

# Choice Architecture and Simplifying: Alternatives to Incentives for Increasing Healthy Behaviors

Jack Stevens, PhD

This issue's article "Medicaid and CHIP Child Health Beneficiary Incentives: Program Landscape and Stakeholder Insights" by Moseley et al<sup>1</sup> nicely summarized the characteristics of 82 initiatives designed to improve the health of publicly insured children. More importantly, these authors provided a well-balanced perspective on the strengths and limitations of the incentives.

Such beneficiary incentive programs have a compelling rationale. These incentives are directed toward lower-income families who may be highly motivated to save money and/or obtain much-needed tangible assistance. In addition, incentives may signal to families the importance of particular health behaviors. Furthermore, short-run incentives may have lasting effects because some target behaviors either confer long-term health benefits or become more habitual.

Despite their intuitive appeal, beneficiary incentive programs may not produce intended benefits. There is slim empirical evidence supporting the use of such incentives for the distal pediatric outcomes of decreasing morbidity, mortality, or health care expenditures. Moseley et al<sup>1</sup> did cite some studies demonstrating that incentives increased proximal health behaviors for youth, such as well-child visits.<sup>2-7</sup> However, most incentive programs lack published and/or conclusive results in even the short run.

Why might such incentives sometimes not improve even short-term health behavior for youth? Existing promotional materials (eg, Web sites, mailings) may not be sufficiently salient or understandable to familiarize parents with these incentives. Even when families have awareness, these incentives may not adequately motivate caregivers and/or their children. Reasons for insufficient motivation might include the following: (1) substantial inconvenience in completing the target behavior; (2) long gaps in time between demonstrating a health behavior and receipt of the tangible reward; and (3) logistic difficulties in redeeming certain types of incentives (eg, gift cards). In Moseley et al's<sup>1</sup> description of 1 loss-based incentive program, a staggering 93% of families received a lower-coverage plan because of parental nonadherence to the requirements for enhanced coverage.<sup>8</sup> Incentives may sometimes not be as salient or motivating as developers intended.<sup>9</sup>

Considering incentives' potential limitations and the unknown impact on distal outcomes, 2 next steps are offered. First, managed care organizations should consider partnering with social and medical scientists on further refining and evaluating beneficiary incentives. For example, large-scale trials are needed on incentives for maternal adherence to specific prenatal interventions (eg, progesterone for prematurity prevention,<sup>10</sup> buprenorphine for opioid

*Nationwide Children's Hospital and Department of Pediatrics, The Ohio State University, Columbus, Ohio*

**DOI:** <https://doi.org/10.1542/peds.2019-0111>

Accepted for publication May 6, 2019

Address correspondence to Jack Stevens, PhD, Nationwide Children's Hospital, The Ohio State University of Pediatrics, Faculty Office Building 3rd Floor, Columbus, OH 43205. E-mail: [jack.stevens@nationwidechildrens.org](mailto:jack.stevens@nationwidechildrens.org)

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2019 by the American Academy of Pediatrics

**FINANCIAL DISCLOSURE:** Other than items listed under Potential Conflict of Interest; Dr Stevens has indicated he has no financial relationships relevant to this article to disclose.

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** Dr Stevens has stock ownership in Colgate Palmolive and Procter and Gamble; the source article by Moseley et al<sup>1</sup> mentioned preventive dental visits and diapers, which are related to products from these companies.

**COMPANION PAPER:** A companion to this article can be found online at [www.pediatrics.org/cgi/doi/10.1542/peds.2018-3161](http://www.pediatrics.org/cgi/doi/10.1542/peds.2018-3161).

**To cite:** Stevens J. Choice Architecture and Simplifying: Alternatives to Incentives for Increasing Healthy Behaviors. *Pediatrics*. 2019; 144(2):e20190111

use disorder<sup>11</sup>) that may eventually improve infant health.

