Care Plans

A PATH TO DRIVING BETTER OUTCOMES

Beth Herlin

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@beth11herlin

MY JOURNEY

I DESIGN HEALTH SERVICES

Past 2 years:

Care planning for Johnson & Johnson, Abbott Labs, Glytec, Seniorlink, Updox, Care Cards

Care Plans series author - www.goinvo.com/features/careplans

Currently:

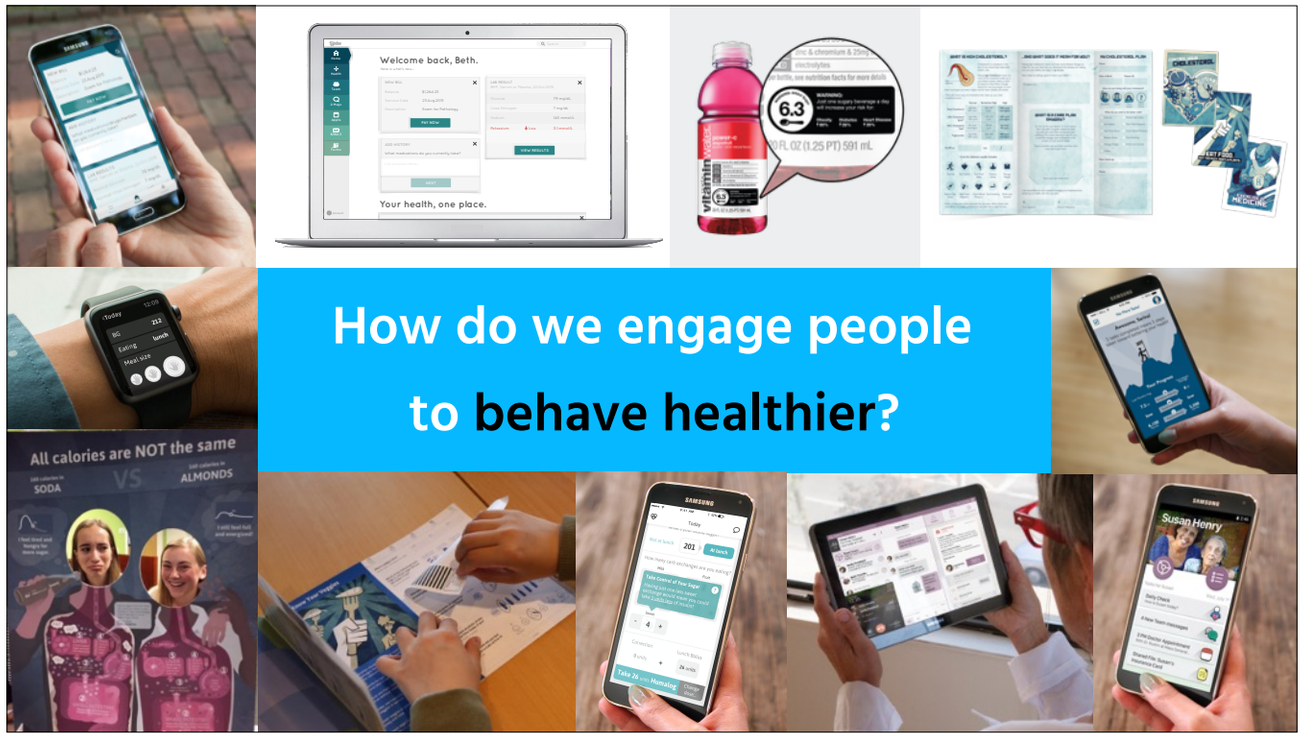
WuXi NextCode carrier testing and genomic research

How do we engage people to behave healthier?

I’ve spent some time thinking about how to engage people to behave healthier.
Used care plan principles in:

- Responsive app for caregivers, their loved ones, and their care navigators
- Patient portal
- Patient-facing mobile care plan applications for things like diabetes and schizophrenia
- Analog care plans for office visits and mail-based delivery

Over 7 digital services…



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INFORMED BY...

Joyce Lee, MD, MPH

University of Michigan, Doctor as Designer

Jeff Belden, MD

University of Missouri, toomanyclicks.com

Jane Sarasohn-Kahn, MA, MHSA

THINK-Health, Health Populi blog, Huffington Post

Advisor 1, MD, VP, CMO

United Healthcare, APA, Advisor to AMA and WHO

Advisor 2, MSW, MBA/HCM,LCSW, ACM

Mayo Clinic, HonorHealth, ACMA

Care Plans

Add “A path to driving better outcomes”

What are

Care Plans ?

Add “A path to driving better outcomes”

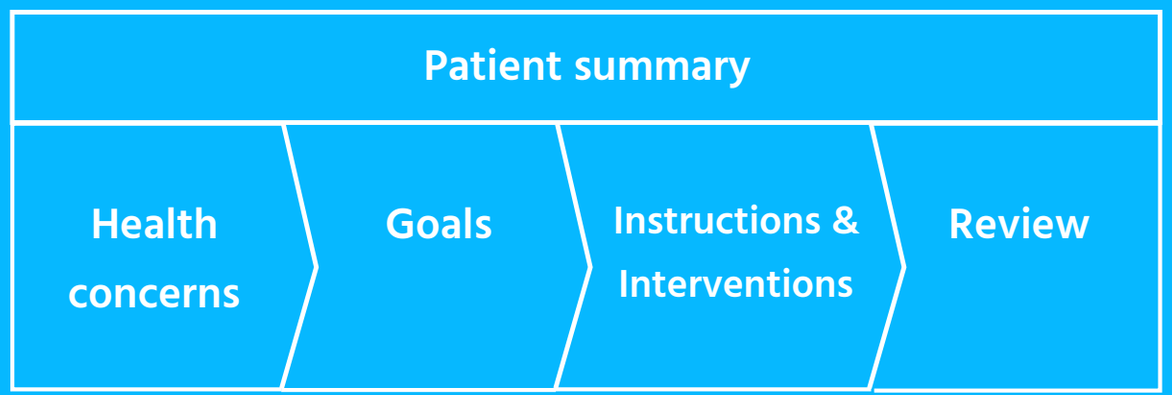
CARE PLANS **ARE...**

A synthesis of all ‘plans of care’

Driven by YOU & your care team

Ongoing

CARE PLANS CONTAIN...



