Les comportements de prévention des risques infectieux : déterminants motivationnels et contextuels

Journée des Hygiénistes des Pays de la Loire

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LES CADRES THÉORIQUES DES COMPORTEMENTS HUMAINS FACE AUX RISQUES

2

Les premières recherches

- ***Le « fiasco » du vaccin contre la grippe H1N1***

(1976, Etats-Unis) : Le décès d'un soldat à Fort Dix (N.J.) est à l'origine d'une campagne de vaccination sans précédent... qui est rapidement interrompue en raison d'une « épidémie » de syndromes de Guillain-Barré.

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Les déterminants psychosociaux

MEDICAL CARE
June 1979, Vol. XVII, No. 6

Psychosocial De
Behavior in a S

K. MICHAEL CUMMINGS, I
BRUCE M. BROCK, M.

**A prospective design was u
als to receive vaccination in
influenza in the fall and wint
survey of 286 adults in Oak
cluded Health Belief Model (
intention, social influence, pl
experience with flu shots. I
variance in inoculation beha
analysis revealed that most o
mediated through behaviora
important predictor of inocula
significant role in explaining**

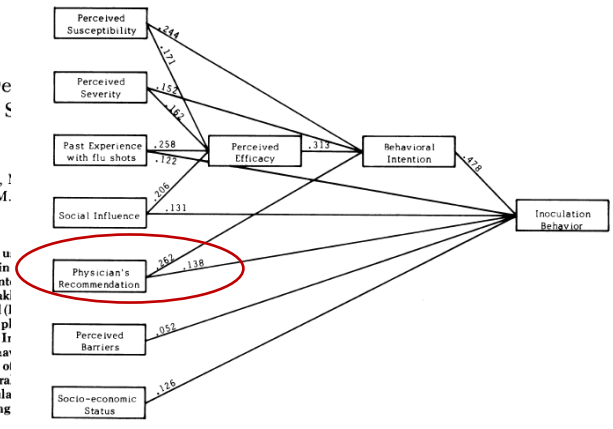

FIG. 1. Path diagram of the standardized direct and indirect effects of selected psychosocial variables on inoculation behavior.

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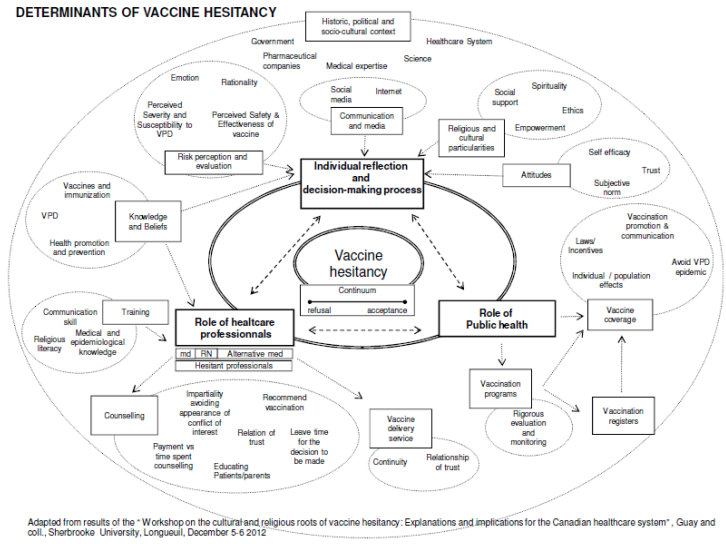
Les déterminants de l'acceptabilité vaccinale



Source : WHO, Report of the Sage Working Group on Vaccine Hesitancy, 2014

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Les résultats des études internationales

