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*Increasing immunization coverage by strengthening the
decision-making process of parents through motivational
interviewing intervention in maternity wards:
The EMMIE program*

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Faculty/Presenter Disclosure

- **Faculty: Arnaud Gagneur**
- **Relationships with commercial interests:**

Potential for conflict(s) of interest: Not Applicable



The vaccine whisperers: Counselors gently engage new parents before their doubts harden into certainty

Eric Boodman, STATnews, August 5th 2019

The counselors are themselves a kind of prophylaxis. Their job is to ask about parents' worries long before anyone's trying to vaccinate their kids.

*"It might seem risky, not to challenge erroneous and potentially dangerous beliefs head-on. To Savard (Vaccination counsellor), though, the bigger risk is breaching the relationship of trust he's carefully built. As he put it, **"If you start judging parents' opinions, if you start contradicting what they've said, you've already lost them."** ...*

*"They talked for over an hour beside Tobie's bed. Gagneur (...) was honest, that he worried about unvaccinated children, but he didn't press her to make a decision: "I told her, 'I'll leave you to think about it.'" That felt foreign to her. "Once we were done, he told me that, whether I chose to vaccinate or not, he respected my decision as someone who wanted the best for my kids," she remembered. **"Just that sentence — to me, it was worth all the gold in the world."***

Vaccine hesitancy : The information paradox

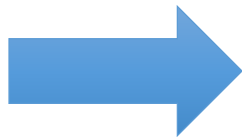
Traditional educational approach



Information, facts and education
alone do not change beliefs or behavior



- Give more facts about vaccines
- Give more facts about vaccine-preventable diseases
- Use prescriptive language
- Use fear-based tactics



Ineffective to address vaccine hesitancy

Worst: can back-fire and reinforce vaccine hesitancy

Sadaf F. Vaccine 2013

Kaufman J. et al., Cochrane Database of Systematic Reviews 2018

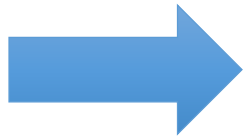
Nyhan B et al. Pediatrics. 2014

Dubé E. Clin Microbiol Infect. 2017

Vaccine hesitancy : The information paradox

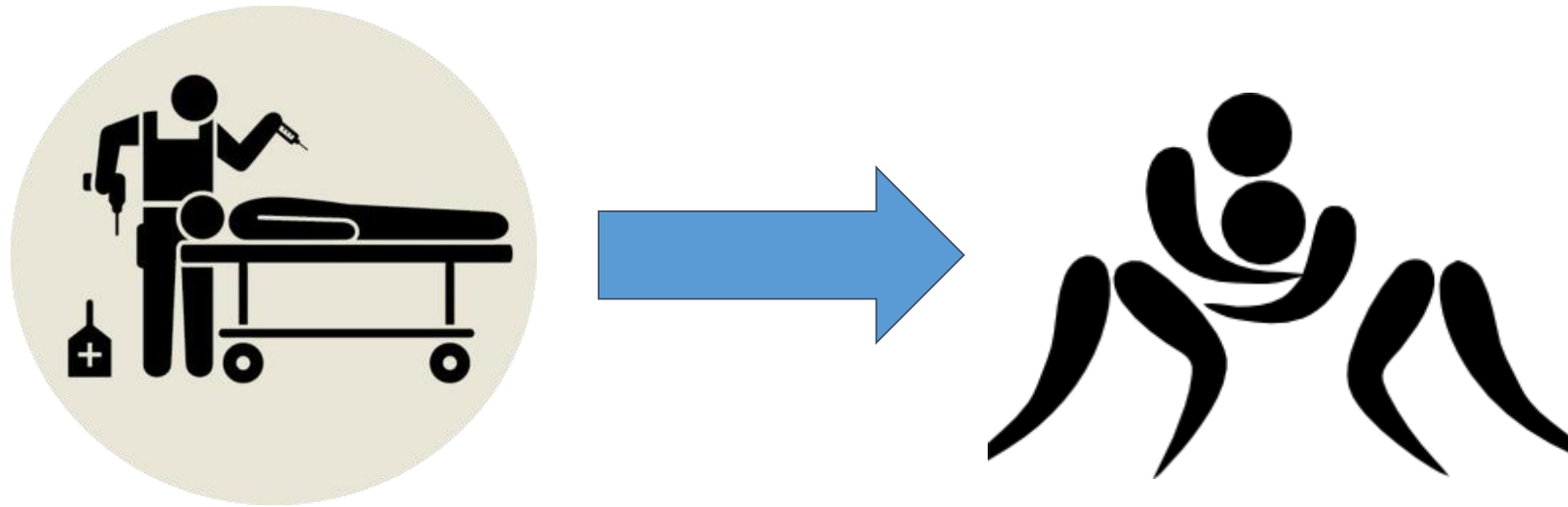
Parents' views and experiences of communication about routine childhood vaccination

- **Parents wanted more information than they were getting**
- Balanced information about vaccination benefits and harms
- Presented clearly and simply
- Tailored to their situation
- In good time



How do we overcome the challenge of providing adapted factual information on vaccination to parents ?