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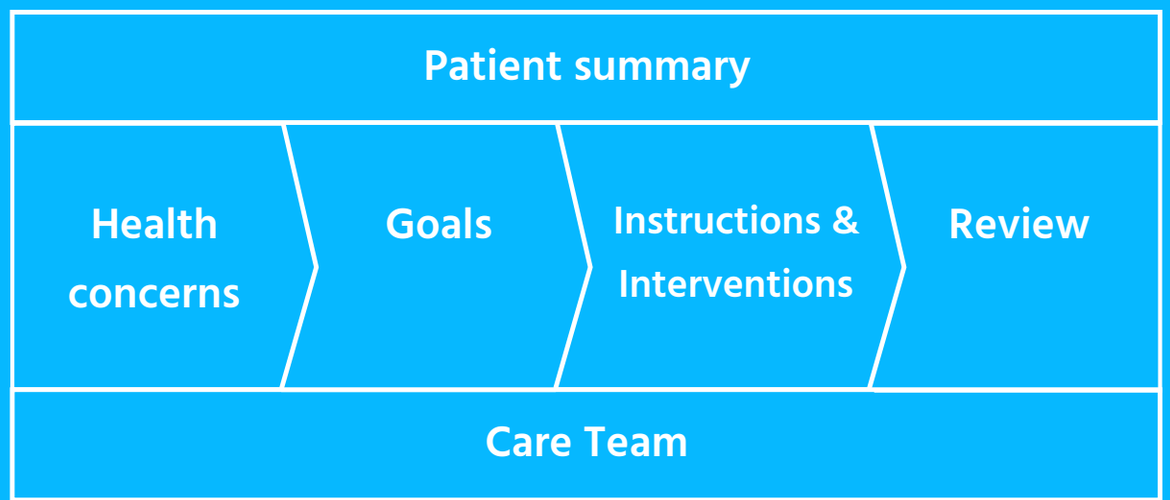
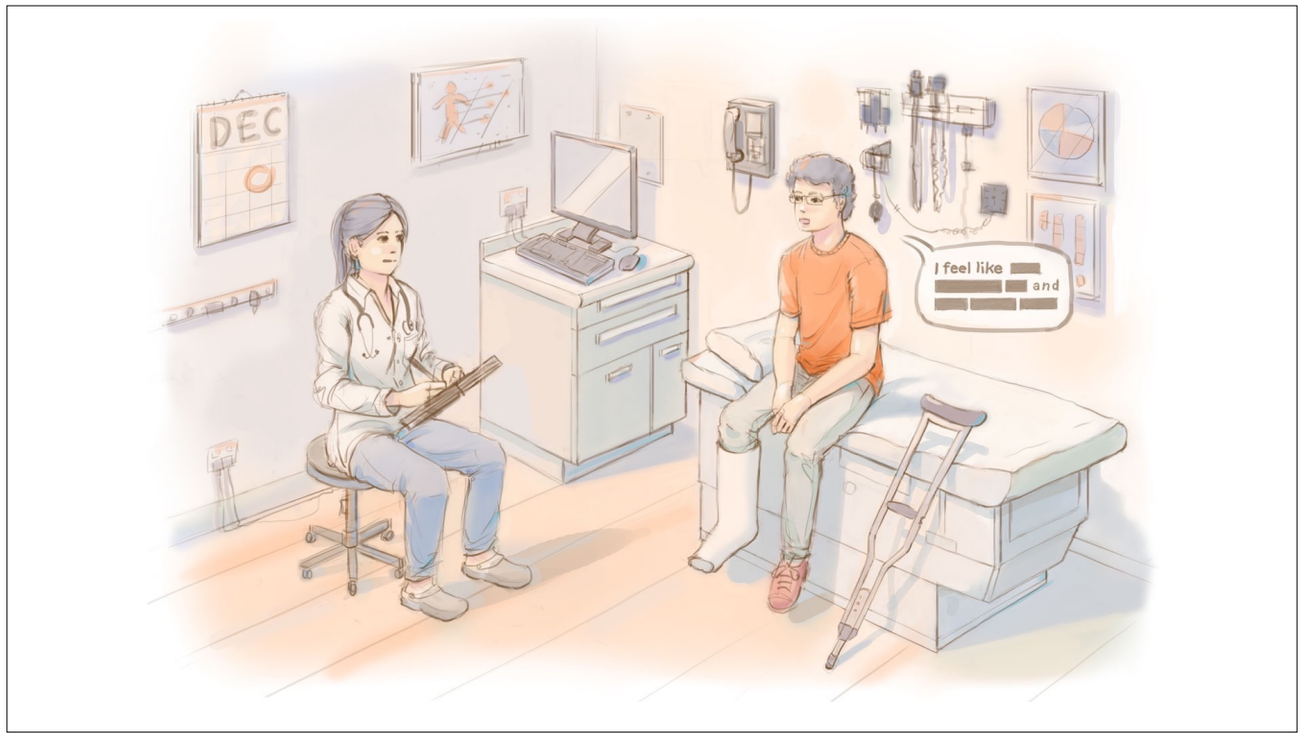
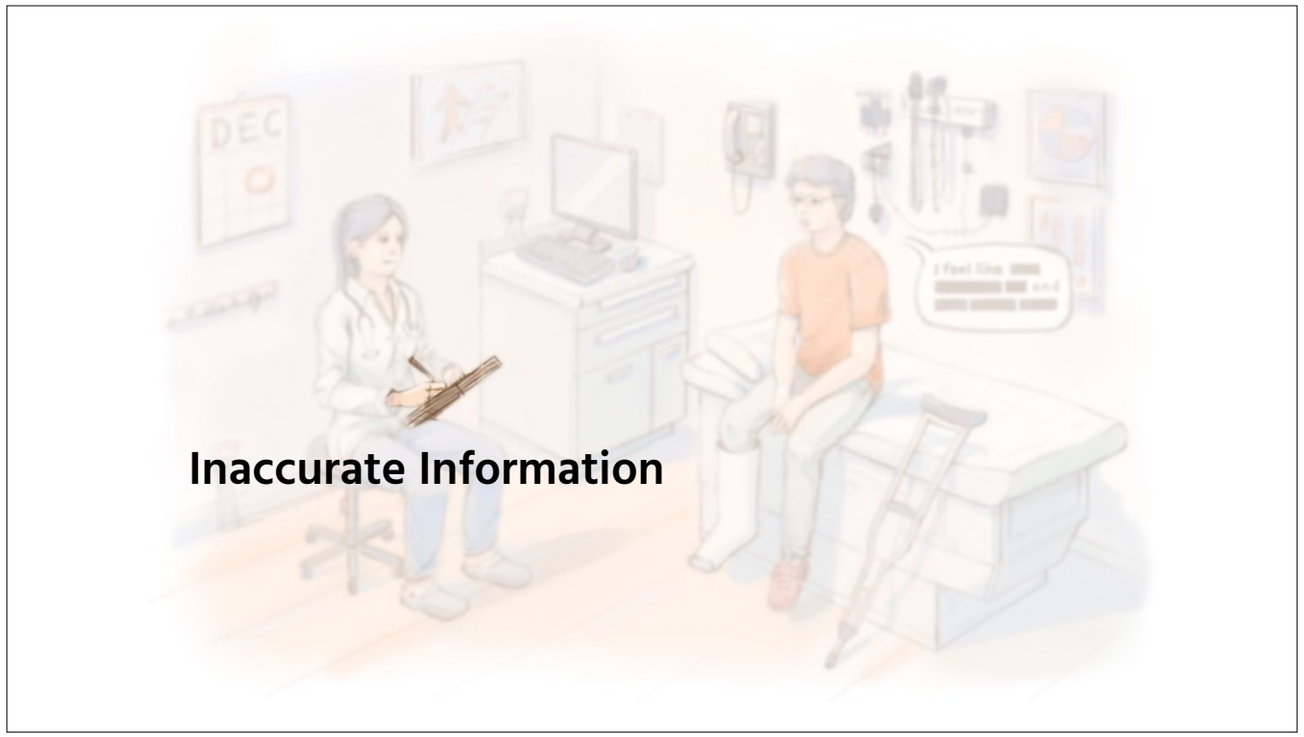




Care plans don’t really exist in today’s practice…yet. There’s a lot of reasons why this is the case. Let look at Edwin. He broke his leg and is now seeing his primary care doctor, Dr. Yang after an emergency visit 1 week ago.

Communication Issues

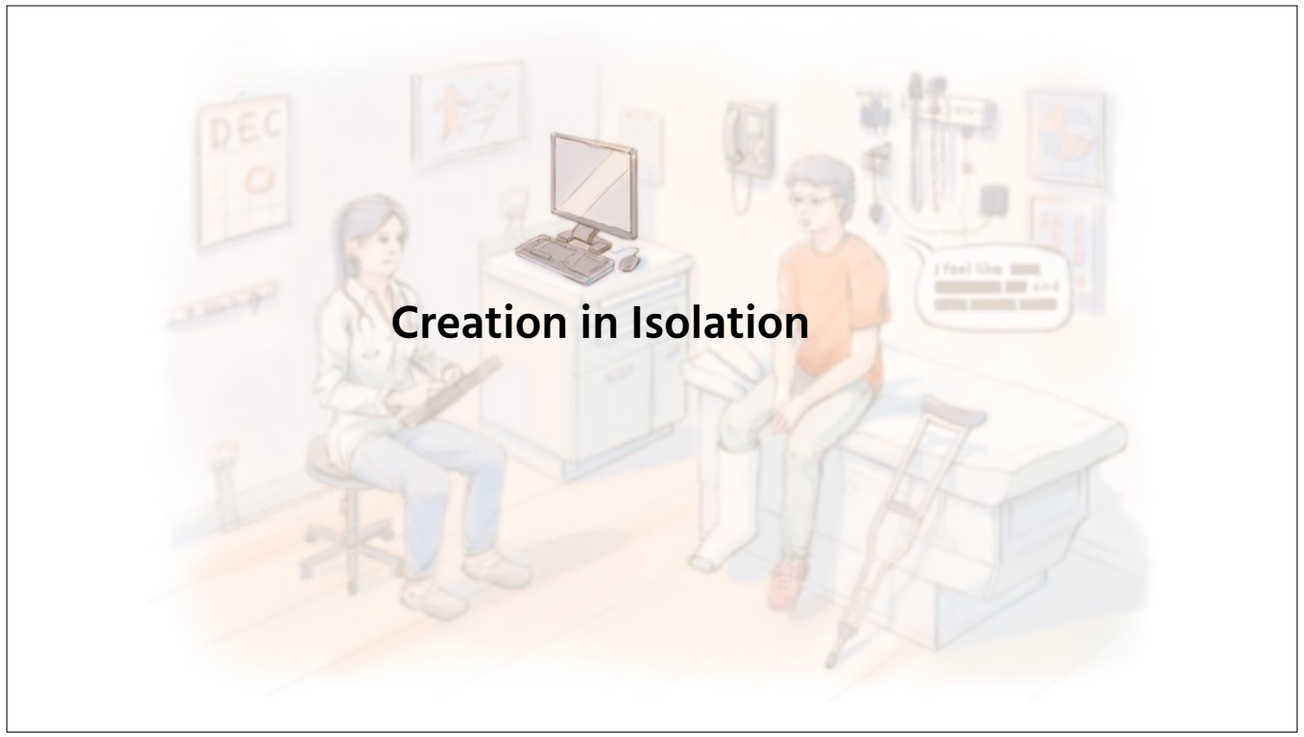
Edwin had trouble getting ahold of the right people to get his health records sent over from the hospital he visited. Dr. Yang can’t get in touch with the doctor who saw him, and must rely on his account of important medical information. There are no effective, standard communication tools across institutions to discuss transitions and other aspects of care.



