ISSUE BRIEF
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Behavioral Design Teams: The Next Frontier in Clinical Delivery Innovation?

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ABSTRACT

ISSUE: A deep understanding of human behavior is critical to designing effective health care delivery models, tools, and processes. Currently, however, few mechanisms exist to systematically apply insights about human behavior to improve health outcomes. Behavioral design teams (BDTs) are a successful model for applying behavioral insights within an organization. Already operational within government, this model can be adapted to function in a health care setting.

GOAL: To explore how BDTs could be applied to clinical care delivery and review models for integrating these teams within health care organizations.

METHODS: Interviews with experts in clinical delivery innovation and applied behavioral science, as well as leaders of existing government BDTs.

FINDINGS AND CONCLUSIONS: BDTs are most effective when they enjoy top-level executive support, are co-led by a domain expert and behavioral scientist, collaborate closely with key staff and departments, have access to data and IT support, and operate a portfolio of projects. BDTs could be embedded in health care organizations in multiple ways, including in or just below the CEO's office, within a quality improvement unit, or within an internal innovation center. When running a portfolio, BDTs achieve a greater number and diversity of insights at lower costs. They also become a platform for strategic learning and scaling.

KEY TAKEAWAYS

- **Behavioral design insights can be applied to core problems in health because many of the levers used to improve patients' health and health care delivery ultimately concern behavior.**
- **Behavioral design teams are most effective when led by a combination of experts, like physicians and behavioral scientists, and require data and information technology support.**

The Commonwealth Fund

INTRODUCTION: THE POWER OF APPLYING BEHAVIORAL SCIENCE

All too often policies, programs, and services are designed in a vacuum, apart from human behavior. Most design — even thoughtful, human-centered design — is guided by our intuitions about what might work and influenced by our assumptions about how humans will decide and act. The practice of behavioral design is instead steeped in a rigorous approach to building products, processes, and systems based on the science of how humans actually behave. It has been applied extensively and successfully to improve outcomes in many areas, including personal savings,[1] financial aid for postsecondary education,[2] and energy conservation.[3]

Behavioral scientists have discovered that many behaviors result from systematic tendencies in our thinking that are predictably activated by specific features of different contexts. For example, people's sense of risk is heavily influenced by their memory of recent experiences, which helps explain why a plane crash in the news leads to more people driving instead of flying (even though driving is more dangerous) or why seeing an accident on the highway causes people to drive more slowly. Discoveries about systematic tendencies allow behavioral designers to unpack the black box of human behavior — to isolate specific cues or contexts that lead to success or failure.

These insights can be applied to core problems in health because many of the levers used to improve patient health and health care delivery ultimately concern behavior. Behavioral design has been used already to reduce physician medical errors,[4] improve medication adherence,[5] and promote smoking cessation,[6] but could be applied to many more areas. Insights could be targeted at provider behaviors, patient behaviors, or both. Below are some ways behavioral design has started to generate new solutions for challenges in health care where standard approaches have fallen short. There are a variety of issues behavioral science could and has started to tackle (Exhibit 1).

Exhibit 1. Examples of Behavioral Challenges Along the Patient Journey

One pathway to widely implementing behavioral sciences in an organization is embedding behavioral design teams (BDTs) within an organization's operations. This brief explores how BDTs could be applied to clinical care delivery, and discusses several models for integrating these teams within health care organizations. BDTs previously launched within both federal and city governments may offer lessons for executives and innovators looking to tackle health care challenges. Future publications will further explore problems that BDTs could address and potential behavioral design approaches to resolving them. (See Appendix for examples of how behavioral design can change the way health care is delivered.)

ACHIEVING THE PROMISE: INTEGRATING BEHAVIORAL DESIGN TEAMS IN HEALTH CARE

BDTs are cross-functional, multidisciplinary teams led by behavioral scientists — individuals experienced in the application and operationalization of behavioral science principles — and experts with deep experience in the specific domain, like physicians and care coordinators. BDTs have had success working within government, which share many similarities with health care providers: large bureaucracies that are struggling to innovate quickly, privacy and security issues, and the delivery of core human services. Consequently, BDTs may hold promise for health care organizations.

