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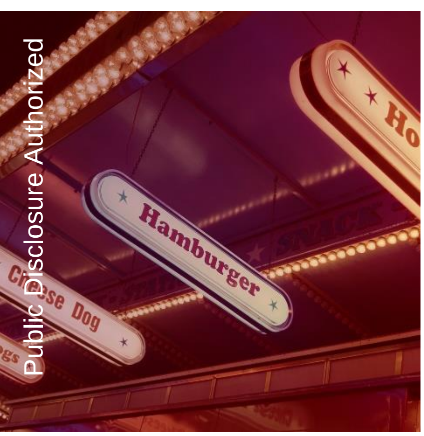
EMPOWERING HOUSEHOLDS AND INDIVIDUALS TO CO-PRODUCE POSITIVE HEALTH OUTCOMES…

FOR DIGNIFIED, PERSON-CENTERED CARE AMIDST DEMOGRAPHIC CHANGE

THE CHALLENGE

Addressing the burden of chronic disease begins at home. Many of the leading causes of ill health in member countries in the Organisation for Economic Co-operation and Development (OECD) are caused, at least in part, by modifiable risk factors—diet, physical inactivity, tobacco use, and alcohol consumption, among others—that become embedded in families' daily routines, making change difficult even when they want to adopt healthier behaviors. Once chronic disease or an acute episode strikes, effective management likewise requires patients to be active partners in designing and managing their own care. New solutions are needed to make it easier for families and individuals to sustain long-term care for chronic conditions; to help them become active partners in their medical care; and to empower them to adopt and maintain new behaviors for longer and healthier lives.

PEOPLE WANT TO MAKE HEALTHIER LIFESTYLE CHOICES, BUT STRUGGLE TO SUSTAIN HEALTHY BEHAVIORS



Increasingly, the burden of disease in OECD countries is driven by behavioral and lifestyle risk factors, leading to long-term morbidity, preventable death, and skyrocketing health expenditure. Obesity prevalence, for example, ranges between 15% and 38% in many OECD countries, and is rising in most.[i] Likewise, tobacco use is responsible for 12% of all deaths globally[ii] and expenditure on smoking-attributable diseases climbed to $467 billion in 2012.[iii] Individuals generally say they want to adopt healthier behaviors, but the lack discipline and follow-up they need to sustain behavior change in the long run. For example, more than two-thirds of U.S. smokers report wanting to quit, and more than half tried to quit in the past year—but only a tiny portion succeed,[iv] and even those who reach the one-year abstinence mark continue to face a 10% annual risk of relapse.[v] Similarly, about half of overweight or obese people in the U.S. report they tried to lose weight within the past year—though the proportion attempting to do so has fallen since 1990.[vi]

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Japan Trust Fund for Scaling Up Nutrition

Low Cost and Convenience Push Families Toward Suboptimal Nutrition

The hazards of poor diets are well established, but eating healthy can be a challenge for many families. One meta-analysis suggests that healthier diets cost about $1.50 more per day per person than less healthy options;[vii] the difference may seem small in a wealthy country setting, but over the course of a year it would translate to about 10% of the total household income for a family of four living at the U.S. federal poverty line.[viii] Convenience is also a major factor. Consumption of ready-made meals has been associated with higher calorie consumption and abdominal obesity,[ix] and evidence suggests that children may avoid fruits and vegetables in part because the children did not think of them as convenient snack foods.[x] Despite popular attention, there is little evidence that the geographic availability of food (e.g., food deserts and fast food density) meaningfully impact food consumption patterns.[xi]

Consumption of ready-made meals has been associated with higher calorie consumption and abdominal obesity, and evidence suggests that children may avoid fruits and vegetables in part because the children did not think of them as convenient snack foods.