Inaccurate Information

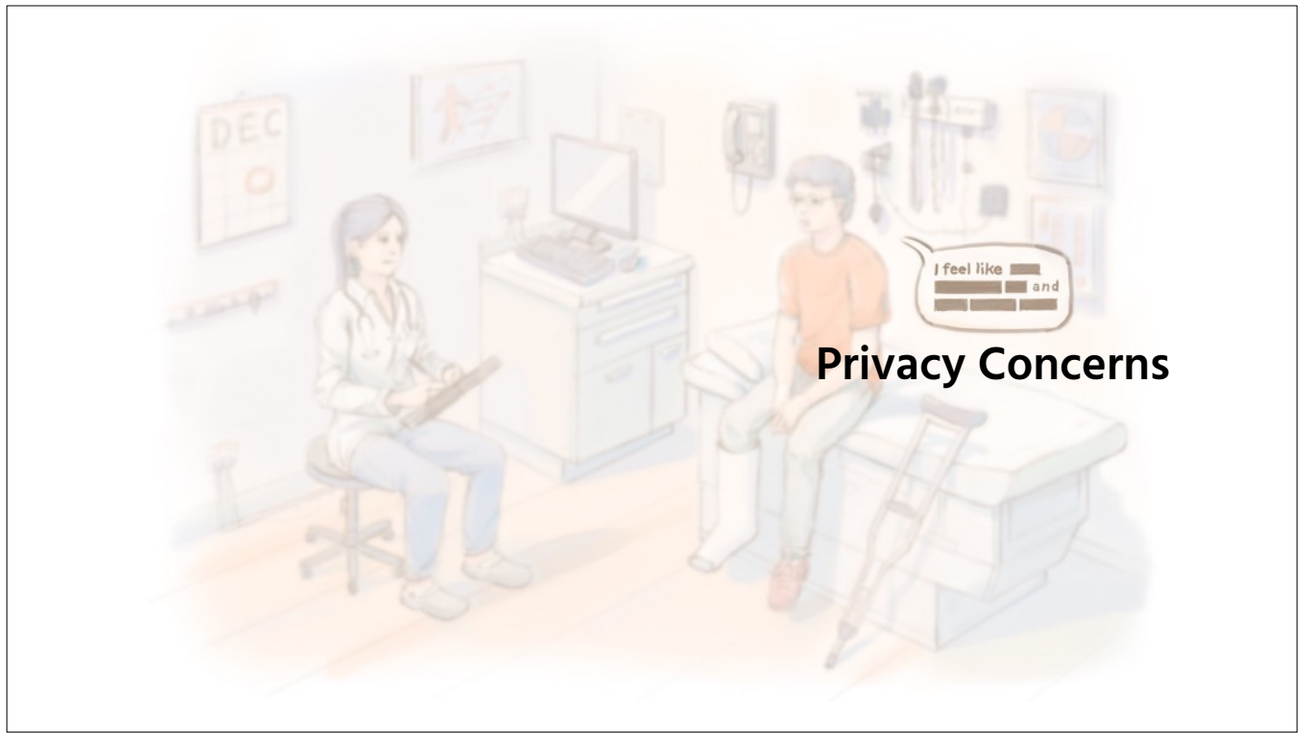
Because she doesn’t have the whole story, Dr. Yang has trouble working with Edwin to prescribe the right plan. She might ask questions in a way that Edwin doesn’t understand, and he might not give the most accurate answer because he is self conscious or unsure.

-The Change Foundation in Ontario found that up to a ⅓ of providers regularly relied on the caregiver and client to pass along information that was relevant to building the care plan - https://www.oma.org/Resources/Documents/CoordinatedCarePlan_June2014.pdf



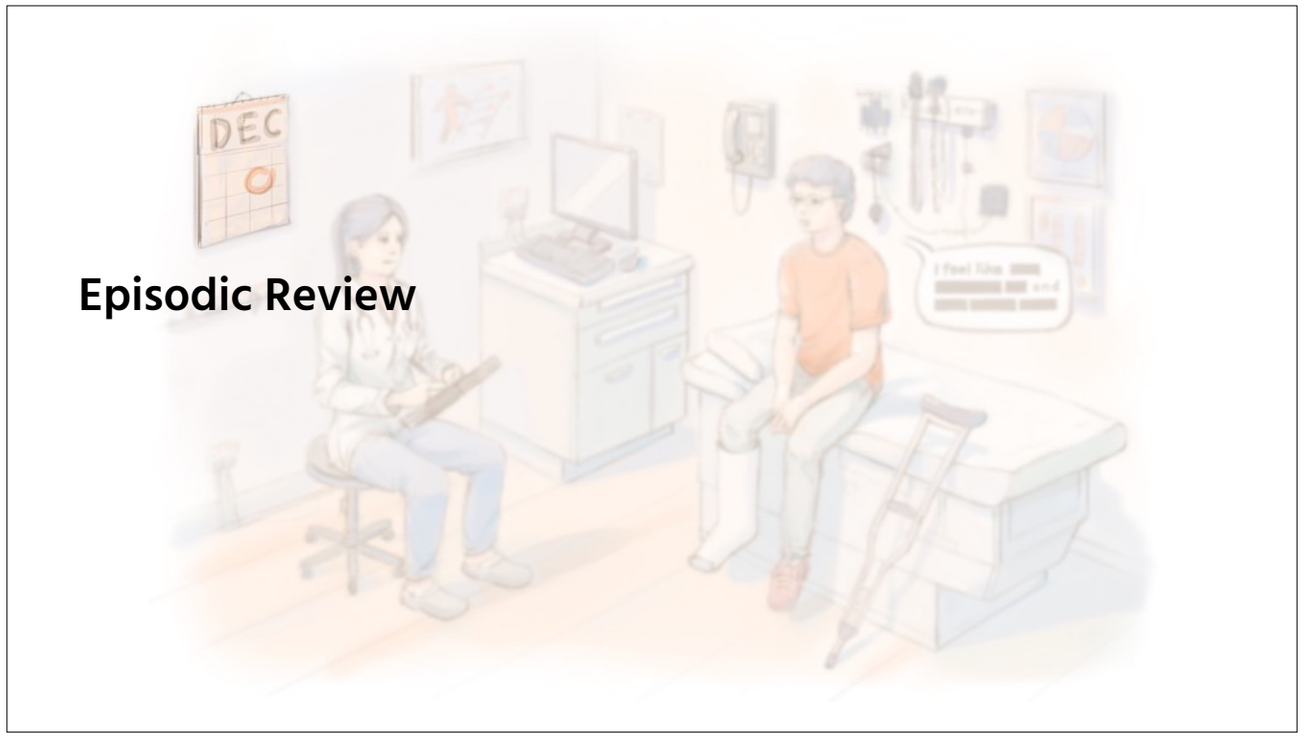
Creation in Isolation

Edwin will receive some form of a treatment plan created by Dr. Yang, which may or may not line up with the one from his ER doctor he saw a week ago. When Dr. Yang refers him to an orthopedic specialist, he will get another set of potentially differing instructions and interventions. There is not single, holistic plan shared across his care team that follows him around, and no standard library of care plan content for his team to pull from.