“Resistance” arises from interaction



When the person doesn't feel listened to, not understood and/or when their freedom to act or to think is threatened, the relationship becomes a struggle!

Clinicians often tend to want to “repair/restore/resolve” their clients’ problems.

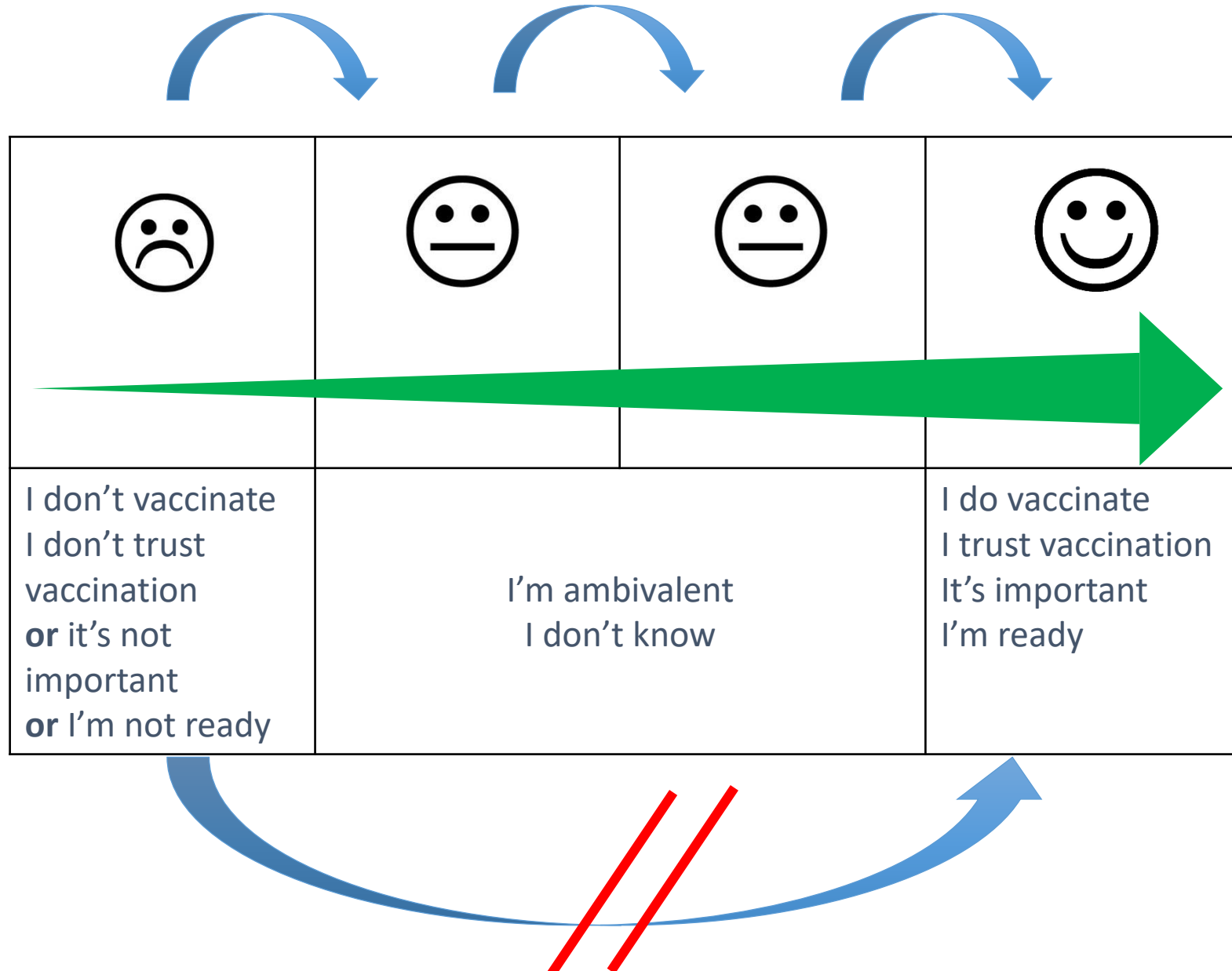
This is the *righting reflex*



THE RIGHTING REFLEX

- Tell the client how to behave
- Adopt an expert role
- **Argue** for the benefits of change
- Warn about **risks**
- **Culpabilize**
- Inform **without** asking **permission**
- Seek to **educate** the client
- Want to **convince**

A discussion about change : step by step ...



What allows people to change?



