strategy is recommended in many EU Countries and USA

Epidemiologisches Bulletin

28. Juli 2006 / Nr. 30 AKTUELLE DATEN UND INFORMATION EALTH

PROPOSTA CALENDARIO VACCINALE PER GLI ADULTI E PER GLI ANZIANI
a cura dalla Società Italiana di Igiene, Medicina Preventiva e Sanità Pubblica (SItI)



MMWR™

Morbidity and Mortality Weekly Report

ations and Reports December 15, 2006 / Vol.

Preventing Tetanus, Diphtheria, and Pertussis Among Adults: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine

BEH Bulletin épidémiologique hebdomadaire

InVS INSTITUT DE VEILLE SANITAIRE

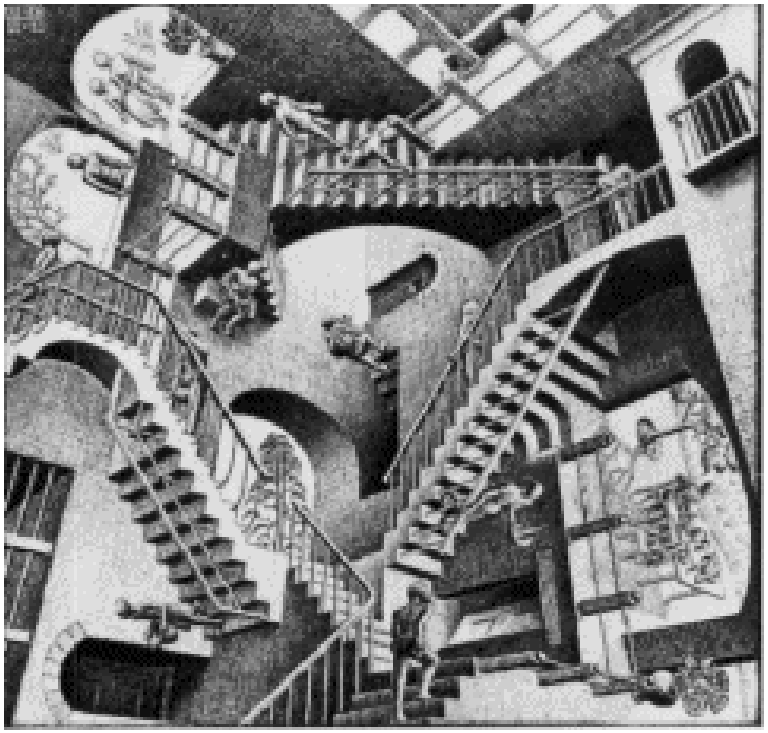
22 avril 2008 / n° 16-17

Calendrier vaccinal 2008 - Avis du Haut conseil de la santé publique

Vaccination schedule for 2008 - Recommendations from the "Haut conseil de la santé publique"

The cocoon paradox:

very simple idea but difficult to implement



Escher G, Relativity 1953

programmatic challenges make cocooning program implementation complex

Cocooning Infants: Tdap Immunization for New Parents in the Pediatric Office

Emmanuel B. Walter, MD, MPH; Norma Allred, PhD, MSN; Beth Rowe-West, RN, BSN; Kathlene Chmielewski, AS; Katrina Kretsinger, MD, MA; Rowena J. Dolor, MD, MHS

Efficacy of systematic information and prescription of vaccine to implement the recommendations to prevent post-partum pertussis: A limited impact

C. Bonneau[a,b,1], J. Seror[a,b,*,1], E. Seror[c], F. Hervé[a,d], L. Lardy[b], R. Rouzier[a,b]

Il giornale della Vaccinazione

Anno III, N. 1 - Gennaio/Marzo 2011

Contributi

La strategia "cocoon" per ridurre il rischio di pertosse nel neonato è praticabile in Italia?

Implementation of Cocooning against Pertussis in a High-Risk Population

C. Mary Healy,[1,2,3] Marcia A Rench,[1,3] and Carol J. Baker[1,2,3,4]

Pertussis vaccination for parents: Proposal and evaluation of two professional practices in a maternity hospital

C. Durand*, E. Flament

Methods

- a purpose and implementation letter was sent to all ASL involved parties
- Healthcare providers (HCPs) offer for free a dTpa booster dose to all newborns parents (mothers are immunized after delivery) and household contacts.
- the project was started on May, 1st 2011 and it's still ongoing.

Results

- until June 30th, overall only 7 dTpa booster doses out of 261 newborns (2.6%) were administered for cocooning.
- Then, an improvement in communication strategy to the families was introduced by increasing the HCPs full-time equivalents (FTEs) devoted to the cocoon, and focusing the interaction with families during the visiting time at the maternity ward.
- Between July 1st and October 15th, 281 dTpa booster doses for a total of 425 newborns (66.1%) were administered; postpartum women reached the highest (39.5%) compliance to cocooning.

adherence to the cocoon stratgy
(expressed as fraction of the total of newborns before and after the improvement in communication)

	before		after	
mothers	3/261	1.1%	168/425	39.5%
fathers	3/261	1.1%	87/425	20.4%
other contacts	1/261	0.3%	26/425	6.1%
overall	7/261	2.6%	281/425	66.1%

Conclusions

- preliminary results suggest that a cocoon strategy is feasible at the ASL Napoli Centro 1.
- High acceptance rates can be reached providing that proper communication tools and enough FTEs of skilled HCPs are engaged in the interaction with the families.
- The results are in line with previous reports on implementation of cocoon in different health care settings
- This report is, to our knowledge, the first to document successful implementation of pertussis cocooning in an Italian hospital setting.