

Design for Decisions

Encouraging preventive care commitments

How can behavioral economics and design partner in the development of a system that helps people understand preventive care recommendations and adopt a healthy routine of care?

Designers are tackling complex issues from energy conservation to financial responsibility. Individual action is critical to collective progress; however, a rational understanding of information is rarely enough—people need support making decisions to take informed action. Understanding the often irrational behaviors that factor into decisions large and small falls in the domain of behavioral economics. Research in this area provides insight to strategies that can help influence individuals to act more consistently with their preferences.

LITERATURE REVIEW Exploring factors in decision-making

Research questions

- What circumstances influence decisions?
- What behaviors do people display under these circumstances?
- What strategies exploit or counter these tendencies to a person's benefit?

FINDINGS MATRIX (PORTION)

BEHAVIORAL TENDENCIES

Status Quo/Default Bias
People are likely to stick with popular or existing policies even when the costs of switching are very low.

Loss Aversion
People weight losses of one amount higher than gains in value of same amount. They are reluctant to lose things under almost any circumstance.

Projection Bias
People underestimate how much their preferences will change over time, exaggerating the degree to which future tastes will resemble current ones.⁵

TYPES OF DECISIONS

Routine, repeated, or familiar decisions (eating, shopping, transportation)

Example
People tend to keep getting magazines they don't read when renewal is automatic.¹²

Strategy to exploit: Set positive default option
Healthy choices at front of menu reduce consumption more than calorie count display.⁷

Future applications
Automatic prescription refills, healthier menu defaults, etc.

Example
Students given a coffee mug will ask for more to sell than they offered to buy.

Strategy to exploit: Loss as penalty
1/3 of high school students who intended to drop out stayed when faced with loss of license.

Future applications
Deposits for gym classes, med. appointments.

Example
Dieters order dessert when don't intend to.¹⁰

Strategy to counter: Visualization
Show quality of life forecast if do/do not eat.⁸

Strategy to counter: Plan Strategy
It is sometimes possible to "debias" people by inducing them to think about adaptation.⁹

Future applications
Precommitment to drug refills, medication compliance, preventive care

Infrequent, complex, or unfamiliar life decisions (retirement savings, home purchases, etc.)

Example
80% of NJ drivers kept default limited right to sue; 75% of PA drivers kept a default full right.³

Strategy to exploit: Set positive default option
Companies with automatic 401(K) enrollment show significantly higher participation rates.⁴

Future applications
Opt-out vaccines, emergency research, HIV testing as part of routine care.

Example
Seller whose house has a defect will ask for more than market value.

Strategy to exploit: Frame
When breast self-exams opportunity if not done.

Future applications
Frame preventive care as a benefit.

Example
In study, 10% of healthy people accepted chemotherapy to avoid death in 3 months; 42% of current cancer patients said they would.

Strategy to counter: Priming Strategy
It is sometimes possible to "debias" people by inducing them to think about adaptation.⁹

Future applications
Decisions about end-of-life care, insurance, and retirement planning

Costs and benefits spread out over time (Dieting, saving money)

Example
Harvard faculty stuck with default retirement even when new options were introduced.

Strategy to exploit: set positive default option
"Save More Tomorrow" plan offers option of automatic contribution increase with salary.⁶

Future applications
Charity donations, carbon offsets, corrective adjustments to eating plans

People need help with overcoming procrastination and understanding risks and treatment options.

