Designing information campaigns to increase adoption of healthy behaviors

Last updated: □□□□□ 2021

Accurate information can help people determine which behaviors lead to improved health outcomes, but information alone is not necessarily sufficient to motivate adoption of these behaviors. When the primary barrier to the adoption of a healthy behavior is lack of awareness, information that is framed in a specific and actionable way, conveyed through effective messengers or spread through technology platforms, can be particularly effective. When the cost or the effort required to adopt a behavior is a concern, it may be necessary to also provide incentives or income support in the form of cash transfers.



Photo: Jonathan Torgovnik | Getty Images/Images of Empowerment

Summary

People often do not seek out health services, even when those services are readily accessible, or adopt behaviors that could improve their health. In some cases, this is due to lack of accurate information, the information not being salient, mistrust of the health system, or lack of confidence that the behavior could be effective. When one or more of these challenges are present, information provision might be effective at increasing use of services.

A review of 34 studies from low-, middle-, and high-income countries demonstrates that information is necessary for motivating behavior change, but it is not necessarily sufficient. The framing of information, the messenger, and the platform through which the information is conveyed can each play a role in whether the information influences an individual to take up healthy behaviors.

Policymakers who are seeking to encourage healthier behavior in contexts where a gap in knowledge is a primary barrier should consider implementing information campaigns. Campaigns that contain actionable and specific messages, are disseminated through influential messengers or peers, and/or spread through wide-reaching platforms have been shown to be particularly

effective. However, if take-up of the desired behavior incurs financial or nonfinancial costs, it may be necessary to accompany the information with material support to reduce barriers to access, including small financial or nonfinancial incentives or income support.

Supporting evidence

Providing information with no recommendations on behaviors to adopt or urging individuals to change their behavior without providing information are often ineffective. Many behavior change campaigns and policies such as nutrition labeling on food packaging are grounded in the premise that providing information leads to heightened awareness and behavior change. However, in some contexts, including four studies[5], [21], [27], [31], out of five reviewed here,[5], [21], [24], [27], [31], simply providing information without concrete recommendations appears ineffective. For instance, in Hong Kong, male truck drivers who received information on HIV prevention without additional voluntary counseling and testing (VCT), which included specific recommendations on what behaviors to change, were less likely to change their behavior than those who did receive VCT. They were less likely to consistently use condoms, were less knowledgeable about HIV, and were more likely to have contracted a sexually transmitted disease in the last two months.[27]

Urging individuals to change their behavior without providing information on why this behavior change is needed is often similarly ineffective. In Kenya, simply providing information on the importance of abstinence in reducing HIV/AIDS had no impact on teen pregnancy.[17]

Meanwhile, pairing specific information with actionable steps encourages take-up of healthy behaviors. Nine studies reviewed here[6], [14], [16], [17], [20], [25], [27], [30], [32], show that providing specific information alongside actionable recommendations on what behaviors to take up (or give up) and why these actions are important are often effective. In the same study from Kenya referenced above, providing specific information on the risk of contracting HIV through unprotected sex with men in specific age groups, alongside actionable information on safer partners and safe sex, reduced teen pregnancy.[17], However, there is also some indication that a one-time message may not be enough to change established habits, even when the information is specific and actionable steps are suggested.[11]

Choosing effective messengers for the local context is critical for building confidence and trust to encourage behavior change. One reason why individuals may not adhere to public health recommendations is a mistrust of the recommendations or of the health system. Depending on the underlying reasons for the mistrust, certain messengers may be more effective at overcoming it. For instance, in the United States, Black individuals have long faced discrimination in the health system and on average report higher levels of mistrust of health recommendations. Two separate studies found that physicians who were Black were more effective at eliciting behavior change or the seeking out of additional information among Black patients.[3], [4] While racial alignment was a key element of trust-building in these examples, evaluations in other contexts may find that other characteristics of a messenger, such as their ethnic background, status as an immigrant, or caste, are more important. The characteristics that matter will depend on the underlying reasons for mistrust, and additional research can help to identify what they are.