Importance
I want to change

Confidence in
my abilities

Deliberate choice
This is the good time

Change as a means
rather than a goal

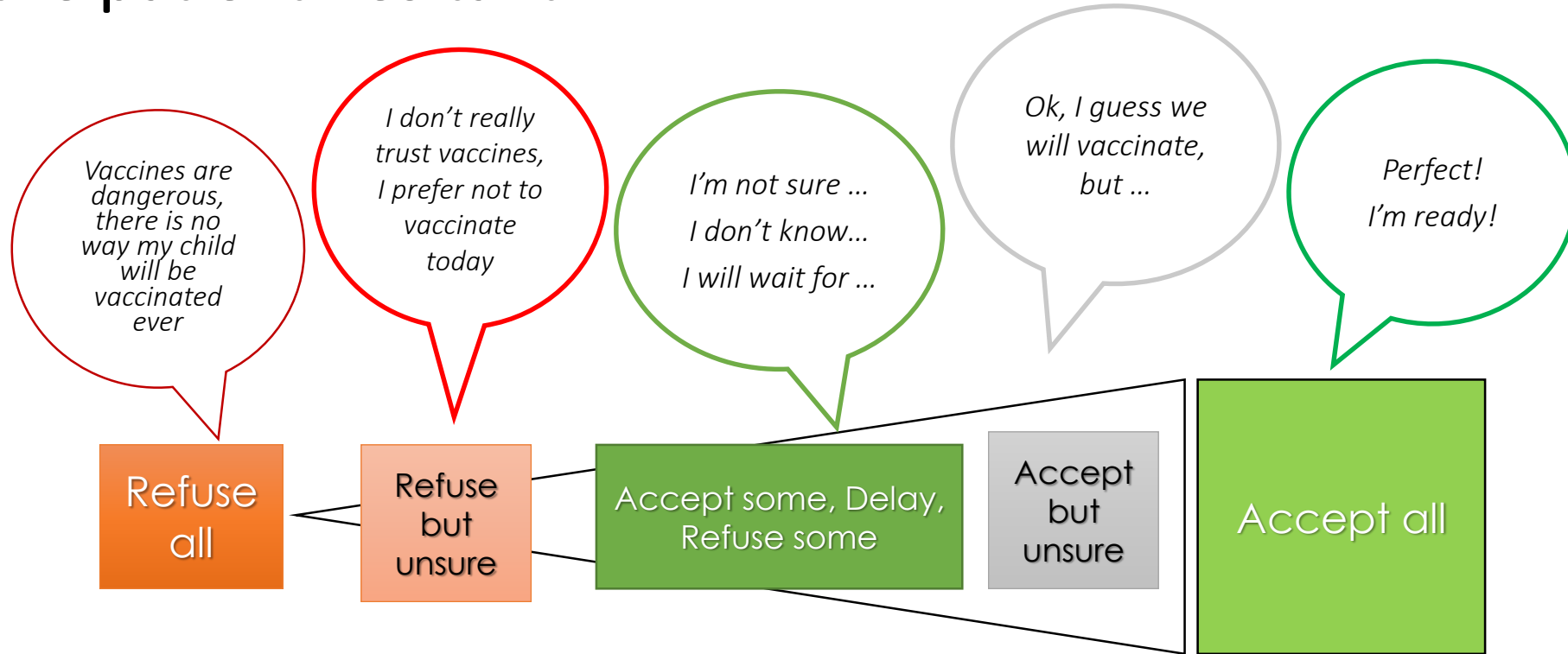
MOTIVATIONAL INTERVIEWING



One size
does **NOT**
fit all.



Is the patient hesitant?



The continuum of Vaccine Acceptance

Goal of intervention

Open discussion | **Planification of vaccines**

The PROMOVAC concept



Need for an early strategy of promoting vaccination to avoid delays in first vaccines

- First vaccines at 2 months of age
- Delays in first vaccines were associated with delayed or incomplete vaccination schedule in childhood
- Nurseries should be a place for an early strategy of promoting vaccination



Failure of traditional educational or information's strategies

Motivational Interviewing of Miller and Rollnick and trans-theoretical model of Prochaska should be adapted to vaccination promotion

The PromoVac strategy

To provide to parents an educational intervention at birth using a MI approach in order to increase vaccine acceptance

PromoVac studies

“PromoVac and PromoVaQ”

Assess the effectiveness of an information session targeting immunization based on motivational interviewing in nurseries on parental vaccination intention and hesitancy and vaccination coverage on infants

Gagneur et al. J Infect Dis Ther 2018

Gagneur et al. A postpartum vaccination promotion intervention using motivational interviewing techniques improves short-term vaccine coverage: PromoVac study. BMC Public health 2018

Gagneur et al. Promoting vaccination in the province of Québec: the PromoVaQ randomized controlled trial protocol. BMC Public Health 2019

Gagneur et al. Motivational interviewing: A promising tool to address vaccine hesitancy. Vaccine 2018

Lemaitre et al. Impact of a vaccination promotion intervention using motivational interview techniques on long-term vaccine coverage: the PromoVac strategy. Human Vaccin Immunother. 2019