Behavioral Design Teams in Government

Since the launch of the original BDT in the federal government in 2014, BDTs have successfully improved the quality and effectiveness of local and federal programs with low-cost solutions that target behavior.[23] For example, a BDT within the federal government increased enrollment in college by 9 percent and nearly doubled the enrollment rate of service members in a savings plan, among many other results.[24] A New York City BDT increased flu vaccinations among city employees by 5 percent with a behaviorally informed email, and a Chicago BDT increased total revenue payments, the speed of city fee payments, and the digital payment frequency.

BDTs apply a rigorous, evidence-based process for creating behaviorally informed approaches, implementing and testing the impact, and scaling successful and cost-effective solutions. BDTs often begin with incremental change and, through their investigative and diagnostic data-gathering processes and pilots, generate ideas for larger, transformative designs. For instance, the New York City BDT started with a simple intervention to increase flu vaccinations among 400,000 city employees. In the process of investigating the flu vaccination, the BDT and city realized there were opportunities to increase a range services, such as the use of one-minute clinics and telemedicine. The city's BDT is now starting to design a larger package of health interventions, including for example, access to health insurance by those eligible for Medicaid as well as reduction in unnecessary emergency department use.

Peter Pronovost's catheter checklist, which dramatically reduced infection rates in hospitals,[21] is one of the most effective medical innovations in recent years. It was based on a simple insight: time-pressured doctors can neglect to perform small steps that reduce hospital-based infections, like washing their hands or procuring a sterile mask. Developing an easy process for ensuring these steps occur might help decrease the rate of infections.

[Pronovost's checklist] has already saved more lives than that of any laboratory scientist in the past decade.[22]

— Atul Gawande

Pronovost was inspired by similar procedures in airplane safety. He observed that even trained and experienced professionals like pilots can forget to take important steps before beginning a procedure. This is because people — particularly those who are experienced and have dealt with a given procedure many times — can go on "autopilot" and run through a process without engaged thinking. Interestingly, highly trained experts are more likely to make a mistake than beginners, as they are less hyperattentive to their surroundings.

The processes a BDT uses vary to fit the needs of the partner, but typically work starts with identifying multiple leads and prospective projects in line with the organization's goals. The most promising opportunities have three main features: a well-defined goal or outcome of interest, a link between that outcome and individuals' decisions or actions, and touchpoints of direct interaction between the organization and individuals. BDTs often operate as part of a larger project or an interdisciplinary team that wants to add behavioral science to its efforts.

The behavioral design process

Once a project is selected, the team works using a multiphase process (Exhibit 2):

Define. Accurately define the problem, focusing on a specific behavior, and eliminate assumptions about what may be contributing to the problem and possible solutions.

Diagnose. Generate insights about the psychological processes contributing to the problem, and the specific contextual features activating or influencing those processes. An initial behavioral map is created and continually refined to hone hypotheses as additional data are collected and analyzed. Data come from site visits, interviews, literature reviews, and the analysis of existing qualitative and quantitative information.

Design. Scalable interventions that address the key bottlenecks are designed and operationalized.

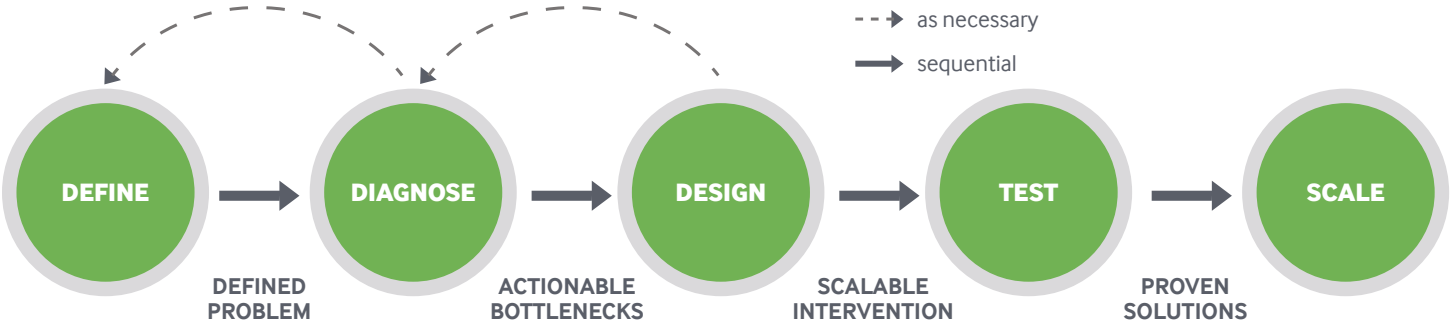
Test. Rigorously test interventions to determine efficacy of design, ideally through a randomized controlled trial.