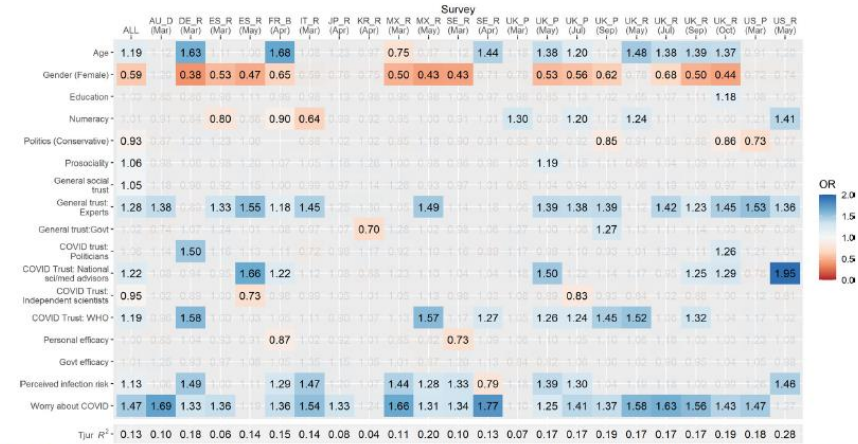

Figure 2 Correlates of vaccine acceptance. Heat map of ORs in multivariate logistic regression model predicting stated

Kerr JR, Schneider CR, Recchia G, *et al*. Correlates of intended COVID-19 vaccine acceptance across time and countries: results from a series of cross-sectional surveys. *BMJ Open* 2021;11:e048025

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COMMENT ENCOURAGER LES PERSONNES À SE FAIRE VACCINER ?

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La communication : un espoir déçu ?

"In my view, this is **a new communications challenge that we may need to address**. As the items on your agenda show, persuading people to adopt healthy behaviours is **one of the biggest challenges in public health**."

Margaret Chan, DG of the WHO (2010), *Progress in public health during the previous decade and major challenges ahead.*

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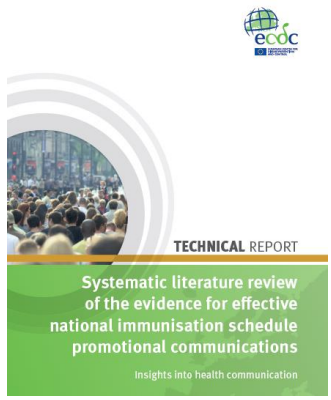
La communication : un espoir déçu ?



« **This review**, in line with a substantial body of existing research, **found no evidence that improved knowledge resulted in improved vaccine uptake or even intention** to be vaccinated. »

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Pourquoi l'information et la communication publique ne suffisent-elle pas à changer les comportements ?

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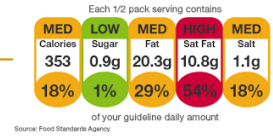
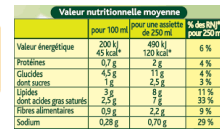
Les limites de la communication en santé publique :

La communication du risque en santé publique repose dans une large mesure sur des concepts probabilistes et statistiques :

- Fréquences absolues, fréquences relatives, fréquences cumulées des évènements, etc.
- Risques absolus, risques relatifs, probabilités conditionnelles, balance risque/bénéfice, etc.
- Espérance de vie, espérance de vie en bonne santé, etc.
- Mortalité, surmortalité, morbidité, etc.
- Apports nutritionnels, apports caloriques (par portion ou sur 100 grammes)





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Les limites de la communication en santé publique :

Les gens comprennent-ils les concepts statistiques ?

- Imaginons qu'un dé soit lancé 1000 fois. Selon vous, combien de fois le dé devrait-il tomber sur un nombre pair (c'est-à-dire sur 2, 4 ou 6) ?
- Dans une loterie organisée par un concessionnaire automobile, les chances de gagner une voiture sont de 1 sur 1000. Quel est le pourcentage des tickets distribués par le concessionnaire qui sont des tickets gagnants ?
- Parmi les chiffres suivants, quels est – selon vous – celui qui représente le risque le plus élevé de contracter une maladie donnée ? 1 sur 100, 1 sur 1000, 1 sur 10
- Si la probabilité de contracter une maladie donnée au cours de sa vie est de 10 %, sur 1000 personnes, combien d'entre elles devraient contracter cette maladie au cours de leur vie ?