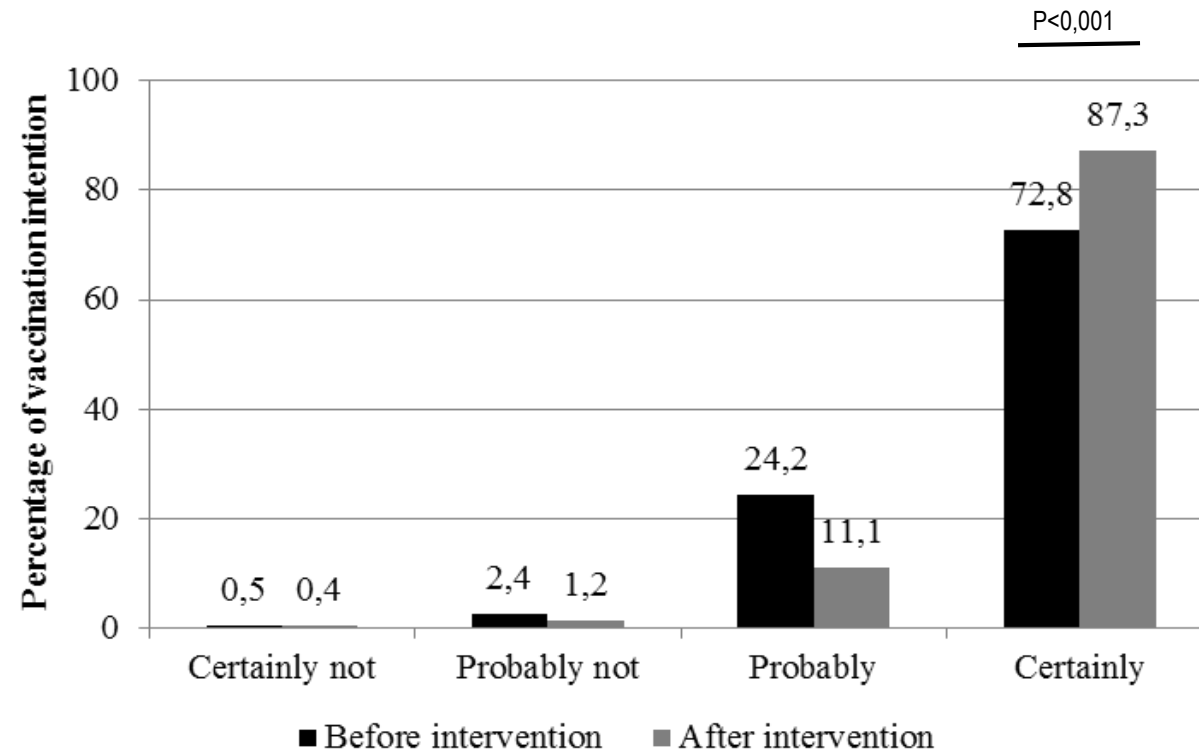
Gagneur et al. Promoting vaccination in maternity wards – motivational interview technique reduces hesitancy and enhances intention to vaccinate, results from a multicentre non-controlled pre- and post-intervention RCT-nested study. Eurosurveillance 2019

Gagneur A et al. A complementary approach to the vaccination promotion continuum: An immunization-specific motivational-interview training for nurses. Vaccine. 2019