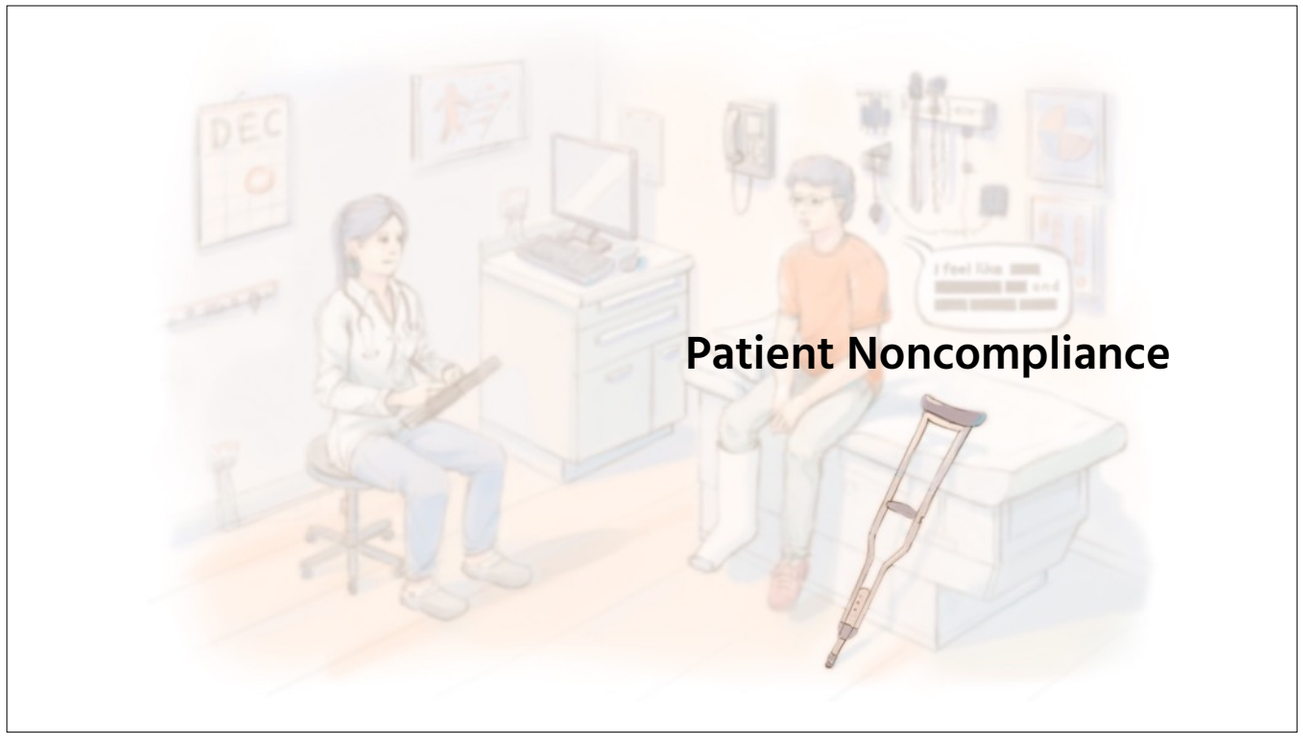
Privacy Concerns

Edwin is concerned about what aspects of the encounter will be included in his record for others to see. Since he does not have full control over his health information, he’s hesitant to provide more information than what he thinks is sufficient for Dr. Yang to treat him.



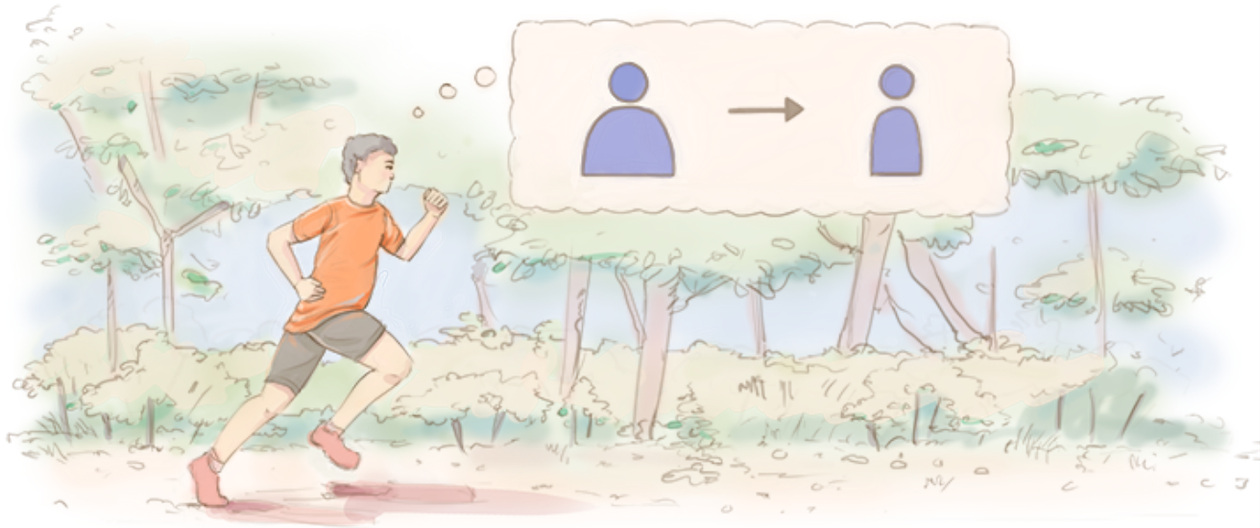
Episodic Review

Dr. Yang tells Edwin to come back and see her again in 1 month to check his progress. Edwin’s health status could change in a variety of ways in that 1 month - yet he will still be following the same - potentially harmful - course of treatment. His care plan won’t change with his needs, because there is no form of continuous monitoring or intervention.

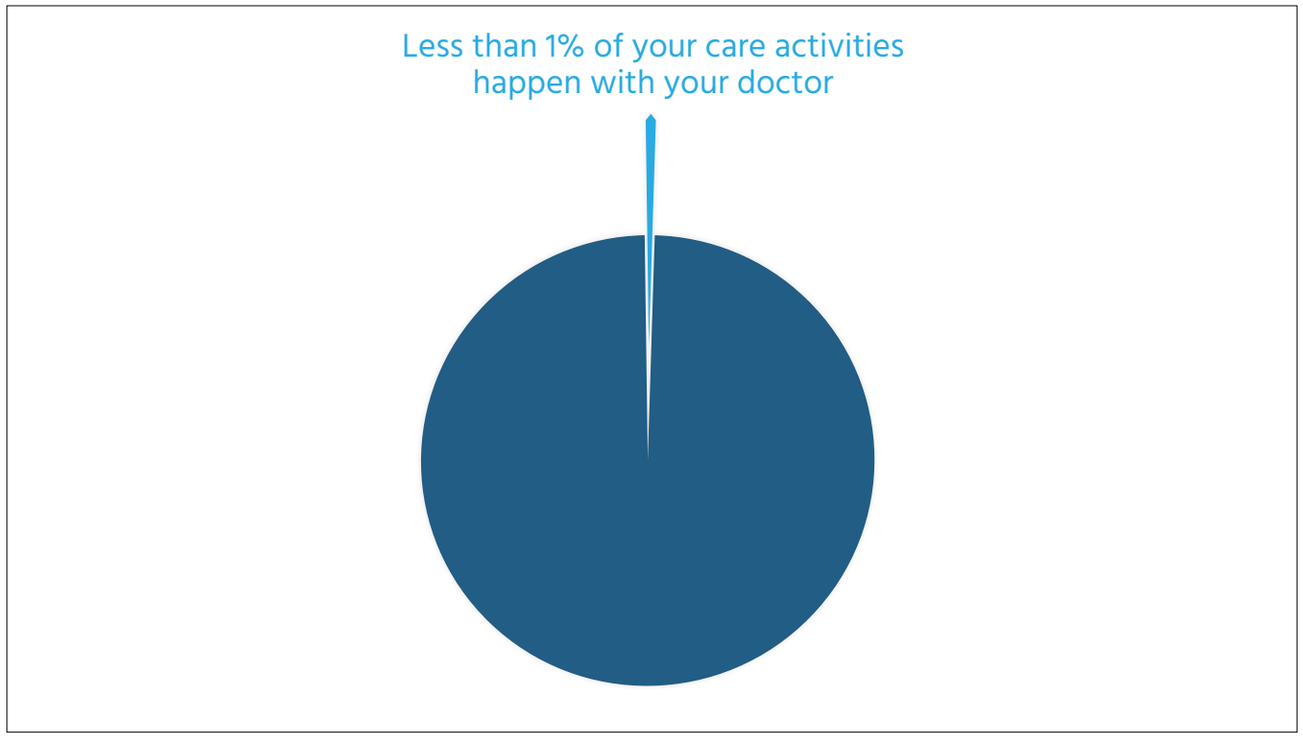


After Edwin leaves the office, there’s a 20-30% chance he will fill his prescription, and a 50% chance of actually continuing the medication. Later on during his rehabilitation, he will start an aerobic exercise program, which he will be 50% likely to quit before 6 months. He received very little education during his short interaction about how the prescribed health behaviors will affect his outcomes.
Edwin, like most people, doesn’t want to think about his health. Unless a care plan is designed in an accessible, engaging way, it probably won’t be followed.