Patients Are Not Set Up for Success in Managing Their Own Chronic Disease

Particularly for long-term chronic diseases, patient adherence to care is necessary to coproduce positive health outcomes—but the health system does not always engage patients and facilitate their co-production, leading to problems with adherence and follow-up. A 2003 World Health Organization report estimated that average global adherence to long-term therapies is just 50%.[xii] More recent large-scale study findings from the U.S. appear to validate that general range: 73% of American patients with hypertension, but just 37% with gout, achieved at least 80% adherence to prescribed therapy.[xiii] In qualitative studies, chronic disease patients say mistrust, confusion, and alienation from the treatment planning process are barriers to treatment adherence.[xiv]

THE PATH FORWARD: BETTER HEALTH IN THE HOME

Self-Help: New Self-Led Tools to Support Healthier Behaviors

In recent years, mobile apps to support healthy behavior have exploded in number and popularity. Systematic reviews and individual studies offer almost universal support for mobile apps—under controlled conditions—as a tool to help people eat more fruits and vegetables;[xv] lose weight;[xvi] be more physically active;[xvii] better manage their diabetes;[xviii] increase their success in quitting smoking;[xix] and manage depression and anxiety at lower cost.[xx] App prices are also extremely low relative to most wealthy country health interventions, suggesting that even marginal gains in health benefits would be extraordinary cost-effective.

Yet despite this promise, identifying and scaling the most effective apps faces informational and regulatory challenges. Apps are not a static intervention; they are created through an iterative development process that is difficult to evaluate under the existing paradigms of randomized clinical trials.[xxi] An alternative approach can both evaluate the *principles* a mobile app should follow, and then rate the app's compliance with evidence-based practices.[xxii] Even where solid evidence exists, however, consumers can struggle to identify good evidence-based options in the unregulated app marketplace, where apps can vary in widely in their use

of evidence-based practices and may even contain actively harmful content.[xxiii] Payers, governments, and providers can potentially play act as gatekeepers to quality-assured health apps; see more on regulation and accreditation for this emerging space in Brief 15c.

Voluntary commitment devices use behavioral economic theory—particularly the principle of loss aversion as a contracts motivator—to encourage self-discipline.

Other approaches to self-led behavior change have also gained popularity, but are not necessarily supported by strong evidence. Structured activity and wellness programs offer a promising but under-evaluated path to change sedentary lifestyle patterns; for example, the National Health Service in the U.K. officially endorses a "Couch to 5K" program (supported by multiple mobile apps) designed to gradually increase physical activity levels, but the initiative has not been rigorously studied.[xxiv] Personal activity trackers increasingly adorn the wrists of young and old alike; systematic review evidence suggests they may be marginally useful in promoting weight loss among adults and the elderly, but not young people[xxv]—and one study suggests young people *lose* their motivation to exercise when wearing the devices.[xxvi] Finally, voluntary commitment devices use behavioral economic theory—particularly the principle of loss aversion as a contracts motivator—to encourage self-discipline (see the Spotlight section for an example). Through these mechanisms, individuals put aside their own resources with the understanding that they can only get those assets back after they meet their own pre-determined goals. Variations on voluntary commitment contracts appear to have helped support smoking cessation in the Philippines[xxvii] and Thailand.[xxviii] In the U.S., one study found that the contracts helped increase weight loss in an obese population—but the effect quickly eroded after the end of the contract period.[xxix]

Top Interventions

Intervention	Evidence Strength	Research Findings
Mobile applications for behavior change	Strong	Positive
Structured activity and wellness programs	None	N/A
Personal activity trackers	Moderate	Mixed
Voluntary commitment contracts	Moderate	Positive/Mixed
Mobile produce markets	Low	Positive
Healthier products in vending machines	Moderate	Positive
Healthy meal delivery kits	None	N/A
Subsidies for fruits and vegetables	Moderate	Positive
Personalized care planning	Strong	Positive
mHealth for treatment adherence	Strong	Positive
90-day prescriptions/automatic refill	Moderate	Positive

When families want to adopt healthier diets, a range of interventions and innovations that change the cost or convenience of nutritious meals can help them make healthy eating a reality.

Changing the Calculus for Healthy Eating

When families want to adopt healthier diets, a range of interventions and innovations that change the cost or convenience of nutritious meals can help them make healthy eating a reality. Mobile produce markets—essentially farmers' markets on wheels—have been associated with increased consumption of fruits and vegetables in a systematic review, though most of the underlying evidence is of poor quality.[xxx] Likewise, introducing healthier options in vending machines—sometimes paired with lowering prices—appears to increase the consumption of the healthier foods, but the effect on nutritional outcomes is still poorly evaluated.[xxxi] Private sector investment is now supercharging access to healthy snacks through franchised healthy vending machine networks like Healthy Fresh Vending and Vend Natural. Further expanding the range of convenient available offerings, Farmers Fridge sells healthy fresh-made salads, bowls, sandwiches, wraps, snacks, and beverages through 100-plus sophisticated vending machines across greater Chicago and Milwaukee in the United States.[xxxii] However, these programs—and other private sector efforts to improve food convenience like meal delivery kits for home cooking—have not yet been rigorously evaluated vis-à-vis nutritional outcomes.