Regional cohort study

Impact on parents' vaccination intention

Pre and post intervention parents' vaccination intention



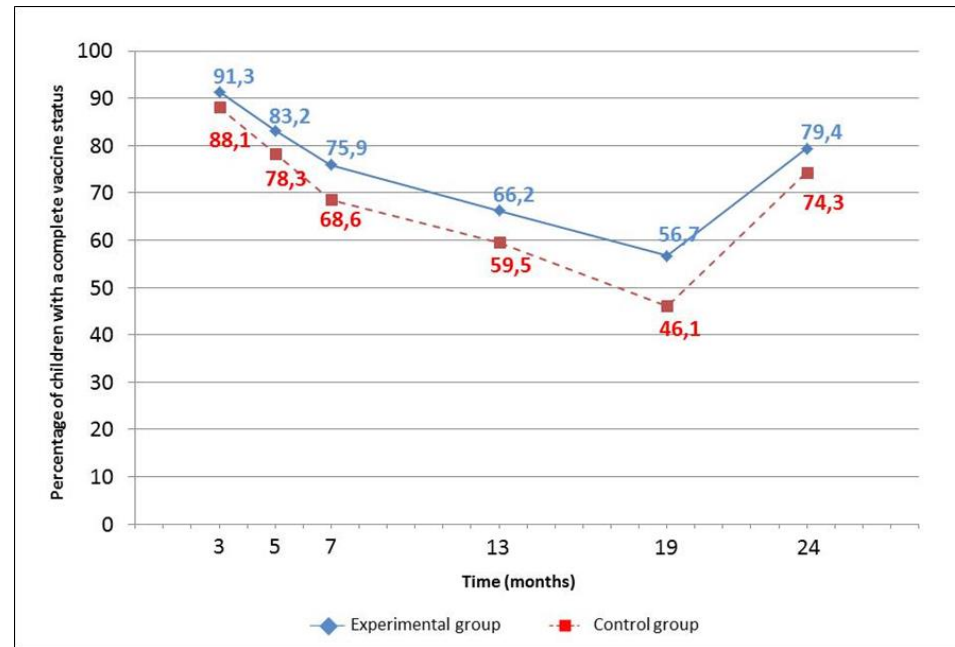
Impact on infants' vaccination coverage

Vaccination coverage (VC)	Expérimental Group	Control Group	Increase of VC (%)	p	RR (95% CI)
	n = 1140	n = 1249			
	n (%)	n (%)			
3 m	1041 (91,3)	1101 (88,1)	+3,2	0,01	1,04 (1,01-1,06)
5 m	948 (83,2)	978 (78,3)	+4,9	< 0,01	1.06 (1,02-1,10)
7 m	865 (75,9)	857 (68,6)	+7,3	< 0,001	1,11 (1,05-1,16)
13 m	755 (66,2)	743 (59,5)	+6,7	< 0,001	1,11 (1,05-1,18)
19 m	646 (56,7)	576 (46,1)	+10,6	< 0,0001	1,23 (1,14-1,33)
24 m	905 (79,4)	928 (74,3)	+5,1	< 0,01	1,07 (1,02-1,12)

Gagneur A et al. BMC Public Health 2018

Lemaitre et al. Human Vaccin Immunother 2019

Impact on 0-2 years infants' vaccination coverage

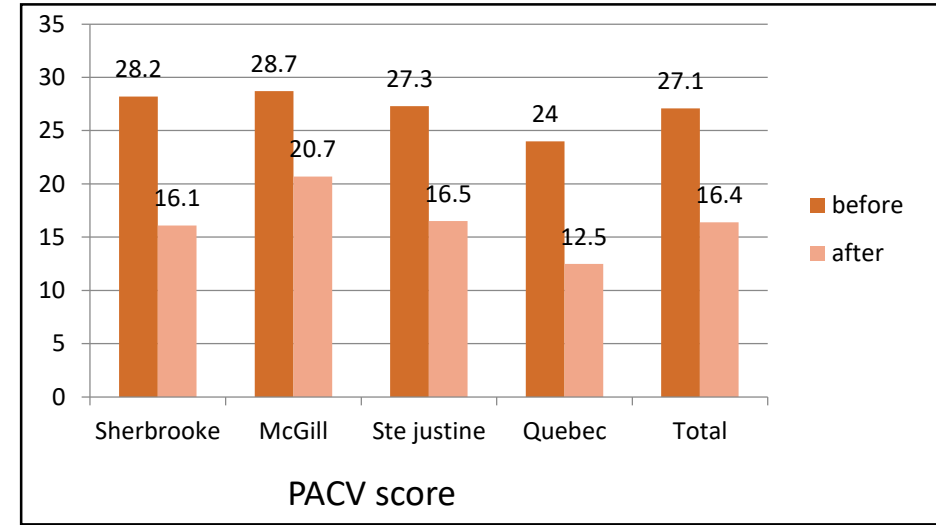
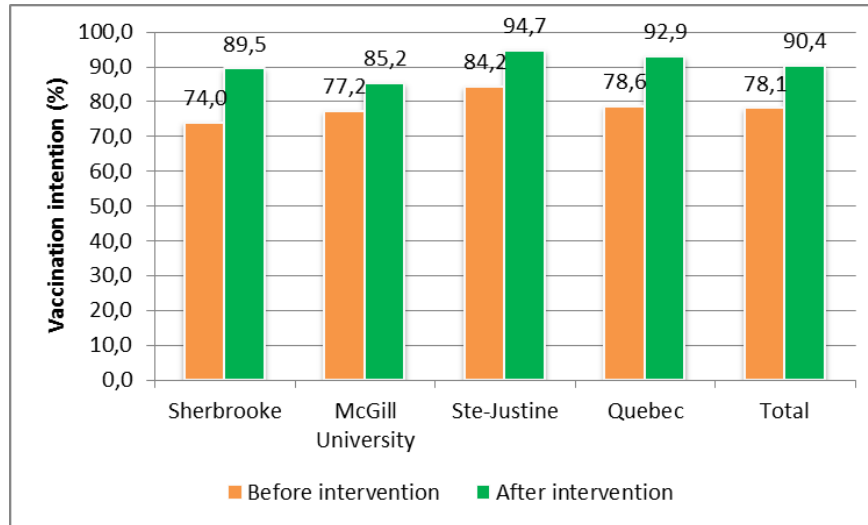