Scale. Solutions are refined and scaled using a variety of channels, including policy changes, dissemination and replication, or creation of separate organizations or services.

BDTs also chip away at one of the biggest challenges in innovation: keeping up with, and effectively learning from, what does and does not work, both inside an organization and in the broader field. By drawing on learnings across a portfolio, BDTs can optimize designs based on prior successes and failures. By tackling multiple issues simultaneously, they can uncover opportunities to bundle interventions to achieve greater impact. When connected to behavioral scientists in other domains, BDTs can assess the effectiveness of behavioral interventions being tried elsewhere in the world, further speeding the exchange of ideas.

This platform of shared learning and dissemination can occur as a regular interaction between two or three teams at different organizations or at a larger convening. For example, the White House Summit for State and Local Governments, which took place in December 2016, gathered government officials from across the U.S. to learn about projects completed and under way within the federal and city BDTs, as well as other independent behavioral science work in the public sector. One example was school districts sending letters home to parents that compared their child's attendance rate with other students in the school and district; this strategy reduced student absenteeism by 15 percent.

Exhibit 2. Behavioral Design Process



Attendees learned from projects and approaches across a range of government settings, and from the insights on what works and what doesn't. Many cities and states are now exploring launching BDTs.

Components of Effective Behavioral Design Teams

A BDT can adapt to the context and culture of various departments and units within providers, but there are certain critical success factors.

1. BDTs operate best when top-level executives have bought in and facilitate the integration and operations of the team. This support is critical for opening channels to projects across departments and assembling the diverse skill sets needed to build new designs and implement them. Top-level support also creates space for risk-taking and experimentation, which will vary according to the institution's risk preferences.

2. BDTs are most effective when led by a combination of a domain expert (like a physician) and a behavioral scientist with experience managing applied research and design projects. Effective design will rely on the behavioral science expertise to identify, diagnose, and design for behavioral challenges.

3. BDTs rely on active collaboration with key staff and departments, including department managers and front-line staff (i.e., clinical providers in the health setting). Partnership with project stakeholders and domain experts is critical to successful problem identification, analysis, and innovative behavioral design.

4. BDTs need data support. BDTs use data to assess new leads and quantify the size and scope of challenges. Data are also valuable because providers will want to see evidence of meaningful, cost-effective results from rigorous evaluations before moving to scale.

5. IT support is required to both pilot and implement redesigns. Many behavioral designs are delivered through technology systems; this support will become increasingly valuable as the number of behaviors and choices executed in digital environments grow.

6. BDTs offer more value when operating a portfolio of projects across a variety of issue areas. When running multiple projects, BDTs increase capacity for department leads and front-line staff by using centralized team resources to augment existing staff resources, increase value by executing additional projects at significantly improving marginal costs, can share and replicate learnings rapidly, and can start to shift culture.

Cities interact with people all day long, but they're not built around people. The NYC BDT is helping change the way our agencies think about their constituencies. It's using evidence-based insights into people and iterative, rigorous design to create cost-effective solutions. We're starting to see specific improvements in outcomes for residents and city employees.

Matt Klein
Senior Advisor
New York City Mayor's Office of Operations

Opportunities for Integrating BDTs Within Health Care Provider Organizations

A health care organization could integrate a BDT in multiple ways, depending on its priorities, culture, and organizational structure.

Integrated within or just under the CEO's office

Positioning a BDT with close ties to the CEO's office would ensure it receives the requisite executive support, is directly linked to top priorities of the organization, and has access to key staff and resources that are crucial for success. This positioning also may foster greater buy-in from other staff and departments, which could catalyze faster and more thorough cultural changes within the

organization.