Other efforts seek to make healthy eating more affordable—and thus more desirable for families struggling to make ends meet. A 2013 systematic review found limited available evidence, but identified a consistent relationship between subsidies for healthier foods and their increased consumption.[xxxiii] In the interim, evidence for healthy food subsidies has continued to grow. In Australia, a program providing boxes of highly subsidized fruits and vegetables to disadvantaged people led to improved nutritional biomarkers after 12 months, despite unchanged self-reported consumption of fruits and vegetables.[xxxiv] In the United States, the Healthy Incentives Pilot, for example, offered 30% rebates on purchases of fruits and vegetables using federal nutrition assistance and consumption subsequently rose by .24 servings per day.[xxxv] However, evidence suggests that fruit and vegetable consumption typically reverts to baseline levels after the incentives end, suggesting long-term subsidies are needed to sustain dietary change.[xxxvi]

A 2013 systematic review found limited available evidence, but identified a consistent relationship between subsidies for healthier foods and their increased consumption.

Patients as Partners: New Approaches to Engaging Individuals in Their Own Care Needs

Most care for chronic conditions and rehabilitation happens at home, where patients must take charge of their own care plans to produce positive health outcomes. Personalized care planning—where patients partner with their health provider to craft appropriate and feasible plans for managing their own care—has been associated with small but significant health improvements for some chronic conditions in a systematic review, plus gains in patients' belief in their self-efficacy to manage their health.[xxxvii] In addition, strong evidence suggests that mhealth interventions, including mobile applications[xxxviii] and text message reminders,[xxxix] can substantially increase medication adherence by patients with chronic conditions. But the potential scope for mhealth to engage patients as partners is even more expansive. A study from Australia, for example, finds that an app-supported rehabilitation home exercise program produced better adherence than paper-based instructions alone;[xl] and a feasibility study suggests that patients can help monitor post-operative wound healing by taking and transmitting images of the wound site.[xli] An alternative approach seeks to make adherence to care easier for patients, removing some of the barriers that may be causing them to stop following their treatment protocols. Increasingly, strong evidence from large-scale trials supports the use of automatic prescription refills,[xlii] late-to-refill reminder calls,[xliii] and the use of 90-day prescriptions to increase adherence to chronic disease medication regimens.[xliv]

SPOTLIGHT

StickKing to Goals for Better Health

- *Each January, up to 83% of people in the United States make a New Year's Resolution, often promising to lose weight, change their lifestyle, or quit smoking. But months later, only 9.2% of resolution-makers feel they consistently succeed in achieving their resolution goals.*[xlv] *This disconnect—between* people's goals and their ability to realize them—is one of the thorniest barriers to adopting healthier behaviors. Drawing from their own research around the world, in 2007 a behavioral economics research team at Yale University launched StickK.com, a novel online tool to help people "stick" to their own goals. Through StickK, users first define their personalized goal; in practice, many (but far from all) goals are health or lifestyle-related. Users can then create an optional monetary "commitment contract," offering their own funds for a deposit; they can also appoint a "referee" to monitor their progress and increase their accountability. If they hit their goal, they get their money back; if they fall short, the money goes to a third-party recipient of their choosing.[xlvi] The most powerful commitment contracts designate an "anti-charity"—an organization with diametrically opposed values and goals to the commitment-maker—as the recipient of funds in the case of failure.[xlvii]

  By 2018, StickK reported that its users had created 415,000 commitment contracts, putting a total of $37 million on the line.[xlviii] Though its design draws from research evidence, StickK has not been rigorously evaluated; usage statistics suggest that 85% of users with monetary contracts achieved their reported goals, compared to 46% among users with nonmonetary stakes.[xlix] However, these figures must be treated with some caution; because results are typically self-reported, users with monetary stakes have a stronger incentive to misreport their own progress.

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