Source : Echelle de numératie en santé de Lipkus et col. (2001)

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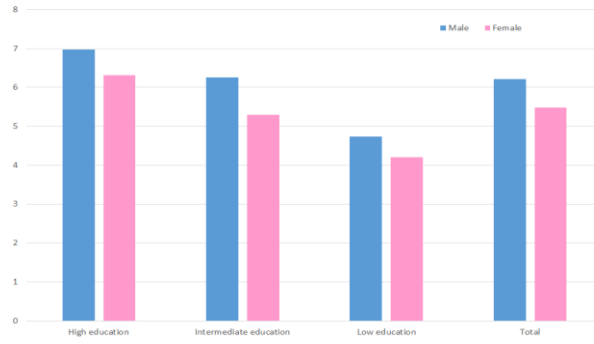
Les limites de la communication en santé publique :

Ces concepts sont en réalité très mal compris d'une majorité des français !

Test de numératie en santé de Lipkus chez les français adultes (*N* = 3 245)



Raude, J., Xiao, C., & Crépey, P. (2023). Revisiting the primary bias: the role of innumeracy in the misperception of prevalence of chronic illnesses. *Journal of Risk Research*, *26*(1), 64-82.

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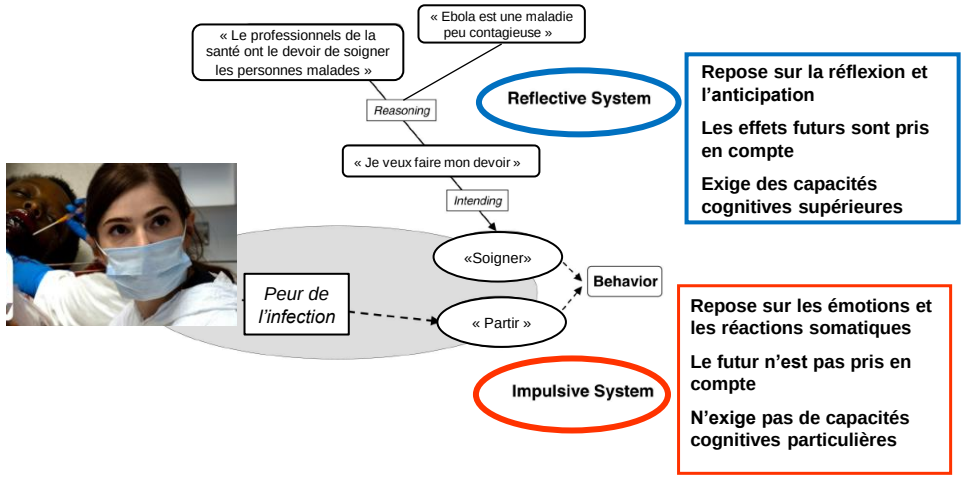
Le système dual de prise de décision face aux risques



Adapté de Strack & Deutsch 2004

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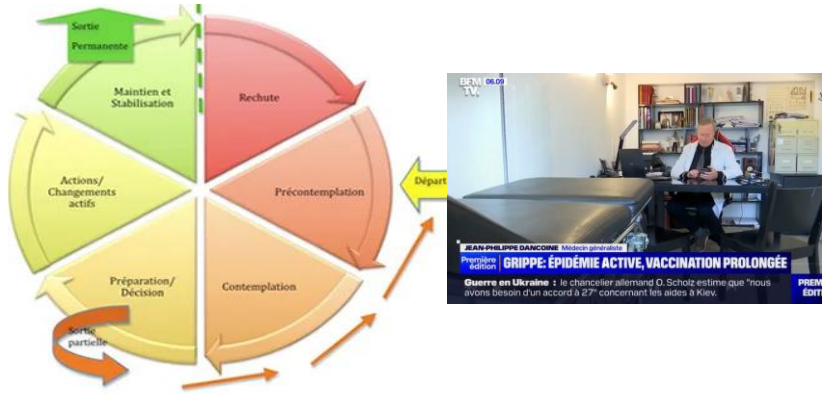
Les limites de la communication en santé publique :

Le changements de comportement est un processus long !



J. O. Prochaska, C. C. DiClemente et G. C. Norcross, « In search of How People Change: Applications to addictive behaviors », *American Psychologist*, 1992.