DEFINITION Identifying a health decision for design focus

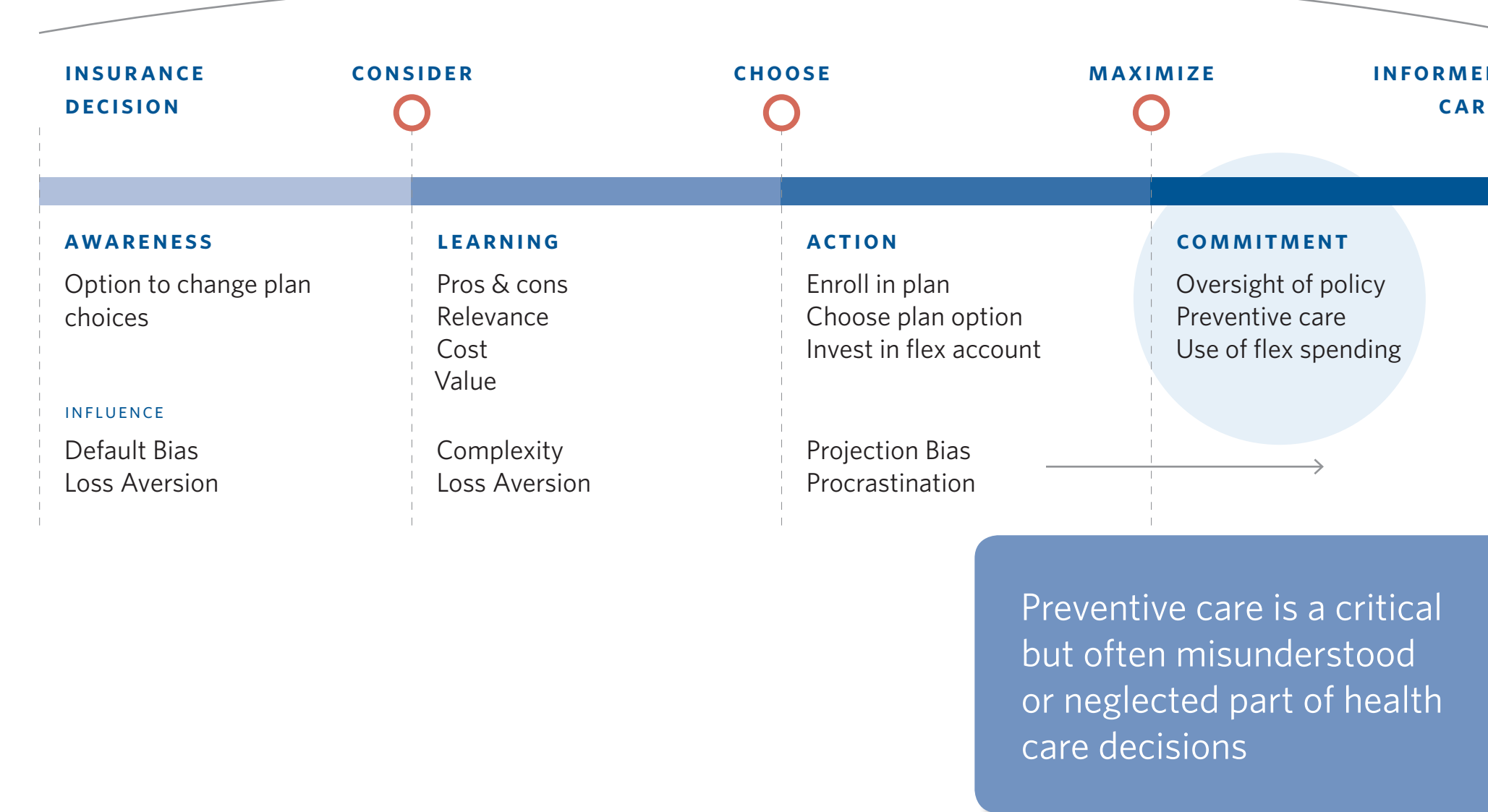
Research Questions

- What are the steps of choosing health care?
- What influencing factors exist in this context?
- Which area is most promising focus?

Research Activities

- CMU Benefits fair and online survey
- Expert interviews with HR & insurance reps
- Review of insurance literature and tools