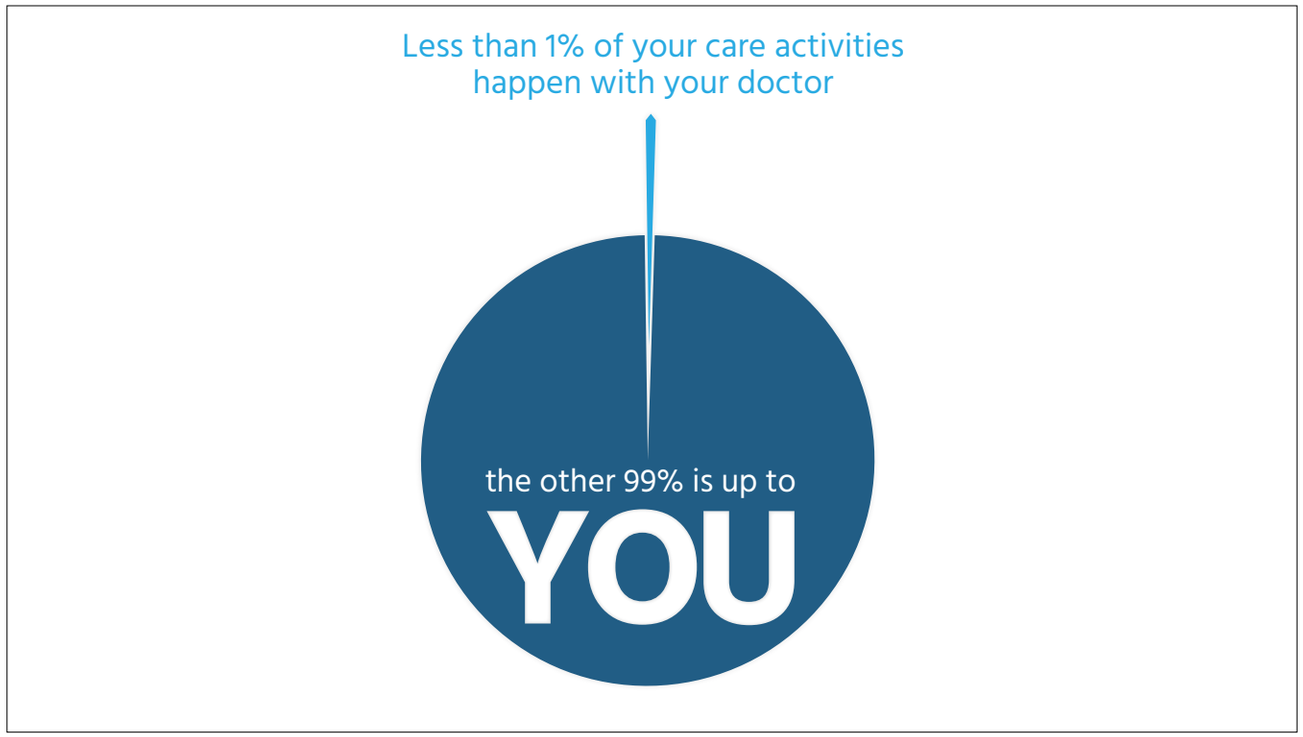
https://www.cdc.gov/primarycare/materials/medication/docs/medication-adherence-01ccd.pdf
Robison JI1, Rogers MA. Adherence to exercise programmes. Recommendations. Sports Med. 1994 Jan;17(1):39-52.



What happens when you leave the doctor's office?



<1% of care happens at the doctor’s office. How do we get health interventions to ‘stick’ and promote ‘self-care’?



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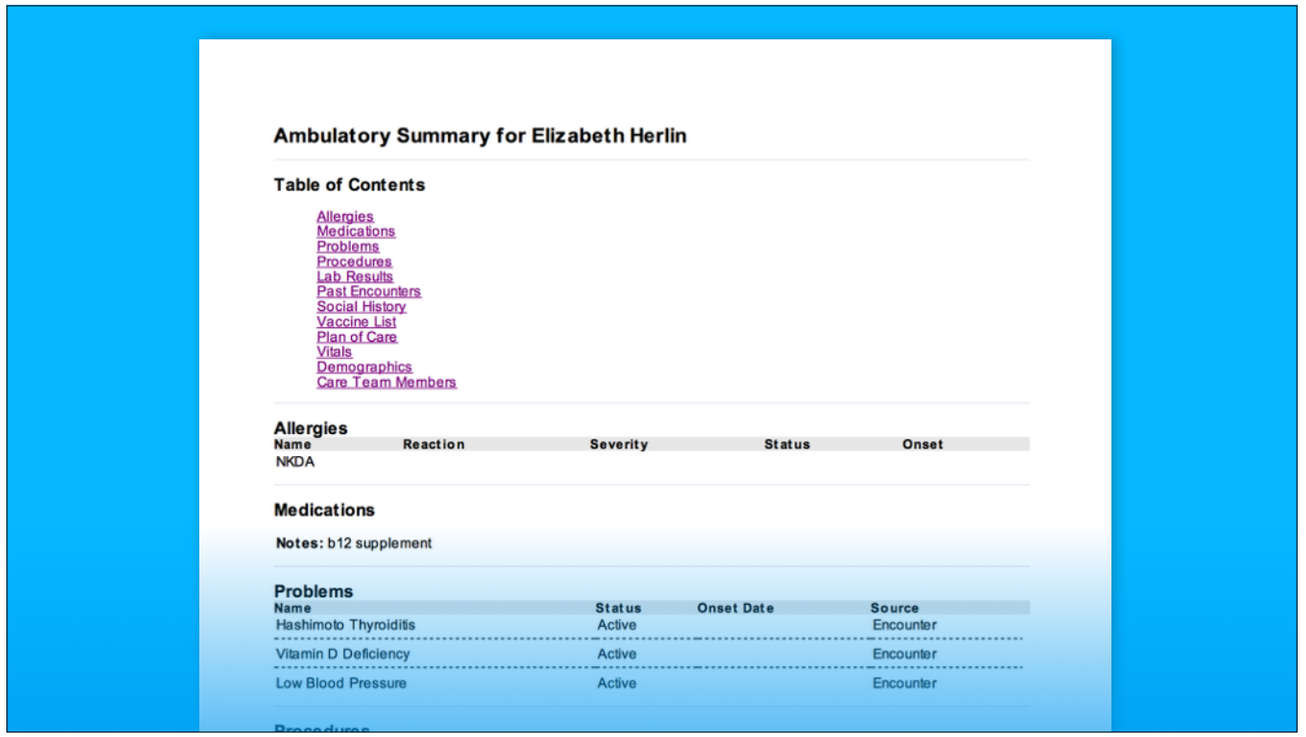