Peers and other members of a social network are often powerful means of spreading information about health products and behaviors. Five studies[1], [6], [18], [22], [29], found that when an individual takes up a certain health behavior or product, their peers are more likely to do so as well. Individuals may notice the behavior change and become convinced to emulate it, or they may learn about the benefits of a new product from their peers. In Kenya, the neighbors of those who received a large subsidy to obtain an insecticide-treated malaria bed net were more likely to purchase a bed net themselves.[18], In Nepal, the friends of girls who received a menstrual hygiene cup were 18.6 percentage points more likely to use one as well.[29]

Information spread through one's social network is often effective at eliciting behavior change, even if the original messenger did not adopt the recommended behavior. This may be because information from a known source is more salient or convincing. For example, in India, well-connected individuals in a community were particularly effective at spreading important information on routine child immunization. Leveraging the voices of these individuals increased child attendance at immunization camps by 27 percent relative to leveraging the voice of a random community member.[7]

Open questions remain, however, on how to leverage social networks in different contexts. In Nicaragua, parents were sent information about parenting practices via text message with the intention of improving early childhood development. When local opinion leaders who typically provide information on early childhood development, such as community health workers and preschool teachers, also received these messages, parental investments in nutrition dropped and child cognitive outcomes worsened. In this context, targeting local leaders hence did not help to amplify the messages.[10]

Using technology, including entertainment media, SMS messages and social media such as Twitter and WhatsApp, can amplify the reach of messages. Entertainment media (or "edutainment") can help to shift behaviors by embedding educational messages in a bigger storyline.[8], [9], [23], [26] In Nigeria, an informational television series called *MTV Shuga* reduced risky sexual behavior and increased the likelihood of getting tested for HIV. Effects were stronger for viewers who reported being more involved with the story or identifying with the characters.[9], However, evidence is mixed on whether edutainment can impact attitudes,[1] which may in part be a function of the difficulty of accurately measuring attitudes.

SMS, WhatsApp, and social media platforms, such as Twitter and Facebook, are a vital part of information-sharing in the 21st century. Four studies[2], [6], [13], [15], show that leveraging them can be an effective means of amplifying messages to shift beliefs and behaviors. As with other types of information-sharing, conveying information through these platforms is particularly effective when the messenger is trusted and information is framed in a specific and actionable manner. For example, during the Covid-19 pandemic, individuals in India received SMS messages containing a link to videos from a trusted, well-known expert advising individuals to report Covid-19 symptoms and follow local guidelines. These messages reached millions of people and led to a doubling of reporting of symptoms and decreased travel.[6]

Because they can also be a source of misinformation, monitoring online platforms for false messages can help identify situations where correcting misconceptions is particularly important. In Zimbabwe, a local civil society organization sent WhatsApp messages to their newsletter subscribers to convey truthful information about Covid-19 and to debunk misinformation about fake cures. These messages from a trusted source increased knowledge about Covid-19 and reduced self-reported harmful behavior such as violating lockdown orders. [13]

When the perceived cost of behavior change is high due either to financial or nonfinancial costs, information alone is often ineffective at changing behavior. More than a dozen studies from eight countries on the role of financial costs and behavior change find that information alone rarely offsets the financial cost of new health products or affects consumers' willingness to pay for the products.

Nonfinancial costs like effort may also reduce the impact of information. For instance, if taking up healthy behaviors would require the individual to travel a significant distance to a health clinic, accompanying the information with a mechanism of material support, such as a small financial or nonfinancial incentive or a larger cash transfer, may be more effective. In Nepal, mothers who received information about child nutrition as well as cash gained more knowledge and their children had better cognitive development, relative to those who only received information.[28] This aligns with a larger body of evidence that providing supplemental income alongside information can both incentivize households to change their behavior and provide income to facilitate the behavior change. A lottery system that is less expensive but provides all who change their behavior with an equal chance of winning a larger sum of money can also be effective.[12], [33], [34], In Lesotho, a lottery that gave those who tested negative for sexually transmitted infections the possibility of winning $50 every four months reduced HIV incidence by 21.4 percent.[12]

