The REMIND Project

INSPIRATION WORKBOOK

Group Health Research Institute 2016

About this book

The goal of this book is to help translate REMIND science into design.

Our science gives insights into values, technologies, relationships, and processes that influence chronic and preventive care in the home.

We hope that design will embody these insights in patient-centered health reminder systems.

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About the REMIND project

Patient reminders and notifications are effective at helping people reach health goals. They alert people to schedule medical visits and screenings, remind people how to take complex medical regimens, and provide a liaison between patients, providers, and the health care system. Most studies of reminders have focused on a single health care need or condition and have used a single route, such as postal mail or the telephone. We lack knowledge about reminder and notification systems that incorporate the breadth of patients' multiple chronic and preventive health care needs. We also know little about how to use technologies to improve reminders and notifications so that patients can work more effectively with their providers to reach their health goals. REMIND is a 3-year federally funded research project to re-design reminders and notifications for patients with chronic and preventive care needs.

Research sample
We recruited older adults with diabetes Type 1 and Type 2 (n=20), and mothers of children with asthma (n=20). We recruited these two distinct samples to maximize the variation in experiences with and attitudes toward reminders and notifications for health self-management. Older adults (10 of 20 were male) had a median age of 73 years, and mothers had a median age of 38 years. All participants were sampled from Group Health Cooperative, a large integrated healthcare delivery system in Washington State. We purposely oversampled some populations, including racial and ethnic minorities, who would substantially benefit from improvements in care related to technology and chronic illness management.

Research methods

Interviews
We conducted 2 in-depth, at-home interviews with each participant. The first interview focused on reminder tools and routines. The second interview focused on questions about health goals, and the challenges and personal significance of nationally recommended health tasks appropriate to the age and diagnoses of each participant. We also used the Q-methodology procedure at the end of the second interview. The data collection procedure for Q-methodology consisted of a set of statements about health and technology attitudes printed on cards that the participant arranged according to what is most personally significant to them.

Participatory design
We conducted 2 rounds of participatory design. The first round was focused on envisioning future reminder systems with patients. The second round included both patients and providers, and was focused on articulating patient work and the reminders embedded in that work. Design activities included: collages, sketching, cultural probes, storyboards, and gamifying a health goal.

Focus groups
We conducted focus groups with providers that elicited perspectives on how reminders for selected patient personas would influence the clinic workflow.

Prototyping
We did rapid prototyping sessions with patients to investigate their preferences for asynchronous communication and issue tracking on the patient portal.

Reflection on stakeholders

Who values health reminders? Why?

Overview

This book has 4 sections, each focused on a key insight from research.

Each section contains a brief description of methods, findings, and visual data. At the end of each section there is a guided reflection to encourage immersion in the data.

4 key insights:

1

Health & technology attitudes do not differ on the basis of age, gender, education level, or race.

2

Reminder ecologies contain tools, relationships, and routines.

3

Patients motivate, coordinate, and self-educate to act on health goals.

4

Patients want introspective, social, adaptive, and symbolic health reminders.

1

Health and technology attitudes do not differ on the basis of age, gender, education level, or race.

We conducted a factor analysis to discover 3 clusters of attitudes. Each cluster represented a significantly different perspective on health and technology, and included a diverse set of patients.

Cluster 1
Many "Proactive Techies" are health-trackers over 60.

Cluster 2
Several "Indie Self-Managers" are mothers preferring in-person over electronic info.

Cluster 3
Some "Remind Me! Non-Techies" have PhDs.