Ambulatory Summary for Elizabeth Herlin

Table of Contents

Allergies

Name	Reaction	Severity	Status	Onset
NKDA				

Medications

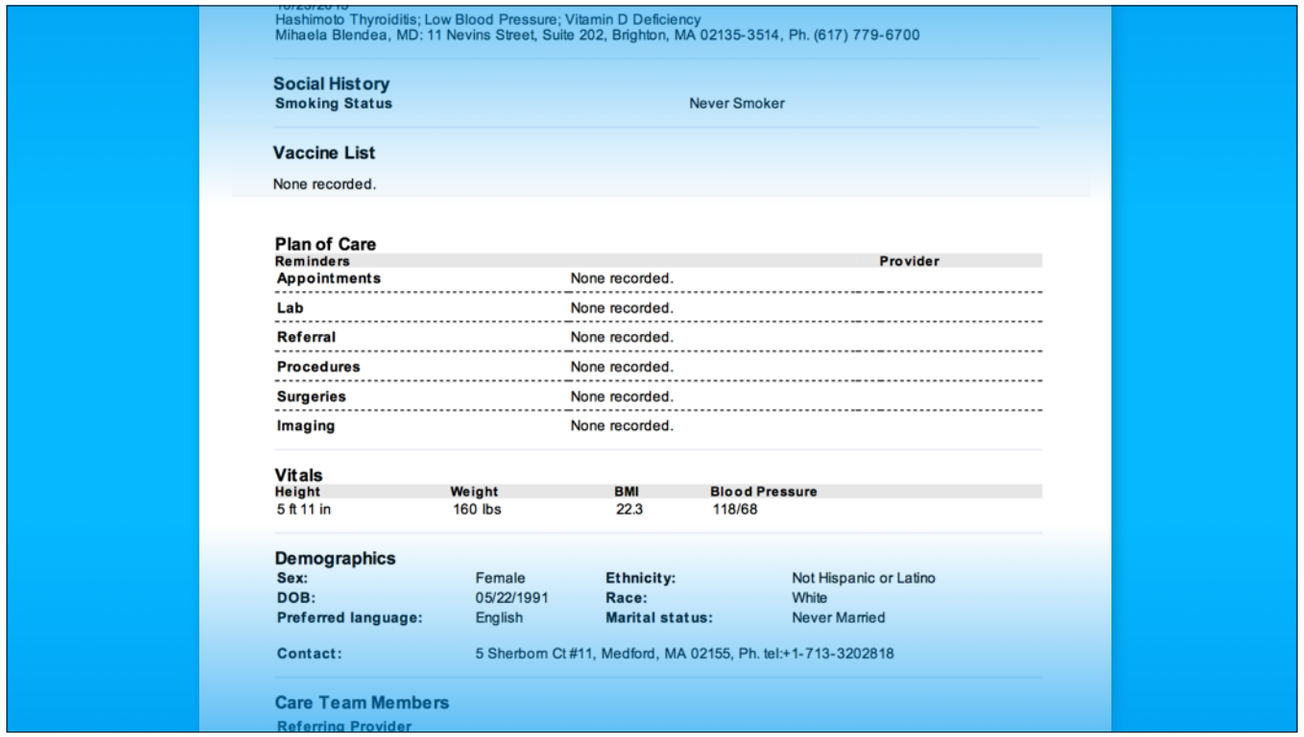
Notes: b12 supplement

Problems

Name	Status	Onset Date	Source
Hashimoto Thyroiditis	Active		Encounter
Vitamin D Deficiency	Active		Encounter
Low Blood Pressure	Active		Encounter

Procedures

The current clinical standard of providing a visit summary is not too effective….
This is a real-life visit summary from my real-life doctor’s appointment…
with a real-life ‘plan of care’.
How do I behave in a healthier way?



Hashimoto Thyroiditis; Low Blood Pressure; Vitamin D Deficiency
Mihaela Blendea, MD: 11 Nevins Street, Suite 202, Brighton, MA 02135-3514, Ph. (617) 779-6700

Social History

Smoking Status	Never Smoker

Vaccine List

None recorded.

Plan of Care

Reminders		Provider
Appointments	None recorded.	
Lab	None recorded.	
Referral	None recorded.	
Procedures	None recorded.	
Surgeries	None recorded.	
Imaging	None recorded.	

Vitals

Height	Weight	BMI	Blood Pressure
5 ft 11 in	160 lbs	22.3	118/68

Demographics

Sex:	Female	**Ethnicity:**	Not Hispanic or Latino
DOB:	05/22/1991	**Race:**	White
Preferred language:	English	**Marital status:**	Never Married
Contact:	5 Sherborn Ct #11, Medford, MA 02155, Ph. tel:+1-713-3202818		

Care Team Members

Referring Provider

The current clinical standard of providing a visit summary is not too effective….
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CURRENT SERVICES

As we shift to quality-based, rather than volume-based care (50% alt payment models by 2018) there is a growing demand for care planning and management services.

CURRENT SERVICES

www.goinvo.com/features/careplans

	Interoperability	Patient Summary	Education	Goal Setting	Vitals Tracking	Dynamic Intervention	Data Ownership	Prof. Team Comm.	Nonprof. Team Comm.	Validity	Breadth	Avg / 100
caresync	80	100	20	40	50	0	100	30	80	25	100	**57**
HealthVault	80	50	0	60	100	0	100	30	0	50	100	**54**
wellframe	50	50	80	60	25	50	75	40	0	100	50	**53**
healarium	33	25	60	80	50	50	75	0	0	75	75	**48**
healthagoo	20	25	60	80	0	0	75	80	20	50	100	**47**
amwell	40	75	20	0	25	0	75	70	0	75	100	**44**
Bridge	100	75	40	20	0	0	75	60	0	50	70	**44**
patient fusion	80	75	40	20	25	0	100	30	0	50	70	**43**
caring in place	0	50	20	80	0	0	75	0	100	25	30	**35**
MEDFUSION Plus	80	75	40	0	25	0	50	40	0	0	70	**33**

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CRITERIA

STANDARDIZATION AND INTEROPERABILITY

- Complies with meaningful use requirements (providing patients with encounter notes/discharge summaries).
- Meets CDA and/or FHIR data standards to integrate with EHRs.
- CQM standard compliance
- HIPAA compliant.
- Integrates with clinical workflows.

+ 8 more...

PATIENT SUMMARY AND HEALTH HISTORY

- Provides overview of general health condition.
- Service takes into account patients individual health concerns.
- Provides comprehensive medical history.
- Ease of obtaining medical record or medical history information.

PATIENT INSTRUCTIONS AND EDUCATION

- Personalized, time-based instructions from care providers for both short and long term.
- Dynamic instructions based on assessment of understanding and new data.
- Education reinforcement through reminders, and context-sensitive notifications.
- Links to external relevant resources.
- Accounts for individual demographics

This scoring was based on extensive criteria derived from our research. Here’s just a few of them…

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Did another take at the landscape with more current solutions, mapping them out on different axes. One important way to think about them is by who is taking the risk to drive the service.