Integrated within quality improvement units

Integrating a BDT within an existing quality improvement (QI) unit would enable close collaboration with department leads, front-line staff, and the data and IT teams that frequently staff them. These members are all critical to effective diagnosis and solution development. It would facilitate creation and production in collaboration with stakeholders who will ultimately be adopting and implementing the solutions. It also could be a useful location for a BDT because of its shared mission with QI units of improving outcomes and experiences while reducing costs through system delivery redesign. The arrangement would be mutually beneficial: the behavioral design lens would complement the QI teams' skills in improving processes; at the same time, the BDT would enjoy built-in executive support.

One consideration that should be made before placing a BDT in a QI unit is ensuring the BDT can effectively build a diverse portfolio of behavioral issues, including transformative, breakthrough project opportunities. QI teams may be more inclined to focus on optimization and incremental change.

Integrated within an internal innovation unit

Alternatively, providers could embed a BDT within an existing or as a new innovation unit. The BDT would independently develop new solutions outside the clinical workstream but pilot them in partnership with department leaders and front-line staff. In this model, BDTs would rely on strategic partnerships with leaders across the provider system to source leads, diagnose challenges, and pilot solutions, but would operate with relative autonomy to design and develop new processes or products. One example is the Center for Innovation at the Mayo Clinic.

The independence conferred by this model may offer the autonomy to pursue behavioral issues that fall outside the scope of other units' priorities and the space needed to develop transformative innovations. Yet independent BDTs may struggle to gain consistent access to front-line staff, department leaders, and data and IT support teams and to secure the buy-in from key stakeholders.

CONCLUSION

A systematic and rigorous approach to the application of insights about human behavior could be a key tool for building better health care delivery. BDTs, armed with potent insights about behavior and a rigorous evidence-based methodology and modeled on a successful approach in both federal and city governments, may enable effective changes in the delivery of health care. BDTs are composed of trained experts in behavioral science experienced in designing, implementing, and testing interventions inspired by the behavioral sciences. The team structure is adaptable. BDTs can integrate to suit the provider's organizational structure, either adjacent to the CEO's office or within existing quality improvement or internal innovation units.

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APPENDIX. BEHAVIORAL DESIGN TEAMS IN ACTION

Explaining Medication Side Effects

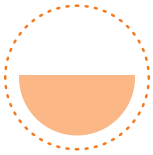
PROBLEM

Patients don't feel adequately informed about the side effects of new medications prescribed by their medical providers.

BACKGROUND AND POTENTIAL IMPACT

At hospitals nationwide, one of the lowest-scoring metrics on patient experience surveys is whether providers adequately explained medication side effects[a]:

Almost **ONE OF FIVE** hospital patients surveyed nationally report that they were "sometimes" or "never" told about possible side effects of new medications.[b]



Nearly **HALF** of US adults have some difficulty understanding medication instructions.[c]

The Mayo clinic found that only **ONE OF FOUR** patients is able to list all the medications they take and only **ONE OF SEVEN** is able to state the common side effects of all their medications.[d]

Explaining side effects is an important part of provider–patient communication. Improving physician communication has been shown to affect patients' knowledge about and attitudes toward medication, as well as improve patient satisfaction with and adherence to their medication regimen.[e]

KEY PROVIDER DECISIONS AND ACTIONS

Examining the explanation of medication side effects with **Johns Hopkins Medicine** through a behavioral lens revealed a few bottlenecks that could be addressed with low-cost designs:

- Describing potential side effects: which side effects, if any, should be described? Who will explain them? When will this conversation take place?
- Following through on side-effect conversations: do physicians have these conversations and in a manner the patient understands?
- Receiving feedback: do physicians understand their performance on explaining side effects and how it compares with peers?

BEHAVIORAL INSIGHTS

Describe potential side effects

- Providers may fail to describe side effects because of ROLE AMBIGUITY across the care team. People often make assumptions about who will explain medication side effects, and when they will do it, if roles are not clearly defined. This role ambiguity may contribute to putting off the side effects conversation for later. Then a provider may forget, think the opportunity has passed, or assume that another member of the team has done it.
- It is not always clear to medical providers which side effects are most relevant for a given patient or how many are worth sharing. When facing CHOICE OVERLOAD, people are likely to avoid making a choice at all, or they may settle for a choice they aren't confident about. This overload is especially problematic when there are multiple medications or complex conditions to navigate.