RR (95% CI)	<i>p</i>
1.09 (1.05-1.13)	<0.001

Univariate logistic regressions with repeated measures according to the Generalized estimating equations (GEE) procedure with Poisson distribution : To estimate the chance for a child to have a complete vaccine status during early childhood

Provincial RCT (n=2695)

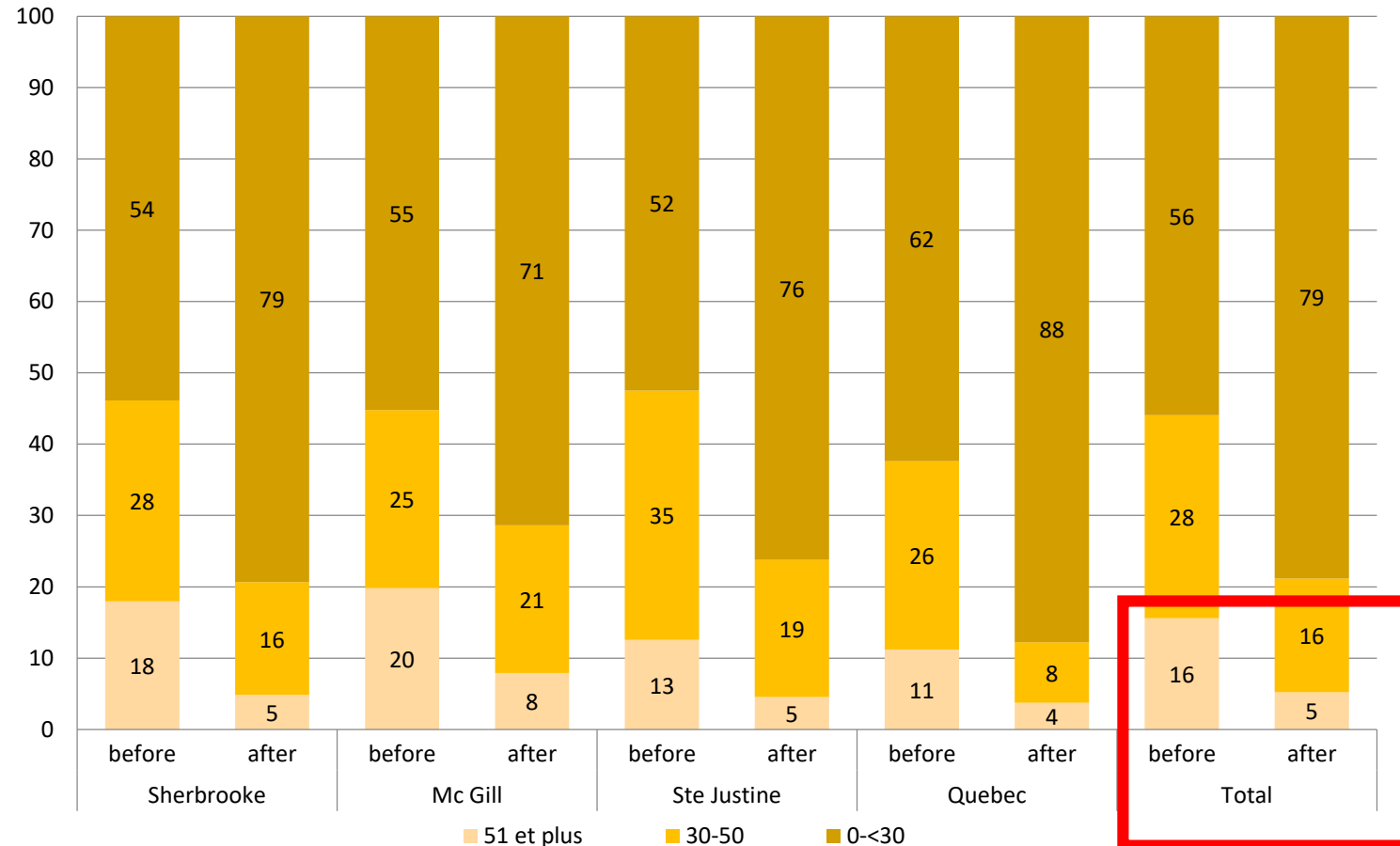
Impact on parents' vaccination intention and hesitancy



A significant increase in vaccination intention was observed in each center after the intervention, with a global increase of 12% ($p < 0.0001$).

A significant decrease in Opel's vaccine hesitancy score was also observed in each maternity ward after the intervention, with a global decrease of 40% ($p < 0.0001$).

Impact on parental vaccination hesitancy score



< 30 Low level of VH
 30-50 Intermediate level
 > 50 High level

Discussion-reflexions : What works ?

Which informations ? How to deliver informations ?