Proactive Techie

"Vivian" is an older adult who imagines a future in which a virtual family supports her, and ubiquitous sensors track her health indictors and help her collaborate with her doctor.
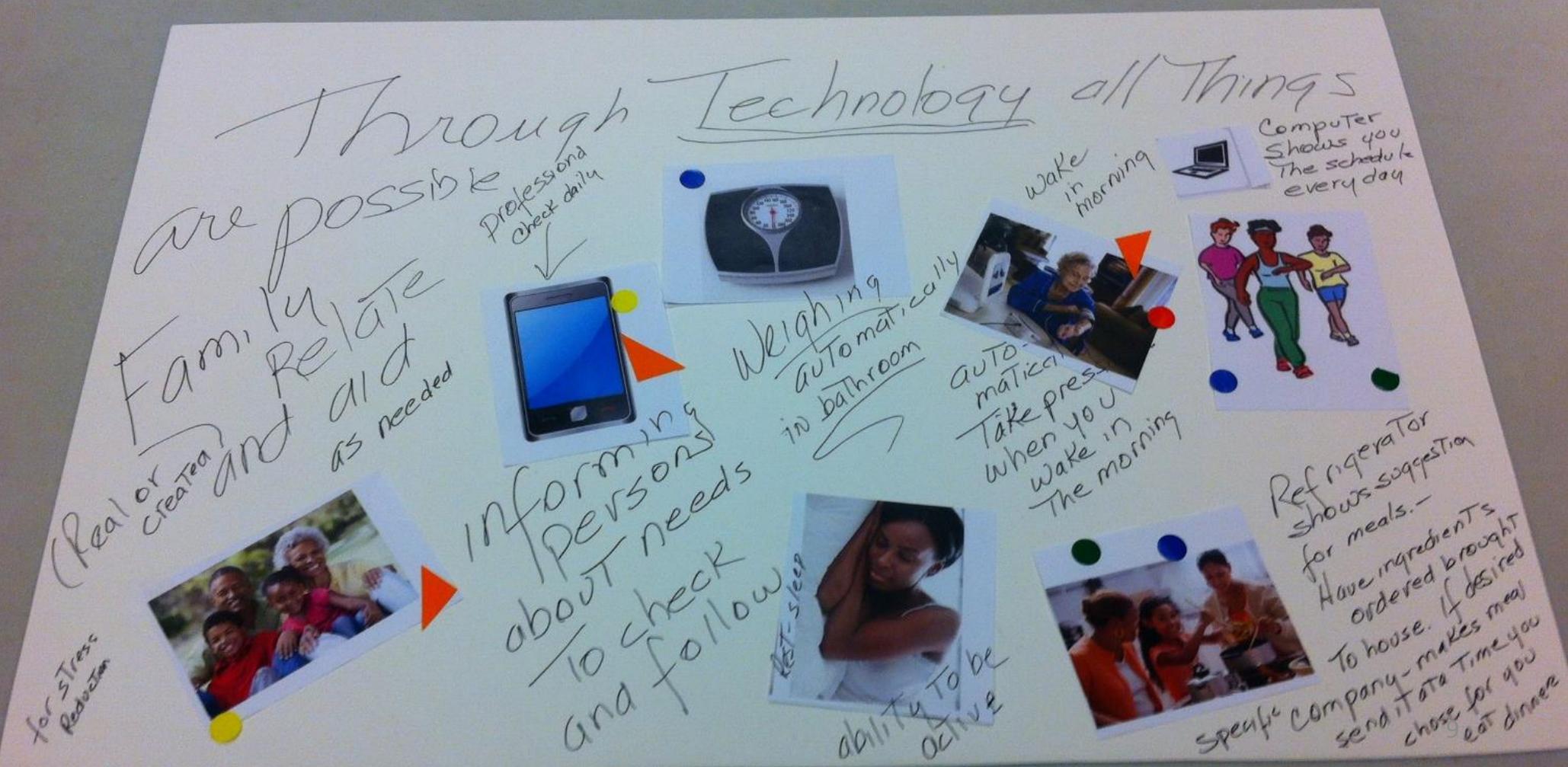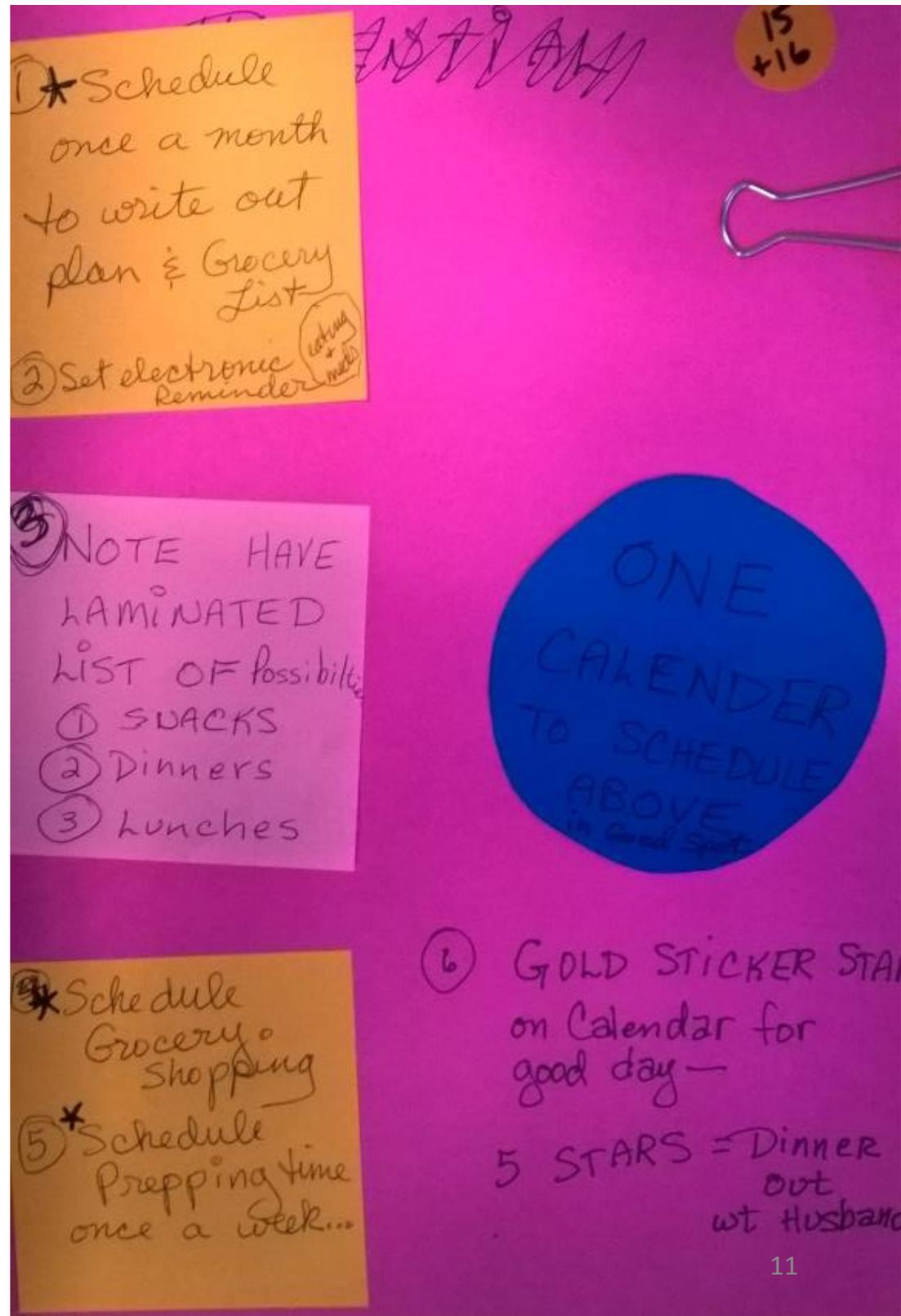
Indie Self-Manager
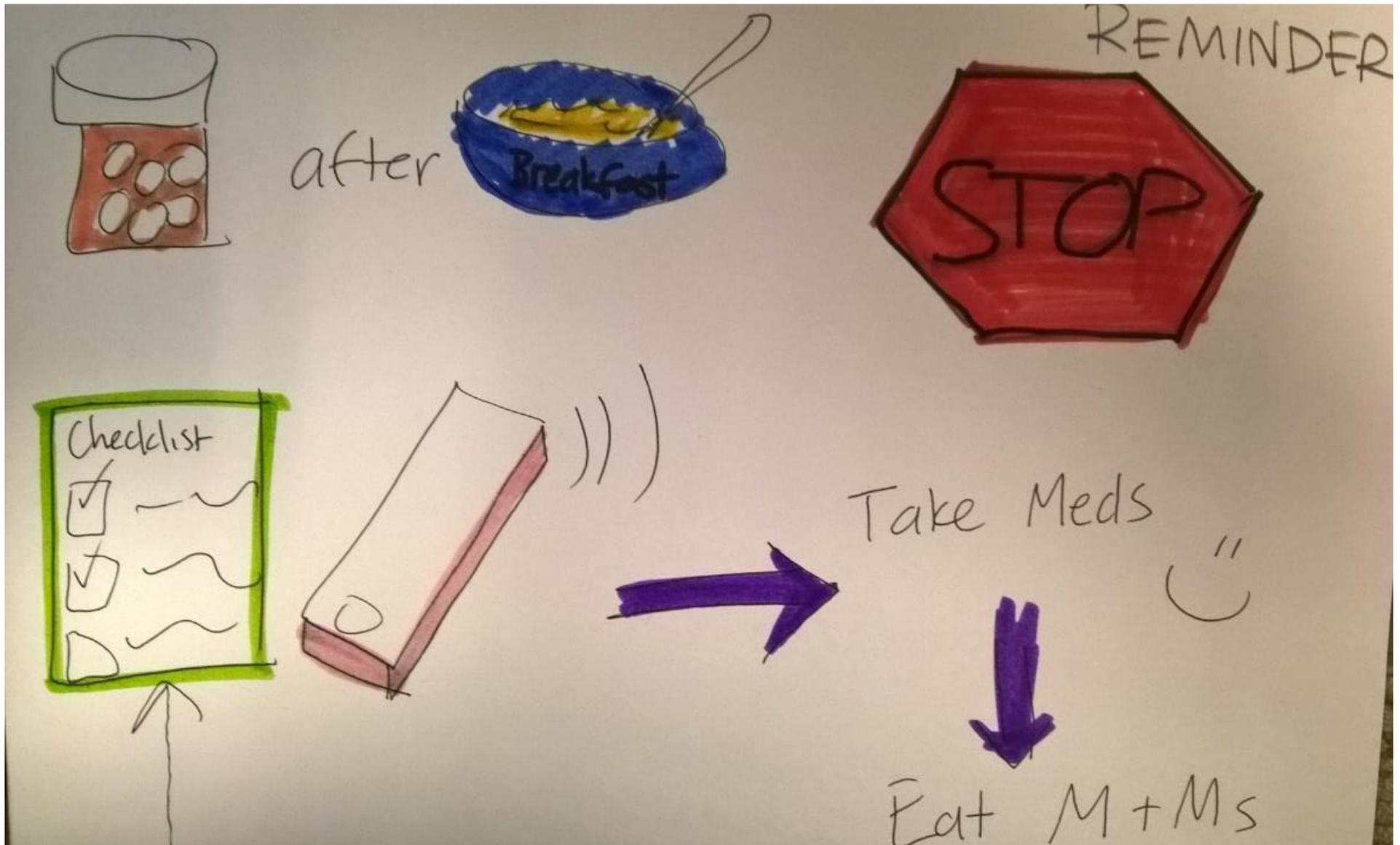
"Kiley" has 5 children – she relies on a routine and a reminder on the front door to make sure everyone gets their medications. An M&M treat helps motivate the kids to do this health task.

Remind Me!
Non-techie

"Marilyn" designed a reminder system of paper calendars, plans, and gold sticker rewards, that would help her to manage her nutrition.

Reflection on values & attitudes

What are some ways that Vivian, Kiley, and Marilyn are different?

2

Reminder ecologies contain tools, relationships, and routines.

We interviewed participants in their homes, and did a walk-through of their reminder systems. We also asked participants to take photos of health reminders. Patients and their families rely on hybrid paper-and-digital systems, as well as routines and relationships.

People pull information from passive reminders in the environment.

They set devices to push information at the right time.

They use routines and relationships to remind them of the care plan.

Work, school, medical, and other events are organized on a single calendar.

"Julie" attaches reminder notes to her purse, and pulls them off as she completes tasks.

Visual cues in the kitchen catch attention.

Everyday passive reminders

"Ashley's" children check in on her health daily.

"Cici's" cane reminds her never to go back to that state of illness.

"Sheila's" puppy barks to remind her to go for a walk every day.

Routine and social reminders

Reflection on reminder types
How are Julie's and Sheila's reminders different from Cici's?