APPENDIX. BEHAVIORAL DESIGN TEAMS IN ACTION (CONT'D)

Opportunities based on similar cases:

– Setting clear expectations around role responsibility and timeline within a care team

– Adding a neglected action into a checklist to serve as a reminder and indicate its importance

– Reducing choice overload barriers at the right moment by providing decision aids or defaults

Follow through on side effects conversation

- Doctors, like all experts, can suffer from the CURSE OF KNOWLEDGE, or the inability to put themselves in the shoes of people without expertise in their area. Their medical knowledge and training, while highly valuable for diagnosis and treatment, can make it hard to communicate effectively with patients.

- Many providers are also wary of reactions to the term "side effects." This may include patients getting upset, rejecting treatments, or starting to display symptoms they hear about. One reason patients may respond this way is because people typically OVERWEIGHT SMALL PROBABILITIES such as the risk of a minor side effect. Also, FRAMING potential complications as "side effects" can seem like jargon, especially for nurses who may feel their role is to make the experience more patient-centered.

Opportunities based on similar cases:

– Establishing clear rules of thumb for replacing jargon with common language

– Presenting potential risks from multiple perspectives (for example, 5 percent of people will get this, but 95 percent won't) to help patients interpret small risks

Receiving feedback

- Providers get little FEEDBACK about how often and well they describe potential side effects. Hospital scores on rates of adequately explained side effects reflect group, not individual, performance.

- Without individual feedback, providers may feel ILLUSORY SUPERIORITY — that is, the feeling that others in the group are performing poorly, not them. Paradoxically, research shows that those with the worst performance are the most overconfident.

Opportunities based on similar cases:

– Communicating individual performance clearly and comparing to peers

– Identifying lower performers as those with the greatest potential and providing them with a plan to improve performance

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[a] A question on adequate side-effect communication is one of 32 questions in the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey required for all U.S. hospitals by the Centers for Medicare and Medicaid Services (CMS). The question reads, "Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?"

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APPENDIX. BEHAVIORAL DESIGN TEAMS IN ACTION (CONT'D)

Unnecessary Prescription of Antibiotics

PROBLEM

Medical providers frequently prescribe antibiotics unnecessarily to patients with acute bronchitis.

BACKGROUND AND POTENTIAL IMPACT

The unnecessary prescription of antibiotics is a major driver of excessive health care costs, as well as increased antibiotic resistance. Bronchitis usually improves on its own without medical intervention; treating with antibiotics is inappropriate.

Clinical trials **DO NOT SUPPORT ROUTINE ANTIBIOTIC TREATMENT** of uncomplicated acute bronchitis since viruses, not bacteria, cause the large majority of cases.[f]

Despite a target rate of 0% and concerted efforts over the past two decades to reduce the use of antibiotics for bronchitis, prescribing rates have **INCREASED TO OVER 70 PERCENT**.[g]

The excessive use of antibiotics has contributed to the emergence and spread of **ANTIBIOTIC-RESISTANT BACTERIA** and costs **HUNDREDS OF MILLIONS** of dollars each year in unnecessary care.[h]

Reducing antibiotic prescriptions for acute bronchitis could save lives and reduce spending. It could also inform approaches to similar problems where low-value care is overused.

KEY PROVIDER DECISIONS AND ACTIONS

Examining prescribing patterns around acute bronchitis with **Los Angeles County Department of Health Services** through a behavioral lens revealed a bottleneck that could be addressed with low-cost designs:

- Responding to patient expectations: how does the provider respond if patients have an expectation for medical treatment?
- Choice of whether to prescribe antibiotics: do pressures from the patient or context outweigh medical guidelines?
- Choice of whether to repeat or adjust behavior with subsequent patients: after inappropriately prescribing antibiotics for bronchitis, do providers get information that helps them change their behavior?

BEHAVIORAL INSIGHTS

Respond to patient expectations

- Although acute bronchitis often goes away on its own after a few days, some patients may expect immediate treatment. Even if most patients do not expect to receive antibiotics, physicians who are RISK AVERSE may preempt the potential conflict by offering the prescription.
- This can be compounded by EGO DEPLETION. It can be draining for physicians to resist patient demands or to fully explain the reason they are not issuing an antibiotic, especially with a busy schedule or at the end of a long shift. Reorienting patient expectations requires mental energy from the physician, which is a limited resource.