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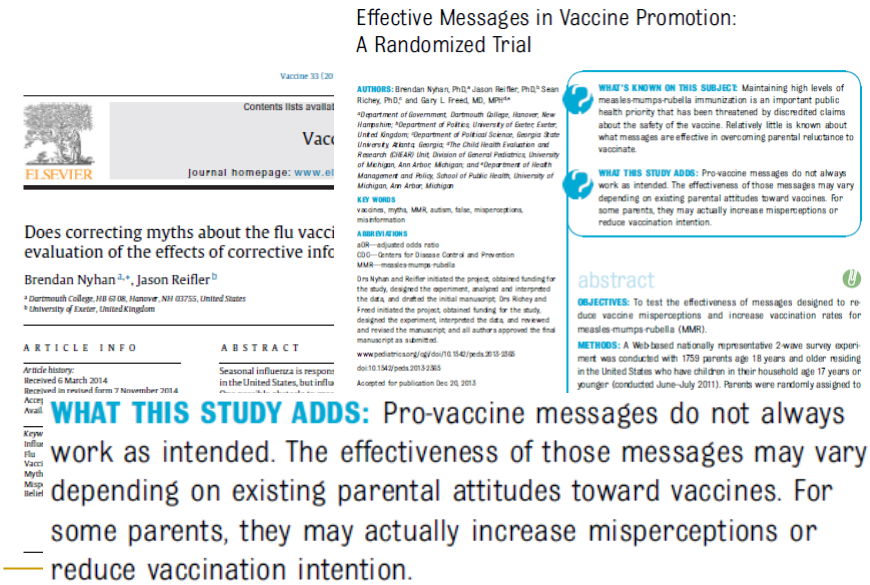
Les INPs peuvent-elle avoir des effets secondaires?


Effective Messages in Vaccine Promotion:
A Randomized Trial

Vaccine 33 (20

Contents lists availat

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journal homepage: www.el

Does correcting myths about the flu vacci
evaluation of the effects of corrective infc

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ABSTRACT

Seasonal influenza is respons
in the United States, but influ

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KEY WORDS
vaccines, myths, MMR, autism, false, misperceptions, misinformation

ABBREVIATIONS
aOR—adjusted odds ratio
CDC—Centers for Disease Control and Prevention
MMR—measles-mumps-rubella

Drs Nyhan and Reifler initiated the project, obtained funding for the study, designed the experiment, analyzed and interpreted the data, and drafted the initial manuscript; Drs Richey and Freed initiated the project, obtained funding for the study, designed the experiment, interpreted the data, and reviewed and revised the manuscript; and all authors approved the final manuscript as submitted.

www.pediatrics.org/cgi/doi/10.1542/peds.2013-2365

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Accepted for publication Dec 20, 2013

WHAT'S KNOWN ON THIS SUBJECT: Maintaining high levels of measles-mumps-rubella immunization is an important public health priority that has been threatened by discredited claims about the safety of the vaccine. Relatively little is known about what messages are effective in overcoming parental reluctance to vaccinate.

WHAT THIS STUDY ADDS: Pro-vaccine messages do not always work as intended. The effectiveness of those messages may vary depending on existing parental attitudes toward vaccines. For some parents, they may actually increase misperceptions or reduce vaccination intention.

abstract

OBJECTIVES: To test the effectiveness of messages designed to reduce vaccine misperceptions and increase vaccination rates for measles-mumps-rubella (MMR).

METHODS: A Web-based nationally representative 2-wave survey experiment was conducted with 1759 parents age 18 years and older residing in the United States who have children in their household age 17 years or younger (conducted June–July 2011). Parents were randomly assigned to

WHAT THIS STUDY ADDS: Pro-vaccine messages do not always work as intended. The effectiveness of those messages may vary depending on existing parental attitudes toward vaccines. For some parents, they may actually increase misperceptions or reduce vaccination intention.

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Quelles adaptations face aux risques ?

Les deux principaux types d'adapation (coping) face aux risque sanitaires :

Les ajustements cognitifs et comportementaux **centrés sur la résolution de la menace** (par exemple : recherche de soutiens et d'informations, changement de comportements, accroissement de la coopération, etc.)