Second, alternatives to financial incentive programs deserve greater consideration. The following suggested alternatives are often known as “nudges”<sup>12</sup> or “wise interventions.”<sup>13</sup> “Choice architecture” (ie, refining the presentation of options for people as they make decisions) is one such alternative.<sup>12</sup> Investigators have demonstrated that rephrasing no more than a few sentences can improve proximal health behaviors. Examples from randomized trials include (1) increasing HPV vaccination rates by having primary care clinicians use with parents an announcement communication style (eg, “We have some shots we need to do today”) versus a conversational communication style (eg, “What do you want to do about shots?”)<sup>14</sup> and (2) reducing sugar sweetened beverage purchases by informing adolescents the amount of exercise to burn the calories from this selection as opposed to providing standard caloric information.<sup>15</sup> Similarly, vocabulary changes (eg, “participant” instead of “patient,” “greeter” instead of “receptionist”) might increase primary care use.<sup>16</sup>

Furthermore, research outside of health care has suggested that descriptive social norms (mentioning the considerable number of people who have engaged in the desired behavior) can promote change in the target group.<sup>17</sup> Highlighting the large number of youth who have recently received a preventive service may help convince target families that such behavior is both feasible and worthwhile. Rephrasing messages and providing social norms represent nonfinancial approaches to encourage family completion of healthy behaviors.

Another alternative to incentive programs is simplification (ie, making the target behavior easier for families

to complete).<sup>18</sup> For example, immunizations can sometimes be received more conveniently outside of primary care settings, including pharmacies and schools.<sup>19,20</sup> Increasing familial awareness of and access to such venues may increase proximal health behaviors more than offering financial incentives.

Separate reviews have concluded that nonincentive strategies such as choice architecture and simplification are effective approaches for changing both health and nonhealth behaviors (eg, educational attainment).<sup>13,21</sup> The authors of 1 review indicated that the benefit-cost ratio for implementing such nonincentive strategies was more favorable relative to financial incentives for several behaviors, including increasing adult influenza vaccinations.<sup>21</sup> More recently, Montoy et al<sup>22</sup> found that a presumptive communication style by clinical staff for HIV testing (“You [the patient] will be tested today [during your emergency department visit] unless you decline”) increased the target health behavior more than a different intervention of offering each patient 10 dollars to complete testing. In conclusion, financial incentives may not be the most appropriate strategy for increasing target behaviors. Comparative effectiveness trials of incentives versus alternative approaches are greatly needed as communities prioritize engagement strategies for lower-income families.

## REFERENCES

1. Moseley C, Madhulika V, Saunders R, et al. Medicaid and CHIP child health beneficiary incentives: program landscape and stakeholder insights. *Pediatrics*. 2019;144(2):e20183161
2. Loewenstein G, Price J, Volpp K. Habit formation in children: evidence from incentives for healthy eating. *J Health Econ*. 2016;45:47–54
3. Jensen JD, Hartmann H, de Mul A, Schuit A, Brug J; ENERGY Consortium. Economic incentives and nutritional behavior of children in the school

setting: a systematic review. *Nutr Rev*. 2011;69(11):660–674

4. Just D, Price J. Default options, incentives and food choices: evidence from elementary-school children. *Public Health Nutr*. 2013;16(12):2281–2288
5. Wong CA, Miller VA, Murphy K, et al. Effect of financial incentives on glucose monitoring adherence and glycemic control among adolescents and young adults with Type 1 diabetes: a Randomized Clinical Trial. *JAMA Pediatr*. 2017;171(12):1176–1183
6. Kenney GM, Marton J, Klein AE, Pelletier JE, Talbert J. The effects of Medicaid and CHIP policy changes on receipt of preventive care among children. *Health Serv Res*. 2011;46(1 pt 2):298–318
7. Greene J. Using consumer incentives to increase well-child visits among low-income children. *Med Care Res Rev*. 2011;68(5):579–593
8. Alker J. *West Virginia's Medicaid Redesign: What Is the Impact on Children?* Washington, DC: Georgetown University Health Policy Institute Center for Children and Families; 2008
9. Blumenthal KJ, Saulsgiver KA, Norton L, et al. Medicaid incentive programs to encourage healthy behavior show mixed results to date and should be studied and improved. *Health Aff (Millwood)*. 2013;32(3):497–507
10. Jarde A, Lutsiv O, Beyene J, McDonald SD. Vaginal progesterone, oral progesterone, 17-OHPC, cerclage, and pessary for preventing preterm birth in at-risk singleton pregnancies: An updated systematic review and network meta-analysis. *BJOG*. 2019;126(5):556–567
11. Zedler BK, Mann AL, Kim MM, et al. Buprenorphine compared with methadone to treat pregnant women with opioid use disorder: a systematic review and meta-analysis of safety in the mother, fetus and child. *Addiction*. 2016;111(12):2115–2128
12. Thaler R, Sunstein CR. *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New Haven, NJ: Yale University Press; 2008
13. Walton GM. The new science of wise psychological interventions. *Curr Dir Psychol Sci*. 2014;23(1):73–82