Opportunities based on similar cases:

– Make guidelines visible and memorable to both patients and providers, such as with public posters

– Provide communication guides that make this conversation easier for physicians to manage, including a switch in language from bronchitis to "chest cold"

APPENDIX. BEHAVIORAL DESIGN TEAMS IN ACTION (CONT'D)

– Provide memorable exemplars of patients responding well to physician recommendations

Decide whether to prescribe antibiotics

- Doctors may have a MENTAL MODEL that patients who come to them with an illness should receive medication. Providing tangible treatment through medication may feel like an integral part of their IDENTITY as doctors.
- Doctors reveal a BIAS FOR ACTION: the implicit belief that doing something is better than doing nothing. This expectation of action makes not prescribing something difficult for both providers and patients to accept as a reasonable outcome, especially given the SUNK COST of investing time (and for many patients, money) in the visit.

Opportunities based on similar cases:

– Have doctors make a commitment to specific decisions in advance, for example, by setting personal goals

– Remind doctors of the dictum to "do no harm"

– Provide alternatives to antibiotics that can be "prescribed," such as written descriptions for at-home care, so that the treatment still feels legitimate

Repeat or adjust behavior with subsequent patients

- Some providers may LACK AWARENESS of the guidelines related to antibiotic prescriptions, or they may LACK FEEDBACK about how well their behavior conforms to such guidelines. Some may believe they prescribe antibiotics infrequently, while in fact they do so commonly.
- Even if providers are aware that their behavior conflicts with the guidelines, they will be motivated to reduce this COGNITIVE DISSONANCE by rationalizing their behavior. For instance, they may rationalize that other doctors are the real source of the problem, while their own behavior happens only for justifiable exceptions.

Opportunities based on similar cases:

– Provide timely feedback at both a group and individual level so providers can reassess their behavior and see a more accurate reflection of their antibiotic prescription rate

– Remind providers of the costs of inappropriate prescriptions in a timely way, during or just before making treatment decisions

– Provide memorable illustrations of how a single provider's decisions contribute to larger patterns

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[f] R. Gonzales and M. A. Sande, "Uncomplicated Acute Bronchitis," *Annals of Internal Medicine,* Dec. 19, 2000 133(12):981–91.

[g] M. L. Barnett and J. A. Linder, "Antibiotic Prescribing for Adults with Acute Bronchitis in the United States, 1996–2010," *Journal of the American Medical Association,* May 21, 2014 311(19):2020–22.

[h] K. E. Fleming-Dutra, A. L. Hersh, D. J. Shapiro et al., "Prevalence of Inappropriate Antibiotic Prescriptions Among U.S. Ambulatory Care Visits, 2010–2011," *Journal of the American Medical Association,* May 3, 2016 315(17):1864–73.

APPENDIX. BEHAVIORAL DESIGN TEAMS IN ACTION (CONT'D)

Heart Failure Readmission After Hospital Discharge

PROBLEM

Many patients hospitalized for heart failure are readmitted within 30 days of discharge.

BACKGROUND AND POTENTIAL IMPACT

Heart failure patients discharged from the hospital often return a few weeks later, although this is often preventable. Repeated hospitalizations reduce the quality of life for patients and create substantial financial losses for hospitals.

Approximately **1 MILLION AMERICANS** are hospitalized for heart failure annually, and about **ONE-FIFTH** of Medicare beneficiaries with heart failure are readmitted to the hospital within 30 days.[i]

In just one year, hospital costs related to 30-day readmission for Medicare patients after heart failure was well over **$1 BILLION**.[j]

The Centers for Medicare and Medicaid Services reforms that tie hospital reimbursements to readmission rates have led to an increased focus on reducing readmissions; patients admitted for heart failure are the most likely to be readmitted.[k]

In 2017, 79 percent of hospitals incurred a readmissions penalty for high readmission rates, and **PENALTIES TOTALED OVER $500 MILLION**.[l]

KEY PROVIDER DECISIONS AND ACTIONS

Examining heart failure readmissions with **Ascension Health** through a behavioral lens revealed a bottleneck that could be addressed with low-cost designs:

- Follow through on taking patient history: is patient history thorough enough to catch important predictors of readmissions?
- Determination to discharge patient: is discharging patients carefully considered or based on other influencing factors?
- Delivering discharge instructions: are discharge instructions delivered in a way that's easy for the patient to understand and act upon?