Les ajustements cognitifs et comportementaux **centrés sur la perception de la menace** (par exemple : déni et minimisation du risque, production de récits alternatifs, recherche de bouc-émissaire, etc.)

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Quelles stratégies de changement de comportements ?

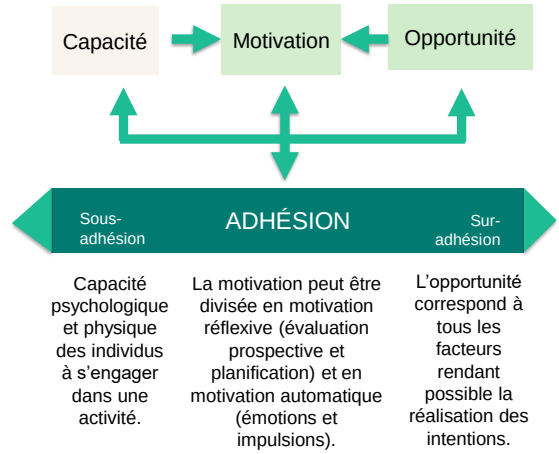
18

Comment favoriser l'adoption de comportements de prévention en situation épidémique ou endémique ?

Pour les psychologues de la santé, l'adoption d'un comportement favorable à la santé résulte pour l'essentiel de la combinaison de trois principaux facteurs:

1) sa capacité à agir,
2) sa motivation à agir
3) ses opportunités à agir

Un modèle a été conçu dans cet objectif :



West R., Michie S., Rubin GJ., Amlôt R., West R., *et al.* "Applying principles of behaviour change to reduce SARS-CoV-2 transmission", *Nat Hum Behav*. 2020 May;4(5):451-459. doi: 10.1038/s41562-020-0887-9

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Le renforcement des capacités mentales et physiques

Prévention active

(Système Réflexif)

Diffuser de l'information

- Education à la santé
- Information personnalisée (bio-marqueurs)

Renforcer l'auto-régulation

- Définir et atteindre des objectifs (*ex : sevrage tabagique)*
- Développer les compétences et les aptitudes *(ex : cuisine)*

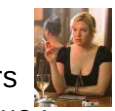
Prévention passive

(Système automatique)

Modifier l'environement
("Choice Architecture")

- Environnement physique : urbanisme, logements, magasins, cafés, bars, off alimentaire, accès à l'alco et au tabac
- Environnement social : Normes sociales et valeurs
- Environnement économique : prix, taxes, subventions



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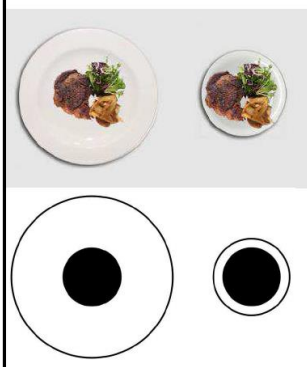
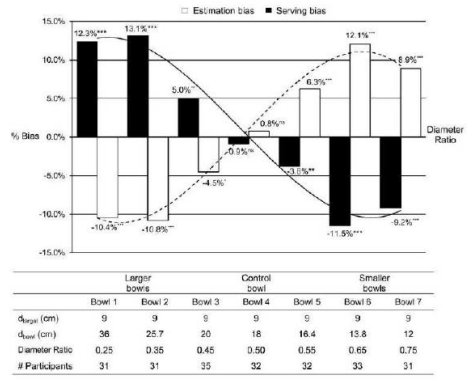
Etude 2. Assiette [van Ittersum & Wansink, 2011]

Pourquoi se sert-on plus dans une grande assiette ?

