FACT SHEET | MARCH 2019
[*Translated and adapted from ORS PACA]

EVIDENCE-BASED INTERVENTIONS TO ENHANCE VACCINATION RATES

Community-based interventions

Client incentives and rewards

LEVEL OF EVIDENCE
Strong evidence of effectiveness in increasing vaccination rates
Moderate evidence of effectiveness in increasing vaccination rates
Insufficient evidence of effectiveness in increasing vaccination rates
Strong evidence of ineffectiveness in increasing vaccination rates

Incentives encourage people to receive the recommended vaccines, either for themselves or their loved ones, and may include rewards for accepting to vaccinate and/or penalties for refusing to. Rewards may be financial or non-financial (discount coupons for retailers, baby products, lottery tickets…). Penalties may take the form of fines or a decrease in welfare support.

Expected impact

Increase in vaccination rates.

Other possible impacts

There is not enough information on this question in the literature.

Review of evidence

Overview

There is insufficient evidence to assess the effectiveness of client incentives or rewards as a means to increase vaccination rates. Scientific literature has shown contradictory results, coming for the most part from studies with poor methodology. The authors of two meta-analyses (Giles et al. 2014; Stone et al. 2002) concluded that incentives to vaccinate are effective, contradicting the authors of three other systematic reviews (Adams et al. 2015; Briss et al. 2000; Wigham et al. 2014).

Several studies in Australia and the United States (Adams et al. 2015) have shown that vaccination incentives are considered unacceptable by the population, whether they take the form of rewards or penalties.

Effectiveness according to population subsets and vaccines

The majority of published studies did not deal with any group or vaccine in particular (Giles et al. 2014; Briss et al. 2000; Community Preventive Services Task Force 2015; Dubé et al. 2015).

The effectiveness of incentives on improving vaccination rates has been demonstrated for adults in a meta-analysis (Stone et al. 2002).

Data in the literature, however, provides insufficient information to judge the effectiveness of this type of intervention for young children (Adams et al 2015; Wigham et al. 2014) and the underprivileged (Briss et al. 2000).

Effectiveness according to means of intervention

Several interventions involving the delivery of discount coupons or lottery tickets as a reward for receiving vaccination have led to an increase in vaccination rates (Adams et al. 2015; Briss et al. 2000). Results are less convincing with regard to financial incentives (Dubé et al. 2015), sanctioning non-vaccination of children by welfare reduction, and multicomponent interventions with at least one incentive measure (Briss et al. 2000; Wigham et al. 2014).

The author of a meta-analysis has shown that the greater the compensation (financial or otherwise), the less of an effect the intervention had (Giles et al. 2014).

Cost-effectiveness questions

Client incentives or rewards for vaccination constitute one of the most costly strategies to increase vaccination rates, both in terms of cost per person per year, and cost per additional person (Jacob et al. 2016).

Promising interventions

Information on this aspect in the literature is currently insufficient.

Impact on inequalities

There is not enough information on this question in the literature.

Example

In 1991, a health centre in Boston (US) sent out a letter inviting all its at-risk patients (n=198) to get the influenza vaccine. This letter mentioned that those vaccinated would participate in a random draw in which three people would win a supermarket coupon. The evaluation showed that patients who received this letter were more likely to get vaccinated than those who received no intervention.