BEHAVIORAL INSIGHTS

Take patient history

- Understanding patient history is important in determining when a patient should be discharged, as well as what treatments are the best fit. Many providers fail to take patient history thoroughly, possibly because they have a MENTAL MODEL that their role is to consider a specific medical treatment, not the future contexts in which this treatment may be carried out. TIME AND BANDWIDTH SCARCITY can reinforce this mental model.
- When physicians do collect more than a perfunctory patient history, they may disregard certain questions because they are unsure if and how to address the often complex social and emotional context. This is also known as AMBIGUITY AVERSION. In some cases, providers may also make assumptions guided by an IMPLICIT BIAS in a way that contributes to health disparities.

APPENDIX. BEHAVIORAL DESIGN TEAMS IN ACTION (CONT'D)

Opportunities based on similar cases:

– Include documentation of patient history in all relevant discharge checklists, and provide clear next steps after information is entered into EMRs

– Use a visual cue, be it a button on the provider's jacket or a poster in the office, that prompts patients and providers to discuss fuller patient history

Discharge patient?

- The decision to discharge a patient should be based on multiple factors, yet it is common to use a single indicator, such as whether the patient is "dry" (i.e., does not have water in lungs) or not. HEURISTICS (i.e., rules of thumb) like this are often effective, but may have unintended consequences for hospital discharge.

- Providers respond to INCENTIVES to discharge patients, including the hospital's financial incentives or the pressure to open beds. There also may be social incentives related to the patient's desire to leave the hospital. This type of LIMITED FEEDBACK — getting rewarded for a positive short-term outcome without punishment for a negative long-term one — makes it more likely for providers to err on the side of discharging early.

Opportunities based on similar cases:

– Use checklists or decision support to make sure all relevant information has been accounted for and weighed appropriately before discharge

– Have doctors commit, through a verbal or written pledge, to only discharge if certain criteria are met, so they will use the most appropriate heuristics to make that decision

Deliver discharge instructions

- Clear discharge instructions are vital to reducing readmissions, yet PRESENT BIAS — the universal human tendency to focus on immediate payoffs at the expense of long-term outcomes — means both patients and providers are motivated to rush through the instructions so the patient can return home.

- Since it's difficult for providers to know what patients don't know, communicating the right information in the right way can be challenging. This dynamic is exacerbated if the patients avoid asking questions because of OVERCONFIDENCE or discomfort with sounding "dumb" or wasting the provider's time.

Opportunities based on similar cases:

– Provide clear, simple summaries of guidelines that patients can refer to at home

– Conduct planning exercises so patients understand in advance what steps to take if things take a turn for the worse. This also helps providers discover what patients are most uncertain about

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[i] S. Kripalani, C. N. Theobald, B. Anctil et al., "Reducing Hospital Readmission Rates: Current Strategies and Future Directions," *Annual Review of Medicine,* 2014 65:471–85.

[j] A. L. Hines, M. L. Barrett, H. J. Jiang et al., *Conditions with the Largest Number of Adult Hospital Readmissions by Payer, 2011*, Statistical Brief #127 (Agency for Healthcare Research and Quality, April 2014); and C. K. McIlvennan, Z. J. Eapen, and L. A. Allen, "Hospital Readmissions Reduction Program," *Circulation,* May 19, 2016 131(20):1796–803.

[k] S. Kripalani, C. N. Theobald, B. Anctil et al., "Reducing Hospital Readmission Rates: Current Strategies and Future Directions," *Annual Review of Medicine,* 2014 65:471–85.

[l] C. Boccuti and G. Casillas, *Aiming for Fewer Hospital U-turns: The Medicare Hospital Readmission Reduction Program* (Henry J. Kaiser Family Foundation, 2015; updated March 2017).

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ideas42 is a nonprofit innovation lab that applies insights from behavioral science to create positive social impact. The firm helped launch the White House Social and Behavioral Sciences Team, as well as behavioral design teams for the cities of Chicago and New York. It also has worked with philanthropic foundations and businesses such as American Express, Google, Alliant Credit Union, and GMAC Mortgage. Its staff of consultants trained in behavioral design and rigorous evaluation methods is augmented by a Board of Scientific Advisors and academic affiliates from leading research universities.

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