FIGURE 4

ESTIMATION AND SERVING BIASES AS A FUNCTION OF THE DIAMETER RATIO OF THE TARGET SERVING SIZE AND BOWL SIZE





	Larger bowls		Control bowl		Smaller bowls		
	Bowl 1	Bowl 2	Bowl 3	Bowl 4	Bowl 5	Bowl 6	Bowl 7
d_{target} (cm)	9	9	9	9	9	9	9
d_{bowl} (cm)	36	25.7	20	18	16.4	13.8	12
Diameter Ratio	0.25	0.35	0.45	0.50	0.55	0.65	0.75
# Participants	31	31	35	32	32	33	31

NOTE.—The asterisks in the figure show whether the bias is significant ($\neq 0$); * $p < .10$; ** $p < .05$; *** $p < .01$.

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Les interventions fondées sur l'architecture des choix en santé publique

Les nudges immatériels (ou informationnels)

Accès limité à des informations pertinentes	**Capacités limitées à évaluer et comparer les options disponibles**	**Attention limitée aux informations disponibles**
↓	↓	↓
Accroitre la disponibilité, la compréhensibilité et la pertinence des informations	**Faciliter le choix des options favorables en agissant sur le contexte ou le format de la prise de décision**	**Combattre l'inattention et stimuler les ressources attentionnelles**

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Accroitre la disponibilité, la compréhensibilité et la pertinence des informations

L'utilisation de système d'informations nutritionnelles simplifiées

Nutriscore

SENS

Modified Reference Intakes

Multiple Traffic Lights

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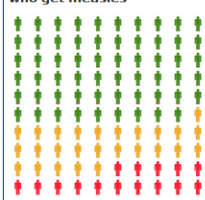
Accroitre la disponibilité, la compréhensibilité et la pertinence des informations

L'utilisation des fréquences naturelles

Potential risks in a group of 100 children under 5 years of age who get measles	Potential risks in a group of 100 children who have the MMR vaccine
	
Most children will have the common and usually mild **(in green)** symptoms of measles e.g. fever, cough, runny nose, red, painful eyes, rash. Some may have more than one of these symptoms at the same time.	Most will have common and usually mild **(in green)** symptoms of the MMR vaccine e.g. pain or swelling at the injection site, joint pain and stiffness. Some may have more than one of these symptoms at the same time.
26 in 100 may have moderate **(in yellow)** symptoms • **12** may have diarrhoea • **14** may get an ear infection	**14** in 100 may have moderate **(in yellow)** symptoms • **4** may have high fever • **4** may be irritable • **1** may have swelling of salivary glands • **5** may have a non-infectious faint red rash

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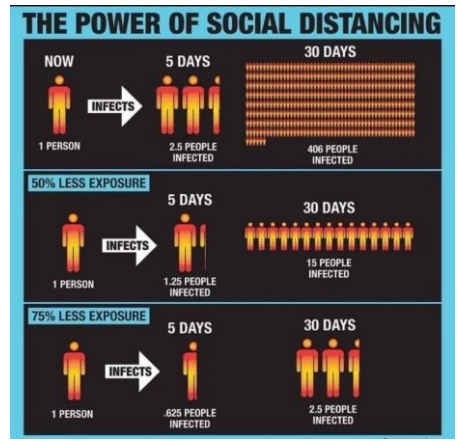
Accroitre la disponibilité, la compréhensibilité et la pertinence des informations

L'utilisation des fréquences naturelles



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Faciliter la prise de décision

L'utilisation d'options par défaut

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Combattre l'inattention

ORIGINAL CONTRIBUTION

Scan for Author Video Interview

Effect of a Text Messaging Intervention on Influenza Vaccination in an Urban, Low-Income Pediatric and Adolescent Population

A Randomized Controlled Trial

Melissa S. Stockwell, MD, MPH
Elyse Olshen Kharbanda, MD, MPH
Raquel Andres Martinez, PhD
Celibell Y. Vargas, MD
David K. Vawdrey, PhD
Stewin Camargo, BS

Context Influenza infection results in substantial costs, morbidity, and mortality. Vaccination against influenza is particularly important in children and adolescents who are a significant source of transmission to other high-risk populations, yet pediatric and adolescent vaccine coverage remains low. Traditional vaccine reminders have had a limited effect on low-income populations; however, text messaging is a novel, scalable approach to promote influenza vaccination.

Objective To evaluate targeted text message reminders for low-income, urban parents to promote reciept of influenza vaccination among children and adolescents.