14. Brewer NT, Hall ME, Malo TL, Gilkey MB, Quinn B, Lathren C. Announcements versus conversations to improve HPV vaccination coverage: a randomized trial. *Pediatrics*. 2017;139(1):e20161764
15. Bleich SN, Herring BJ, Flagg DD, Gary-Webb TL. Reduction in purchases of sugar-sweetened beverages among low-income black adolescents after exposure to caloric information. *Am J Public Health*. 2012; 102(2):329–335
16. Howard J, Etz RS, Crocker JB, et al. Maximizing the patient-centered medical home (PCMH) by choosing words wisely. *J Am Board Fam Med*. 2016;29(2):248–253
17. Cialdini R. Six main roads to change: broad boulevards as smart shortcuts. In: Cialdini R, ed. *Pre-Suasion*. New York, NY: Simon & Schuster; 2016:151–172
18. Halpern D. Easy. In: Halpern D, ed. *Inside the Nudge Unit: How Small Changes Can Make a Big Difference*. London, United Kingdom: WH Allen; 2015:62–79
19. Shah PD, Marciniak MW, Golden SD, Trogdon JG, Golin CE, Brewer NT. Pharmacies versus doctors' offices for adolescent vaccination. *Vaccine*. 2018; 36(24):3453–3459
20. Kempe A, Allison MA, Daley MF. Can school-located vaccination have a major impact on human papillomavirus vaccination rates in the United States? *Acad Pediatr*. 2018; 18(2S):S101–S105
21. Benartzi S, Beshears J, Milkman KL, et al. Should governments invest more in nudging? *Psychol Sci*. 2017;28(8): 1041–1055
22. Montoy JCC, Dow WH, Kaplan BC. Cash incentives versus defaults for HIV testing: a randomized clinical trial. *PLoS One*. 2018;13(7): e0199833

## Choice Architecture and Simplifying: Alternatives to Incentives for Increasing Healthy Behaviors

Jack Stevens

*Pediatrics* 2019;144;

DOI: 10.1542/peds.2019-0111 originally published online July 9, 2019;

<b>Updated Information &amp; Services</b>	including high resolution figures, can be found at: <a href="http://pediatrics.aappublications.org/content/144/2/e20190111">http://pediatrics.aappublications.org/content/144/2/e20190111</a>
<b>References</b>	This article cites 18 articles, 4 of which you can access for free at: <a href="http://pediatrics.aappublications.org/content/144/2/e20190111#BIBL">http://pediatrics.aappublications.org/content/144/2/e20190111#BIBL</a>
<b>Subspecialty Collections</b>	This article, along with others on similar topics, appears in the following collection(s): <b>Public Health</b> <a href="http://www.aappublications.org/cgi/collection/public_health_sub">http://www.aappublications.org/cgi/collection/public_health_sub</a>
<b>Permissions &amp; Licensing</b>	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="http://www.aappublications.org/site/misc/Permissions.xhtml">http://www.aappublications.org/site/misc/Permissions.xhtml</a>
<b>Reprints</b>	Information about ordering reprints can be found online: <a href="http://www.aappublications.org/site/misc/reprints.xhtml">http://www.aappublications.org/site/misc/reprints.xhtml</a>

# American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®



# PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

## **Choice Architecture and Simplifying: Alternatives to Incentives for Increasing Healthy Behaviors**

Jack Stevens

*Pediatrics* 2019;144;

DOI: 10.1542/peds.2019-0111 originally published online July 9, 2019;

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/144/2/e20190111>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 345 Park Avenue, Itasca, Illinois, 60143. Copyright © 2019 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

## American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