Low take-up due to perceived or real side effects of the behavior may be more difficult to overcome. In Malawi, only about a third of households eligible for free chlorine elected to use it to treat their water. Community health workers tasked with informing households about the importance of chlorine use were ineffective at increasing chlorine usage among beneficiaries. The distaste for water purified using diluted chlorine was difficult to overcome through awareness alone.[19]

Messages framed in a specific and actionable way that are conveyed through effective messengers or spread through technology platforms can help individuals adopt healthy behaviors if lack of information was the primary barrier. However, additional measures may be necessary when the cost or the effort required to adopt a behavior is a concern.

Sector chair(s) or Academic lead(s)

Pascaline Dupas Karen Macours Joseph Doyle

Insight author(s)

Anupama Dathan

Abdul Latif Jameel Poverty Action Lab (J-PAL). 2021. "Designing information campaigns to increase adoption of healthy behaviors." J-PAL Policy Insights. Last modified August 2021. https://doi.org/10.31485/pi.0805.2021.

---

1. Orozco-Olvera, Victor, Fuyuan Shen, and Lucie Cluver. 2019. “The Effectiveness of Using Entertainment Education Narratives to Promote Safer Sexual Behaviors of Youth: A Meta-Analysis, 1985-2017.” *PLOS One* 14, no. 2.Research Paper

---

1. Abel, Martin and Willa Brown, "Prosocial Behavior in the Time of COVID-19: The Effect of Private and Public Role Models." Working Paper, April 2020. Research Paper

2. Alatas, Vivi, Arun G. Chandrasekhar, Markus Mobius, Benjamin A. Olken, and Cindy Paladines. "Designing Effective Celebrity Messaging: Results from a Nationwide Twitter Experiment Promoting Vaccination in Indonesia." Working Paper, May 2021.Research Paper, | J-PAL Evaluation Summary

3. Alsan, Marcella et al. 2020. “Comparison of Knowledge and Information-Seeking Behavior after General COVID-19 Public Health Messages and Messages Tailored for Black and Latinx Communities: A Randomized Controlled Trial.” *Annals of Internal Medicine* 174, no. 4:484-492.Research Paper, | J-PAL Project Page

4. Alsan, Marcella, Owen Garrick, and Grant Graziani. 2019. "Does Diversity Matter for Health? Experimental Evidence from Oakland." *American Economic Review* 109, no. 12: 4071–4111.Research Paper, | J-PAL Evaluation Summary

5. Banerjee, Abhijit, Sharon Barnhardt, and Esther Duflo. "Movies, Margins, and Marketing: Encouraging the Adoption of Iron-Fortified Salt." In *Insights in the Economics of Aging*, edited by David Wise, 285–206. Chicago: University of Chicago Press, 2017.Research Paper, | J-PAL Evaluation Summary

6. Banerjee, Abhijit, Marcella Alsan, Emily Breza, Arun G. Chandrasekhar, Abhijit Chowdhury, Esther Duflo, Paul Goldsmith-Pinkham, and Benjamin A. Olken. "Messages on COVID-19 Prevention in India Increased Symptoms Reporting and Adherence to Preventive Behaviors among 25 Million Recipients with Similar Effects on Nonrecipient Members of Their Communities." NBER Working Paper, July 2020.Research Paper

7. Banerjee, Abhijit, Arun G. Chandrasekhar, Esther Duflo, and Matthew O. Jackson. 2019. "Using Gossips to Spread Information: Theory and Evidence from Two Randomized Controlled Trials." *The Review of Economic Studies* 86, no. 6: 2453–2490.Research Paper, | J-PAL Evaluation Summary

8. Banerjee, Abhijit, Eliana La Ferrara, and Victor Orozco. 2019. "Entertainment, Education, and Attitudes toward Domestic Violence." *AEA Papers and Proceedings* 109: 133–137.Research Paper, | J-PAL Evaluation Summary