Design, Setting, and Participants Randomized controlled trial of 9213 children and adolescents aged 6 months to 18 years receiving care at 4 community-based clinics in the United States during the 2010-2011 influenza season. Of the 9213 children and adolescents, 7574 had not received influenza vaccine prior to the intervention start date and were included in the primary analysis.

TIMELY VACCINATION IS THE CORnerstone of influenza prevention through vaccination of susceptible populations before illness becomes epidemic in communities.[1] The effectiveness of the influenza vaccine in children and adolescents ranges from 66% to 95%, depending on age, vaccine type, and season.[2,3] Despite the availability of ef-

Conclusions Among children and adolescents in a low-income, urban population, a text messaging intervention compared with usual care was associated with an increased rate of influenza vaccination. However, the overall influenza vaccination rate remained low.

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Combattre l'inattention

A 680,000-person megastudy of nudges to encourage vaccination in pharmacies

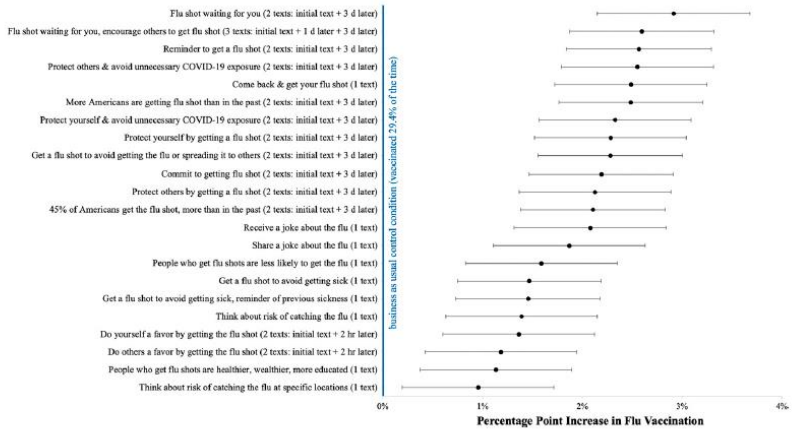

Fig. 1. Regression-estimated impact of each of our megastudy's 22 intervention conditions on flu vaccine uptake at Walmart by December 31st, 2020. Whiskers depict 95% CIs without correction for multiple comparisons.

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Cartographie des preuves par type d'intervention et de comportement

The effectiveness of nudging: A meta-analysis of choice architecture interventions across behavioral domains

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[a]Swiss Center for Affective Sciences, University of Geneva, CH-1202 Geneva, Switzerland; and [b]Department of Psychology, University of Geneva, CH-1205 Geneva, Switzerland

Edited by Susan Fiske, Psychology Department, Princeton University, Princeton,

Over the past decade, choice architecture interventions or so-called nudges have received widespread attention from both researchers and policy makers. Built on insights from the behavioral sciences, this class of behavioral interventions focuses on the design of choice environments that facilitate personally and socially desirable decisions without restricting people in their freedom of choice. Drawing on more than 200 studies reporting over 450 effect sizes (n = 2,149,683), we present a comprehensive analysis of the effectiveness of choice architecture interventions across techniques, behavioral domains, and contextual study characteristics. Our results show that choice architecture interventions overall promote behavior change with a small to medium effect size of Cohen's d = 0.45 (95% CI [0.39, 0.52]). In addition, we find that the effectiveness of choice architecture interventions varies significantly as a function of technique and domain. Across behavioral domains, interventions that target the organization and structure of choice alternatives (decision structure) consistently outperform interventions that focus on the description of alternatives (decision information) or the reinforcement of behavioral intentions (decision assistance). Food choices are particularly responsive to choice architecture interventions, with effect sizes up to 2.5 times larger than those in other behavioral domains. Overall, choice architecture interventions affect behavior relatively independently of contextual study characteristics such as the geographical location or the target population of the intervention. Our analysis further reveals a moderate publication bias toward positive results in the literature. We end with a discussion of the implications of our findings for theory and behaviorally informed policy making.