- Trustful relationship with HCWs
 - No conflict of interest with the counsellor
 - Spirit of MI
- Informations presented clearly and simply
 - Tailored informations
 - Adapted to the specific needs of each parent
 - MI skills
- Informations in a good time
 - 2 months before the first vaccine (time to take decision)



PROGRAMME **emmie**

ENTRETIEN MOTIVATIONNEL EN MATERNITÉ
POUR L'IMMUNISATION DES ENFANTS

Offer to all parents, during the stay in maternity wards, an open exchange on vaccination in order to provide the best protection while increasing immunization coverage for all children in Quebec.

EMMIE program

- Immunization Partnership Fund (IPF) : Subvention grants of 2-3M\$/year for projects aimed at improving vaccination coverage in Canada.
- Application of the Quebec Ministry of health to implement the PromoVac strategy in maternity wards in Quebec.
- EMMIE program phase 1
 - Funds (IPF 0.5 M\$ and MSSS 2 M\$/year)
 - Period 2017-2019
 - Maternity wards \geq 2500 annual births
 - 55% of Quebec annual births (45 000 neonates)
- EMMIE program phase 2 (2019-2021)
 - Implementation in all maternity wards in Quebec

EMMIE Evaluation program : Aims

- To assess implementation and impact of the program in real life
- Implementation science methodology (RE-AIM/CFIR)
- Vaccination counsellors
 - Specific immunization training
 - MI training
 - *Gagneur et al. A complementary approach to the vaccination promotion continuum: an immunization-specific motivational-interview training for nursing health professionals. Vaccine 2019*
 - *Gagneur et al. Development of motivational interviewing skills in immunization (MISI): a questionnaire to assess MI learning, knowledge and skills for vaccination promotion. Hum Vaccin Immunother. 2019 .*
- Specific aims
 - Description of the implementation of the program
 - Identification of barriers and facilitators of implementation
 - Assess the impact of the program on VI, VH score and VC



<https://www.statnews.com/2019/08/05/the-vaccine-whisperers-counselors-gently-engage-new-parents-before-their-doubts-harden-into-certainty/>

Results : *Reach* E-AIM

- Results of the evaluation will be soon published

Key points (1)