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References

- Adams, Jean, Belinda Bateman, Frauke Becker, Tricia Cresswell, Darren Flynn, Rebekah McNaughton, Yemi Oluboyede, et al. 2015. “Effectiveness and Acceptability of Parental Financial Incentives and Quasi-Mandatory Schemes for Increasing Uptake of Vaccinations in Preschool Children: Systematic Review, Qualitative Study and Discrete Choice Experiment”. Health Technology Assessment (Winchester, England) 19 (94): 1-176. doi:10.3310/hta19940.
- Briss, P. A., L. E. Rodewald, A. R. Hinman, A. M. Shefer, R. A. Strikas, R. R. Bernier, V. G. Carande-Kulis, H. R. Yusuf, S. M. Ndiaye, and S. M. Williams. 2000. “Reviews of Evidence Regarding Interventions to Improve Vaccination Coverage in Children, Adolescents, and Adults. The Task Force on Community Preventive Services”. American Journal of Preventive Medicine 18 (1 Suppl): 97-140.
- Community Preventive Services Task Force. n. d. “Vaccination Programs: Client or Family Incentive Rewards”. 2015. https://www.thecommunityguide.org/findings/vaccination-programs-client-or-family-incentive-rewards.
- Dubé, E., D. Gagnon, N.E. MacDonald, and SAGE Working Group on Vaccine Hesitancy. 2015. “Strategies Intended to Address Vaccine Hesitancy: Review of Published Reviews”. Vaccine 33 (34): 4191-4203. doi:10.1016/j.vaccine.2015.04.041.
- Giles, Emma L., Shannon Robalino, Elaine McColl, Falko F. Sniehotta, and Jean Adams. 2014. “The Effectiveness of Financial Incentives for Health Behaviour Change: Systematic Review and Meta-Analysis”. PloS One 9 (3): e90347. doi:10.1371/journal.pone.0090347.
- Jacob, Verughese, Sajal K. Chattopadhyay, David P. Hopkins, Jennifer Murphy Morgan, Adesola A. Pitan, and John M. Clymer. 2016. “Increasing Coverage of Appropriate Vaccinations”. American Journal of Preventive Medicine 50 (6): 797-808. doi:10.1016/j.amepre.2015.11.003.
- Moran, W. P., K. Nelson, J. L. Wofford, R. Velez, and L. D. Case. 1996. “Increasing Influenza Immunization among High-Risk Patients: Education or Financial Incentive?” The American Journal of Medicine 101 (6): 612-20. doi:10.1016/S0002-9343(96)00327-0.
- Stone, Erin G., Sally C. Morton, Marlies E. Hulscher, Margaret A. Maglione, Elizabeth A. Roth, Jeremy M. Grimshaw, Brian S. Mittman, Lisa V. Rubenstein, Laurence Z. Rubenstein, and Paul G. Shekelle. 2002. “Interventions That Increase Use of Adult Immunization and Cancer Screening Services: A Meta-Analysis”. Annals of Internal Medicine 136 (9): 641-51.
- Wigham, Sarah, Laura Ternent, Andrew Bryant, Shannon Robalino, Falko F. Sniehotta, and Jean Adams. 2014. “Parental Financial Incentives for Increasing Preschool Vaccination Uptake: Systematic Review”. Pediatrics 134 (4): e1117-1128. doi:10.1542/peds.2014- 1279.

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This study's objectives were to help actors and decision-makers identify their territory's strengths and weaknesses with the help of synthetic indicators on the state of health and its determinants (available in SIRSéPACA) and to go from observation to action, through guiding them in the choice of actions to put in place. This study built on the American experience, *County Health Rankings and Roadmaps* (**www.countyhealthrankings.org**).

On the choice of actions to implement, bibliographic research was undertaken using different databases (Cochrane Library, Health Evidence, The Community Guide, Medline…). This permitted the identification of three main types of interventions (interventions to increase community demand for vaccination, to enhance access to vaccine services or provider-based interventions). The effectiveness of these interventions was evaluated in accordance with the number, type and methodological quality of studies available, as well as the breadth and coherence of the results (Briss P et al. *Developing an evidence-based Guide to Community Preventive Services-methods*. Am J Prev Med 2000;18(1S):35-43).

Ten themed fact sheets oriented to the principal types of interventions in the field of vaccination were written. All documents are available on the website of the System of Regional Health Information PACA (www.sirsepaca.org).

TYPE OF INTERVENTIONS	FACT SHEETS
Interventions to increase community demand for vaccination	Client-based written education interventions when used alone Person-to-person interactions Mass media campaigns Multicomponent interventions with at least one education / information component **Client incentives and rewards** Reminder and recall systems for clients
Interventions to enhance access to vaccine services	Home visits
Provider-based interventions	Reminder and recall systems for providers Audit and feedback Standing orders

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Editorial Committee/Supervision
Aurélie Bocquier, Hélène Dumesnil, & Pierre Verger (ORS Paca)

English translation
John-Samuel MacKay & Dominique Gagnon

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