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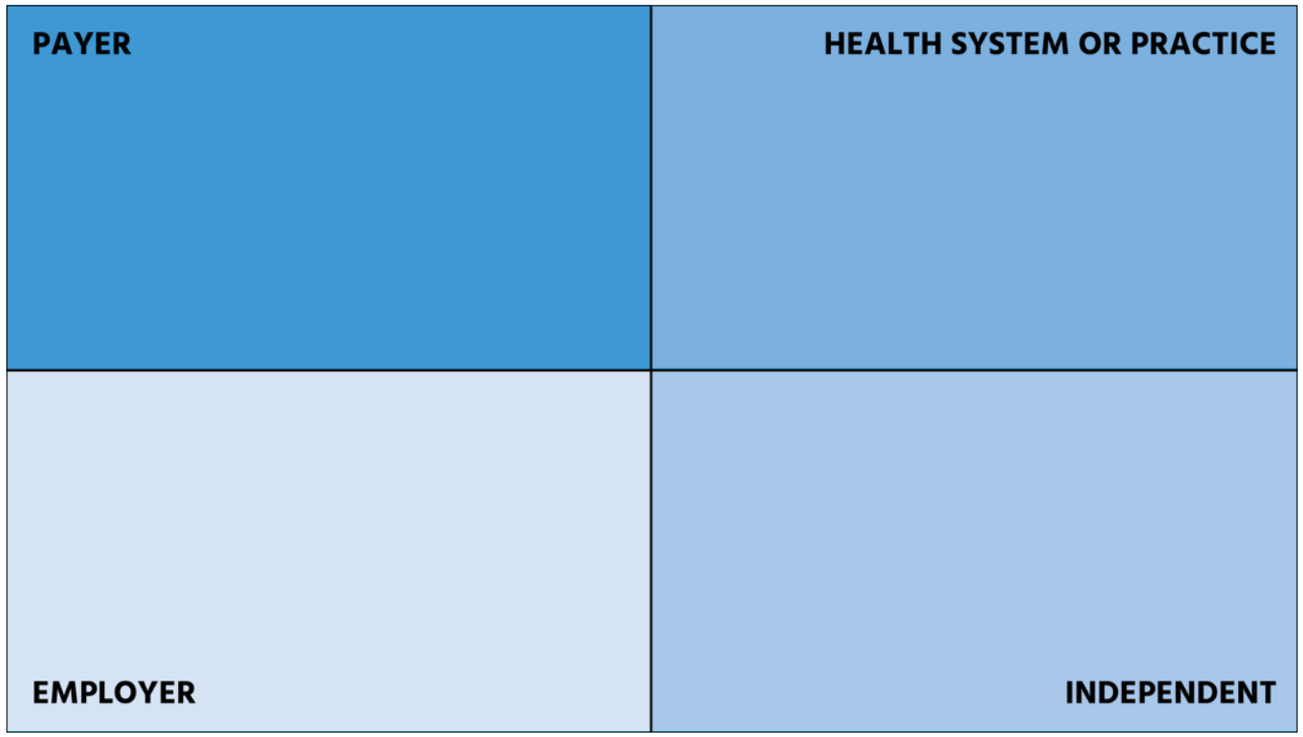
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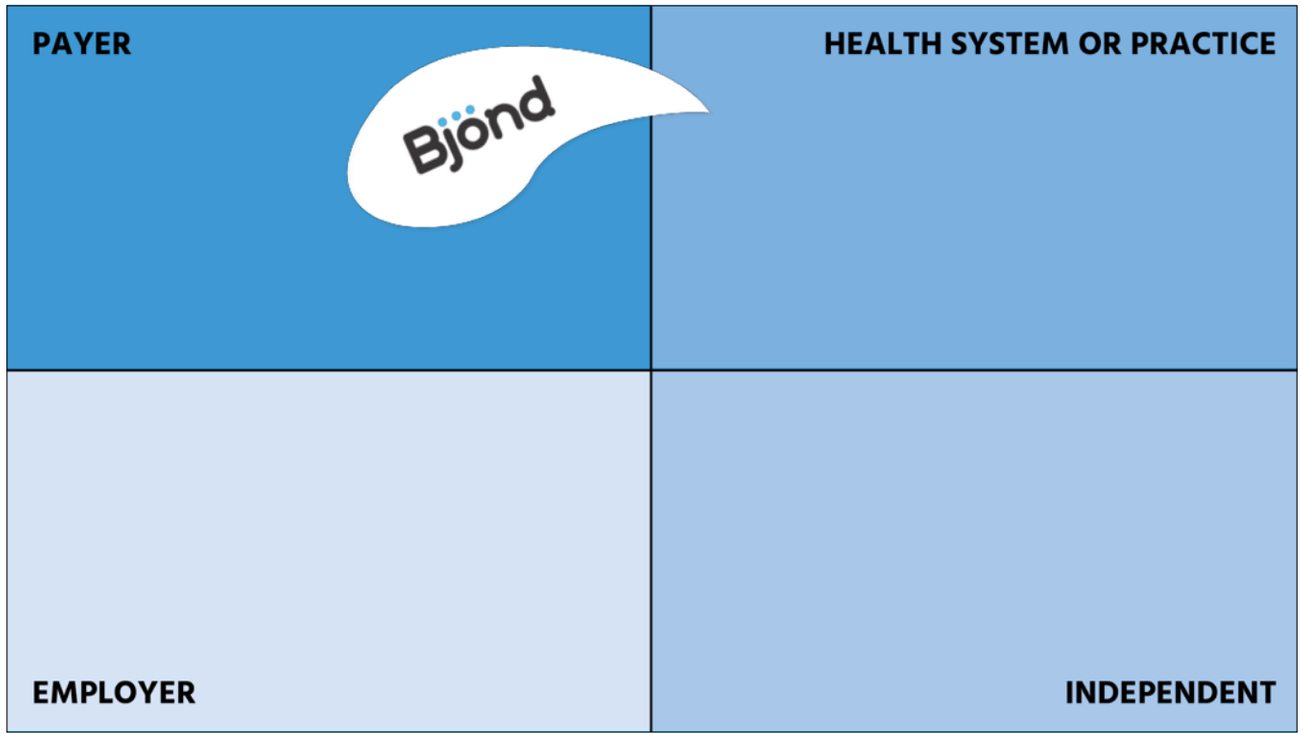
PAYER
Bjond
HEALTH SYSTEM OR PRACTICE
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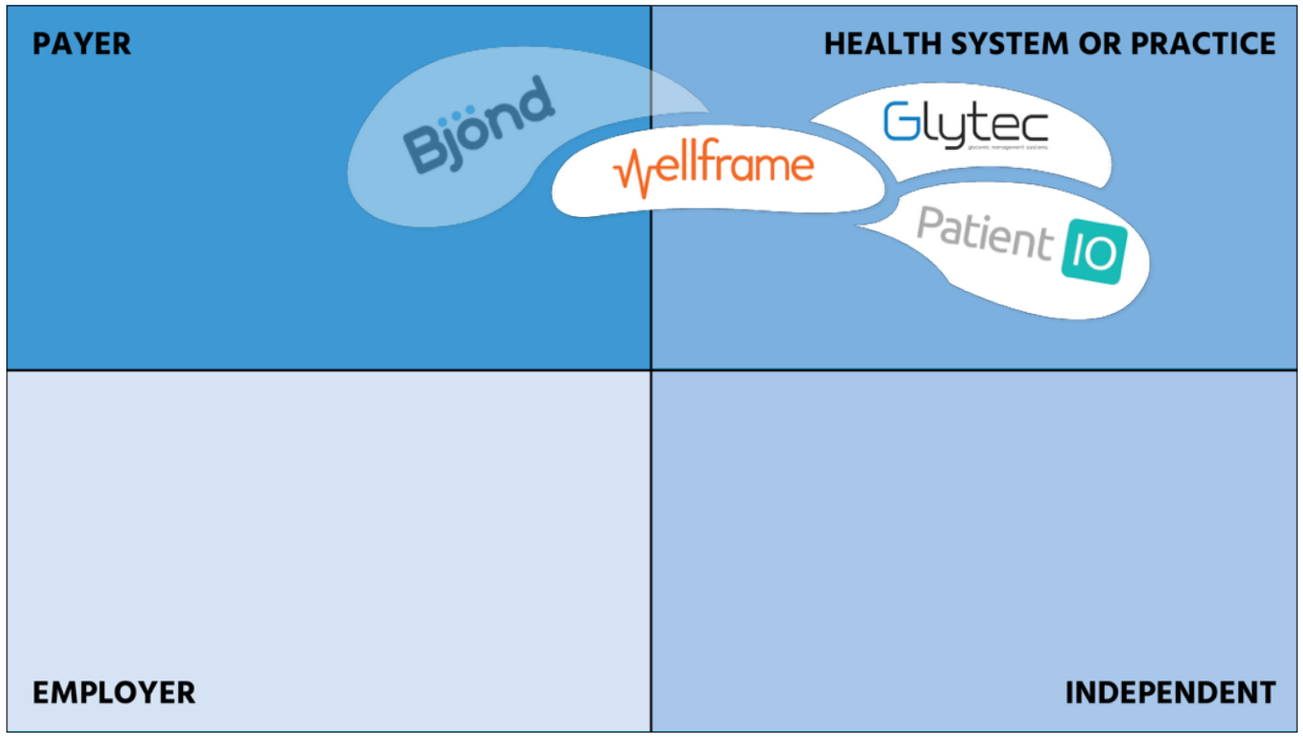
Images from http://www.bjondinc.com/#health

Bjönd allows insurers to analyze all patient health information and deliver the most effective intervention.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Bjond
Wellframe
Glytec
Patient IO
EMPLOYER
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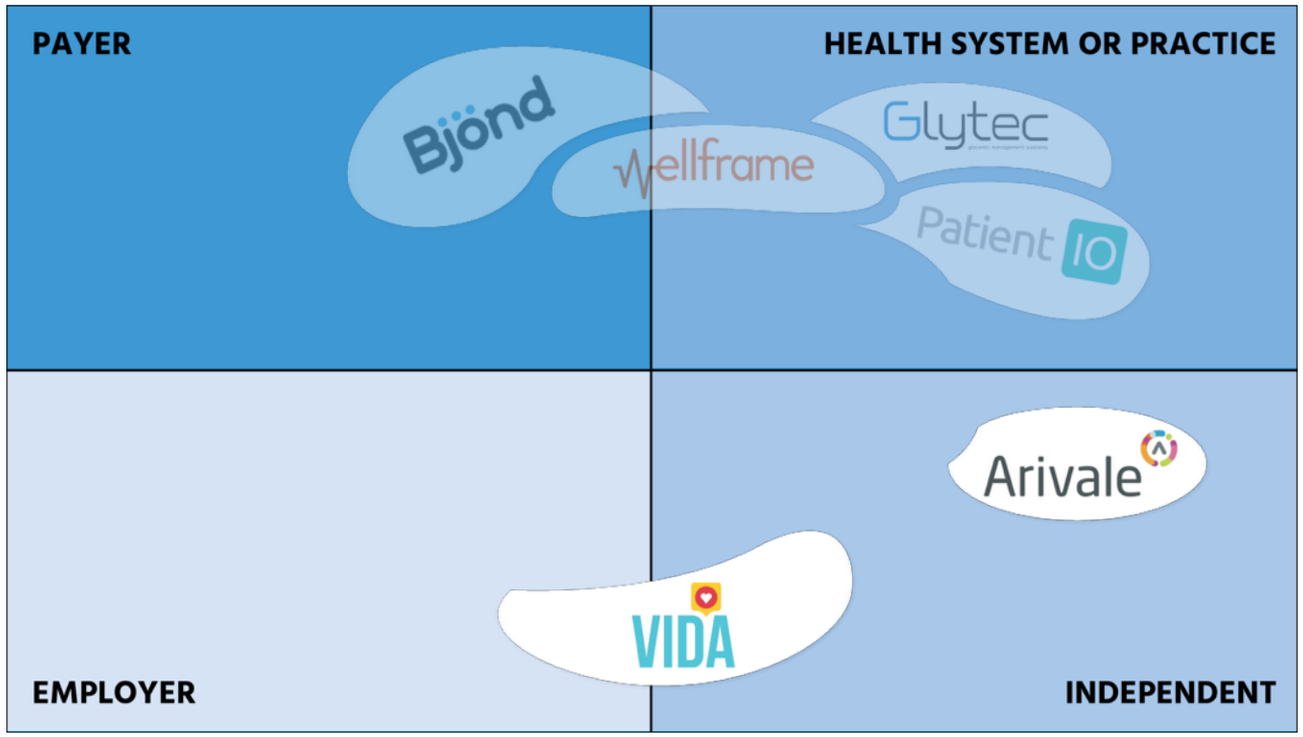
Images from https://www.wellframe.com/solution