9. Banerjee, Abhijit, Eliana La Ferrara, and Victor H. Orozco-Olvera. "The Entertaining Way to Behavioral Change: Fighting HIV with MTV." Working Paper, July 2019.Research Paper, | J-PAL Evaluation Summary

10. Barrera, Oscar, Karen Macours, Patrick Premand, and Renos Vakis. “Texting Parents about Early Child Development: Behavioral Changes and Unintended Social Effects.” Policy Research Working Paper #9492, December 2020.Research Paper

11. Bennear, Lori, Alessandro Tarozzi, Alexander Pfaff, Soumya Balasubramanya, Kazi Matin Ahmed, and Alexander van Geen. 2013. “Impact of a Randomized Controlled Trial in Arsenic Risk Communication on Household Water-Source Choices in Bangladesh.” *Journal of Environmental Economics and Management* 65: 225–240.Research Paper, | J-PAL Evaluation Summary

12. Björkman Nyqvist, Martina, Lucia Corno, Damien de Walque, and Jakob Svensson. 2018. "Incentivizing Safer Sexual Behavior: Evidence from a Lottery Experiment on HIV Prevention." *American Economic Journal: Applied Economics* 10, no. 3: 287–314.Research Paper, | J-PAL Evaluation Summary

13. Bowles Jeremy, Horacio Larreguy, and Shelley Liu. 2020. “Countering Misinformation via WhatsApp: Preliminary Evidence from the COVID-19 Pandemic in Zimbabwe.” *PLOS One* 15, no. 10.Research Paper

14. Carneiro, Pedro, Lucy Kraftman, Giacomo Mason, Lucie Moore, Imran Rasul, and Molly Scott. 2021. "The Impacts of a Multifaceted Pre-Natal Intervention on Human Capital Accumulation in Early Life." *American Economics Review.* Forthcoming.Research Paper, | J-PAL Evaluation Summary

15. Chong, Alberto, Marco Gonzalez-Navarro, Dean Karlan, and Martín Valdivia. 2020. "Do Information Technologies Improve Teenagers' Sexual Education? Evidence from a Randomized Evaluation in Colombia." *The World Bank Economic Review* 34, no. 2, 371–392.Research Paper, | J-PAL Evaluation Summary

16. Crépon, Bruno and Julie Pernaudet. "Correcting Beliefs to Increase Health Investments: A Field Experiment Among Disadvantaged Youths." Working Paper, October 2019.Research Paper, | J-PAL Evaluation Summary

17. Dupas, Pascaline. 2011. “Do Teenagers Respond to HIV Risk Information? Evidence from a Field Experiment in Kenya.” *American Economic Journal: Applied Economics* 3: 1–34.Research Paper, | J-PAL Evaluation Summary

18. Dupas, Pascaline. 2014. “Short-Run Subsidies and Long-Run Adoption of New Health Products: Evidence from a Field Experiment.” *Econometrica* 82: 197–228.Research Paper, | J-PAL Evaluation Summary

19. Dupas, Pascaline, Basimenye Nhlema, Zachary Wagner, Aaron Wolf, and Emily Wroe. “Expanding Access to Clean Water for the Rural Poor: Experimental Evidence from Malawi.” NBER Working Paper, July 2020.Research Paper, | J-PAL Evaluation Summary

20. Dupas, Pascaline, Elise Huillery, and Juliette Seban. 2018. "Risk Information, Risk Salience, and Adolescent Sexual Behavior: Experimental Evidence from Cameroon." *Journal of Economic Behavior and Organization* 145: 151–175.Research Paper, | J-PAL Evaluation Summary

21. Galiani, Sebastian, Paul Gertler, Nicolas Ajzenman, and Alexandra Orsola-Vidal. 2015. "Promoting Handwashing Behavior: The Effects of Large-Scale Community and School-Level Interventions." *Health Economics* 12, no. 25: 1545–1559.Research Paper, | J-PAL Evaluation Summary