choice architecture | nudge | behavioral insights | behavior change | meta-analysis

we find that the effectiveness of choice architecture interventions **varies significantly as a function of technique and domain**. Across behavioral domains, interventions that target the organization and structure of choice alternatives (**decision structure**) consistently outperform interventions that focus on the description of alternatives (**decision information**). **Food choices are particularly responsive** to choice architecture interventions, with effect sizes up to 2.5 times larger than those in other behavioral domains. Overall, choice architecture interventions **affect behavior relatively independently of contextual study characteristics such as the geographical location or the target population of the intervention**.

pandemic or climate change. Choice architecture interventions aim to nudge people toward personally and socially desirable behavior through the design of choice environments.

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LA COMMUNICATION INTERPERSONNELLE EST ELLE EFFICACE EN MATIÈRE DE VACCINATION ?

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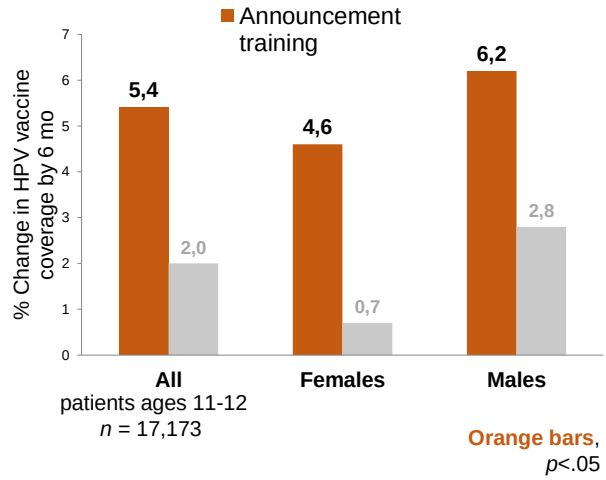
Accroitre les opportunités à la vaccination



Brewer, et al., 2017, *Pediatrics*

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Quelles solutions pour promouvoir la vaccination ?

- Population cible : sujets de plus de 64 ans non vaccinés contre les infections à pneumocoque
- Recrutement : consultation aux urgences (tout motif) dans 18 centres hospitaliers répartis sur le territoire national
- Méthode d'intervention : essai clinique randomisé par grappe
  - Taille finale de l'échantillon : 1475 individus
- Type d'intervention : intervention brève (recommandation de l'urgentiste à se faire vacciner contre la grippe et le pneumocoque + remise d'une lettre à l'attention du médecin généraliste + 3 rappels SMS)
- Evaluation post-intervention : entretien par téléphone 6 mois après le passage aux urgences pour évaluer le suivi ou non des recommandations

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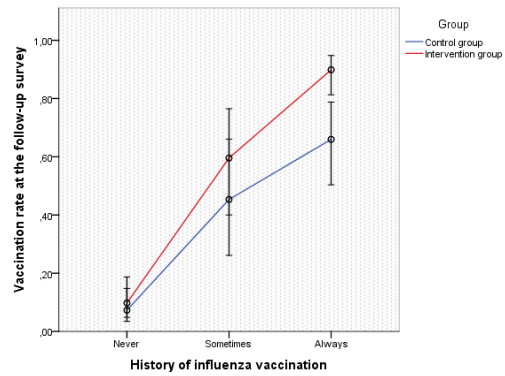
Accroitre les opportunités à la vaccination

Les recommendations des médecins sont efficaces…



… mais surtout sur les patients les moins hésitants !

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En conclusion : quelles recommandations ?

1. **Continuer à tester des interventions brèves** dans le cadre d'expériences naturelles (notamment pour savoir qui est (in)sensible à ces interventions et pourquoi ?).
2. **Ne pas trop compter sur les effets d'une communication publique verticale et impersonnelle** pour promouvoir efficacement les changements de comportement.
3. **Privilégier la communication interpersonnelle** – notamment en formant les professionnels de la santé – pour promouvoir la vaccination
4. **Concentrer les efforts de persuasion** sur les personnes hésitantes (laisser les opposants tranquilles)
5. **Mobiliser des stratégies de prévention fondée sur les preuves**.

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