TERRITORY MAP



EXPLORATORY RESEARCH Learning about preventive care behaviors and resources

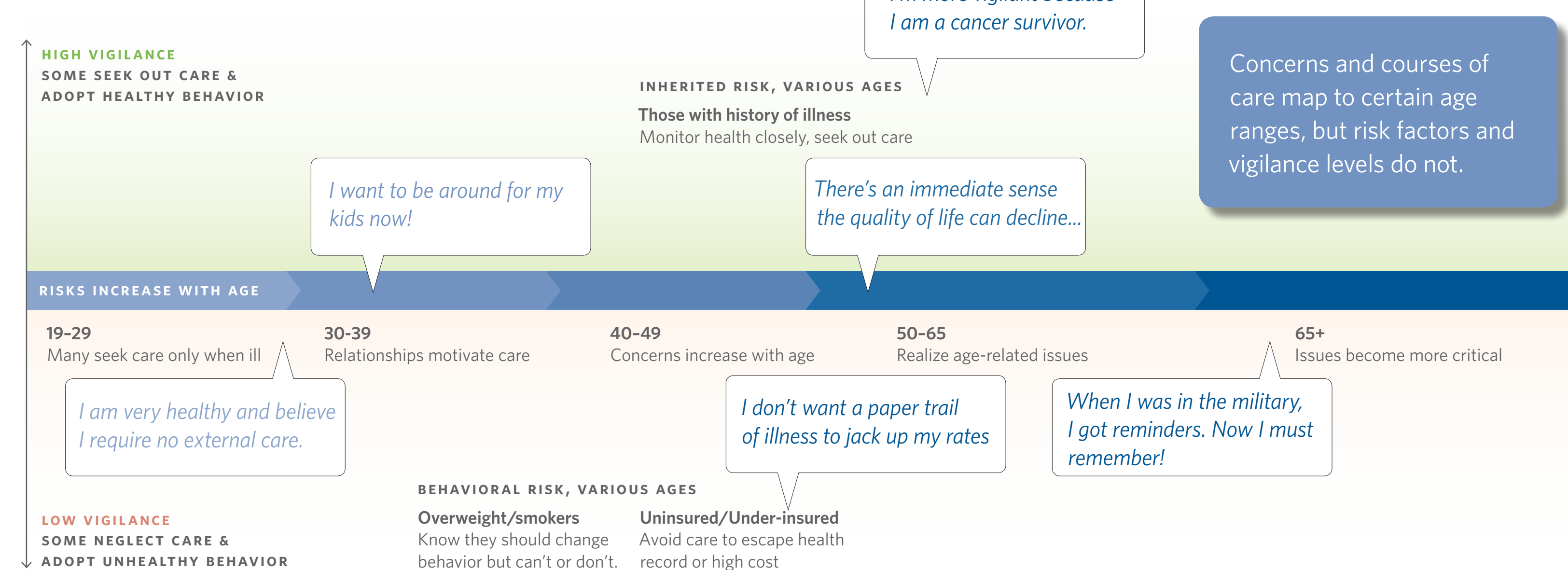
Research Questions

- Who is at risk and what are their concerns and behaviors?
- How well do people adhere to care guidelines?
- How well do people understand preventive care?

Research Activities

- Online survey, directed storytelling, and contextual inquiries
- Interviews with doctors, insurance agents, and HR professionals
- Review of preventive care resources and news

PREVENTIVE CARE CONCERNS & BEHAVIORS



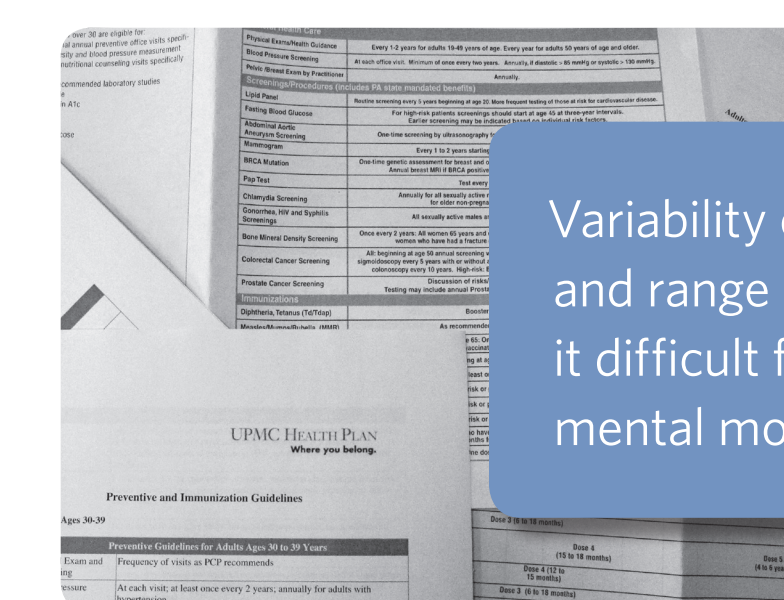
UNDERSTANDING PREVENTIVE CARE

Age in Years	18	21	25	30	35	40	45	50	55	60	65
HEART HEALTH											
Blood Pressure											
Cholesterol											
Diabetes											
Substance Use											
Apply to prevent heart attack											
Individualized exercise											
CANCER											
Breast cancer											
Cervical cancer											
Colonial cancer											
Prostate cancer											
Healthy weight											
Healthy diet											
Healthy sex											
Healthy											

Information is hard to understand and act upon. Information is usually clustered by categories and recommendations are made in terms of frequency rather than actionable, yearly checkpoints. Image: AHRQ Adult Preventive Care Timeline.



Recommendations vary and change over time. Preventive care guidelines change over time. Doctors must make judgement calls by balancing risk factors and patient wishes. Image: NYTimes 11.19.09 editorial, "The Controversy Over Mammograms"

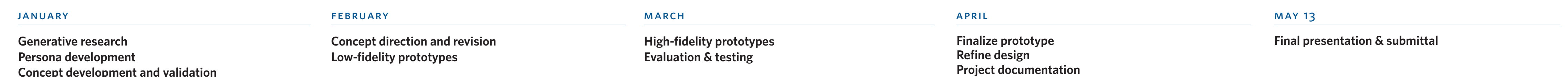


Information sources vary. Government agencies, insurance providers, doctors, and research groups provide different information. Users may show greater trust in doctors and family. Image: Highmark and UPMC printed guidelines



Lifestyle factors can't be ignored. Secondary preventive care prevents or detects illness through screenings and immunizations, but doctors monitor obesity & smoking throughout course of care. Image: flickr-Justin Shearer

PROJECT TIMELINE



DESIGN IMPLICATIONS

Behavioral strategies for use in concept development

Social influence
Personal relationships as motivators

Anchoring
Associate care with certain event or time of year

Loss aversion
Frame missed care as lost money or opportunity

Plan strategy/precommitment
Encourage early commitment and explore incentives and penalties

Disclosure/framing
Counter sense of invincibility by framing outcomes through narrative

Framing
Bundle advice into actionable steps

Emerging implications
Provide personalized and memorable mental model of recommended care

Channel information through trusted sources (doctors, family, friends)

Establish preventive care as a routine commitment with feedback over time

Create system that grows with user and supports various age groups and needs