22. Goldberg, Jessica, Mario Macis, and Pradeep Chintagunta. "Incentivized Peer Referrals for Tuberculosis Screening: Evidence from India." Working Paper, October 2020.Research Paper, | J-PAL Evaluation Summary

23. Green, Donald P., Anna M. Wilke, and Jasper Cooper. 2020. "Countering Violence against Women by Encouraging Disclosure: A Mass Media Experiment in Rural Uganda." *Comparative Political Studies* 53, no. 14: 2283-2320.Research Paper, | J-PAL Evaluation Summary

24. Jalan, Jyotsna and E. Somanathan. 2008. “The Importance of Being Informed: Experimental Evidence on Demand for Environmental Quality.” *Journal of Development Economics*, 87: 14–28.Research Paper

25. Kling, Jeffrey R., Sendhil Mullainathan, Eldar Shafir, Lee C. Vermeulen, and Marian V. Wrobel. 2012. "Comparison Friction: Experimental Evidence from Medicare Drug Plans." *The Quarterly Journal of Economics* 127: 199–235.Research Paper, | J-PAL Evaluation Summary

26. La Ferrara, Eliana, Alberto Chong, and Suzanne Duryea. 2012. "Soap Operas and Fertility: Evidence from Brazil." *American Economic Journal: Applied Economics* 4, no. 4: 1–31.Research Paper

27. Lau, Joseph T.F, Hi Y. Tsui, Shannon Cheng, and Margaret Pang. 2010. "A Randomized Controlled Trial to Evaluate the Relative Efficacy of Adding Voluntary Counseling and Testing (VCT) to Information Dissemination in Reducing HIV-Related Risk Behaviors among Hong Kong Male Cross-Border Truck Drivers." *AIDS Care* 22, no. 1: 17–28.Research Paper

28. Levere, Michael, Gayatri Acharya, and Prashant Bharadwaj. “The Role of Information and Cash Transfers on Early Childhood Development: Evidence from Nepal.” Working Paper, September 2019.Research Paper

29. Oster, Emily and Rebecca Thornton. 2012. “Determinants of Technology Adoption: Peer Effects in Menstrual Cup Take-Up.” *Journal of the European Economic Association*, 10, no. 6: 1263–1293.Research Paper, | J-PAL Evaluation Summary

30. Owais, Aatekah, Beenish Hanif, Amna R. Siddiqui, Ajmal Agha, and Anita K.M. Zaidi, 2011. "Does Improving Maternal Knowledge of Vaccines Impact Infant Immunization Rates? A Community-Based Randomized-Controlled Trial in Karachi, Pakistan." *BMC Public Health* 11, no. 1: 239.Research Paper

31. Prina, Silvia and Heather Royer. 2014. “The Importance of Parental Knowledge and Social Norms: Evidence from Weight Report Cards in Mexico.” *Journal of Health Economics* 37: 232-247.Research Paper

32. Tarozzi, Alessandro, Ricardo Maertens, Kazi Matin Ahmed, and Alexander van Geen. 2020. “Demand for Information on Environmental Health Risk, Mode of Delivery, and Behavioral Change: Evidence from Sonargaon, Bangladesh.” *The World Bank Economic Review*.Research Paper, | J-PAL Evaluation Summary

33. van der Swaluw, Koen, Mattijs S. Lambooij, Jolanda J.P. Mathijssen, Maarten Schipper, Marcel Zeelenberg, Stef Berkhout, Johan J. Polder, Henriëtte M. Prast. 2018. “Physical Activity after Commitment Lotteries: Examining Long-Term Results in a Cluster Randomized Trial.” *Journal of Behavioral Medicine* 41: 483-493.Research Paper

34. Volpp, Kevin G, Leslie K. John, Andrea B. Troxel, Laurie Norton, Jennifer Fassbender, George Loewenstein. 2008. “Financial Incentive-Based Approaches for Weight Loss: A Randomized Trial.” *JAMA* 300, no. 22: 2631-2637.Research Paper