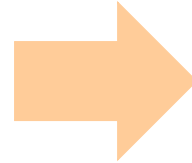
INDIVIDUALIZED APPROACH



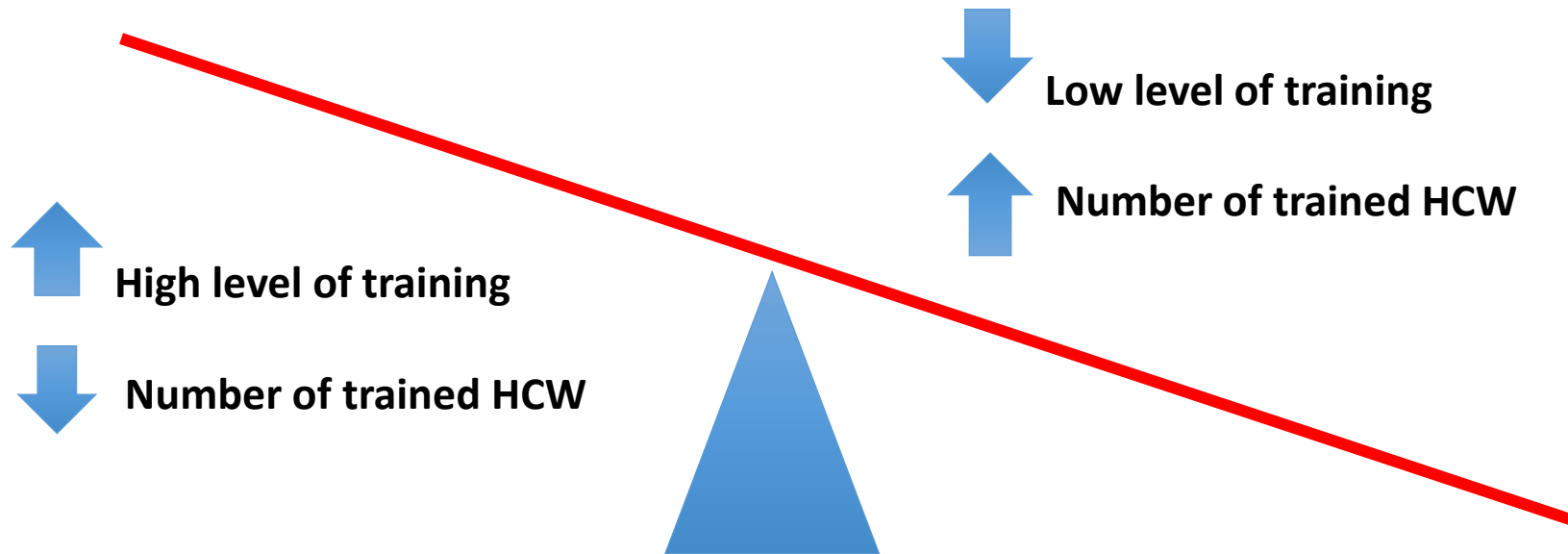
AUTONOMY APPROACH



HIGH TRAINED SELECTIVE HCW

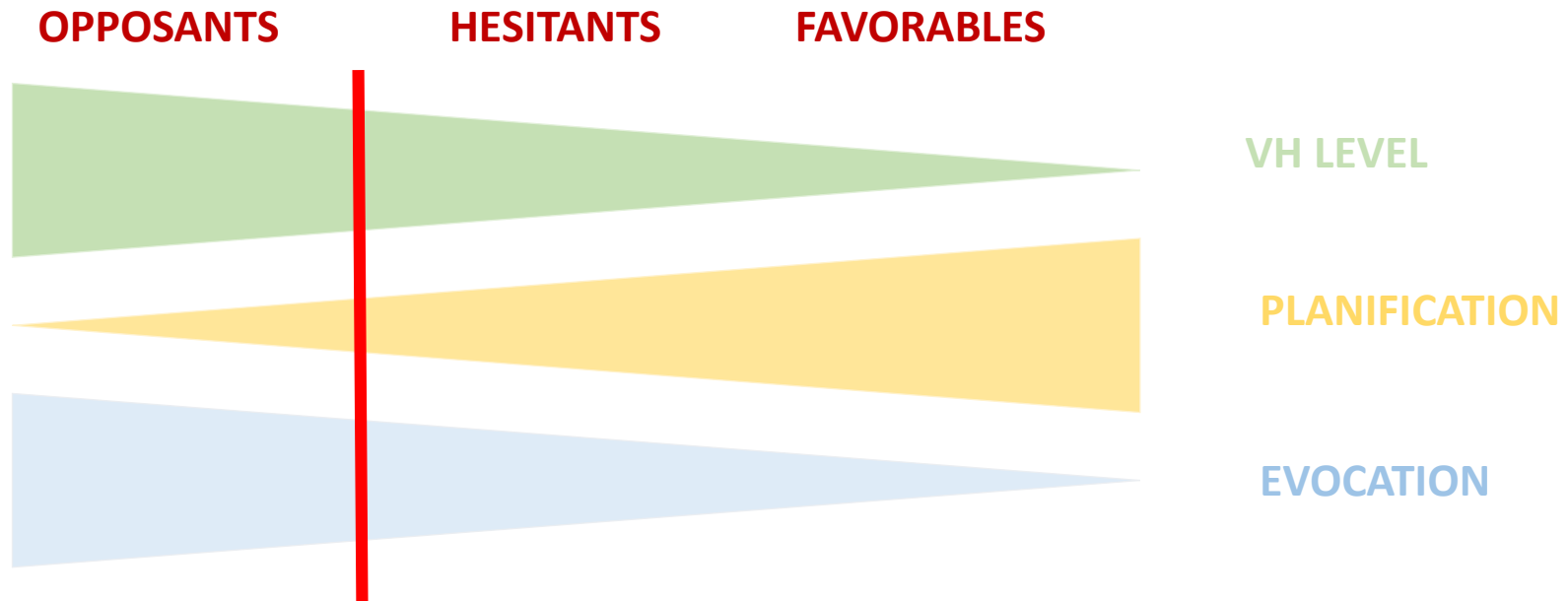


GLOBAL PUBLIC HEALTH IMPACT



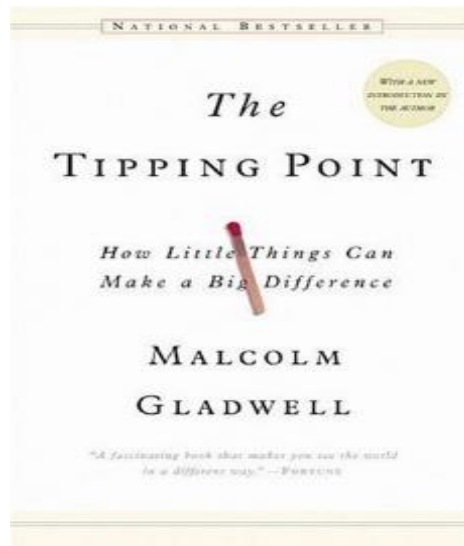
Key points (2)

ADAPTED IMMUNISATION-SPECIFIC MI



Perspectives

- Phase 2
 - ✓ Continue implementation in all maternity wards (65) in Québec (end in April 2021)
 - ✓ 200 vaccination counsellors in place
 - ✓ E-learning training with supervision
 - ✓ Maintain Virtual community of practices
- Change of vaccination perception in the population ?
 - 90 000 annual births 180 000 parents = 2% of Quebec population
 - The program could be reached 20% of the Quebec population in 10 years



Sufficient critical mass population to change the vaccination perception in Quebec ?

Herd immunity about vaccination perception ?

Inoculation against misinformations ?

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The art of persuasion is as much about agreeing as it is about convincing....

Blaise Pascal (1623-1662)