provide healthcare professionals with a platform to prioritize at risk patients, and communicate with and deliver content to patients through a mobile app. But there doesn’t seem to be much inclusion of other members on the care team (professional or not).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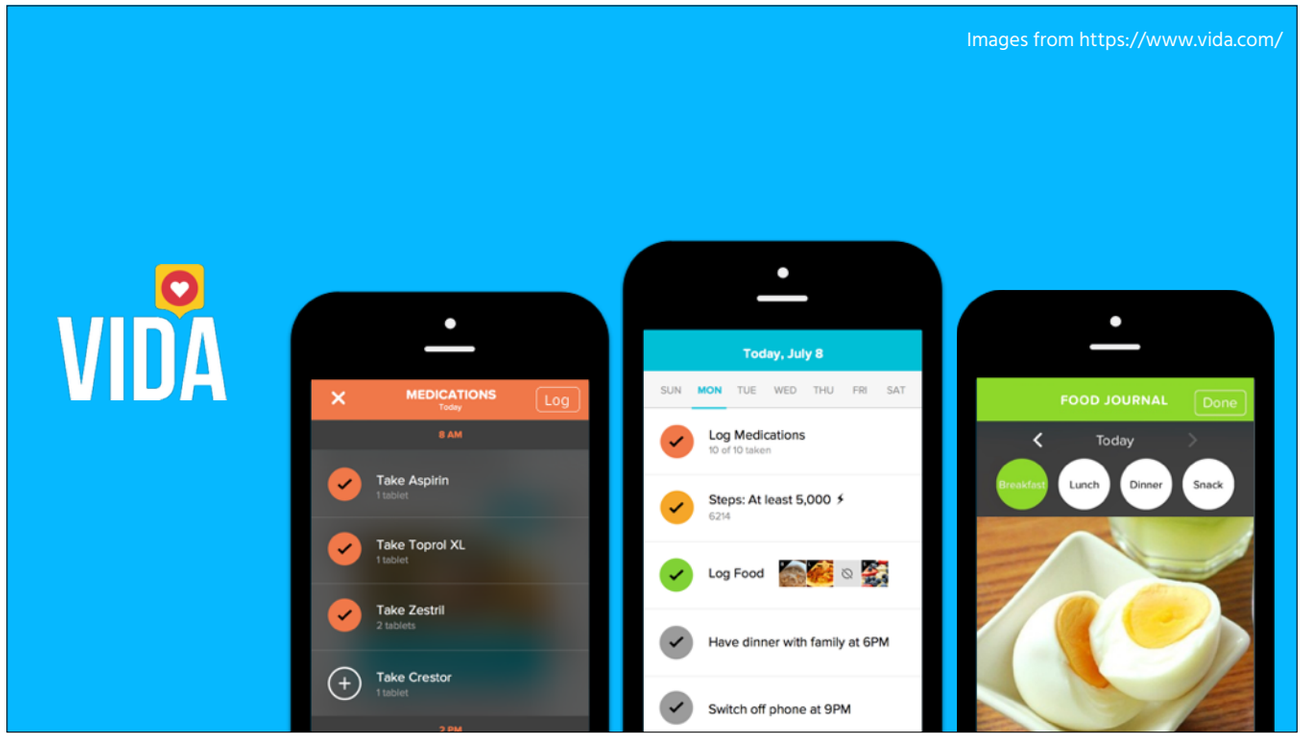
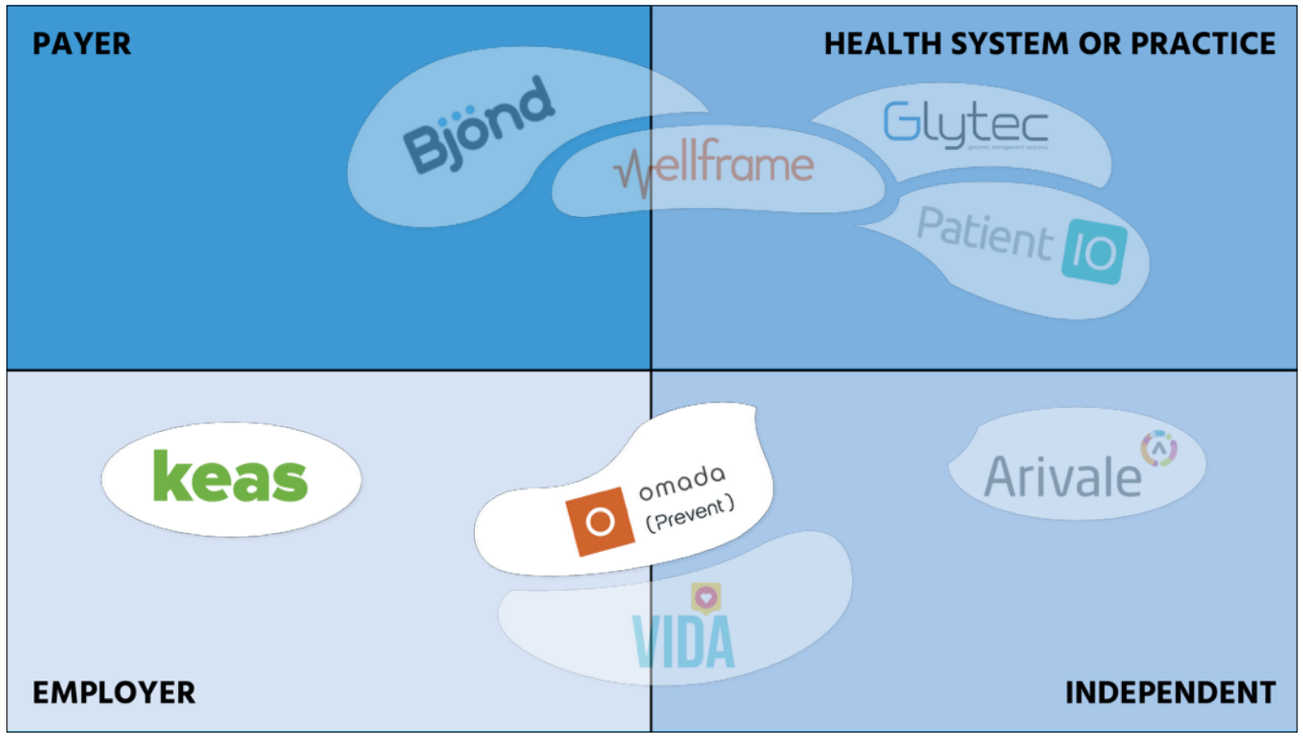


started as an independent wellness service direct to consumer, but now is also employer-facing; but limited scope of conditions/goals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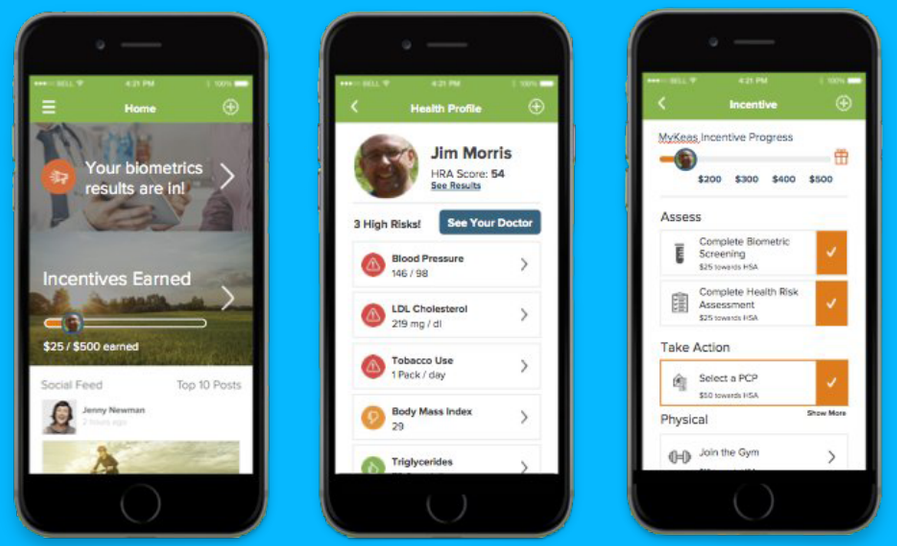
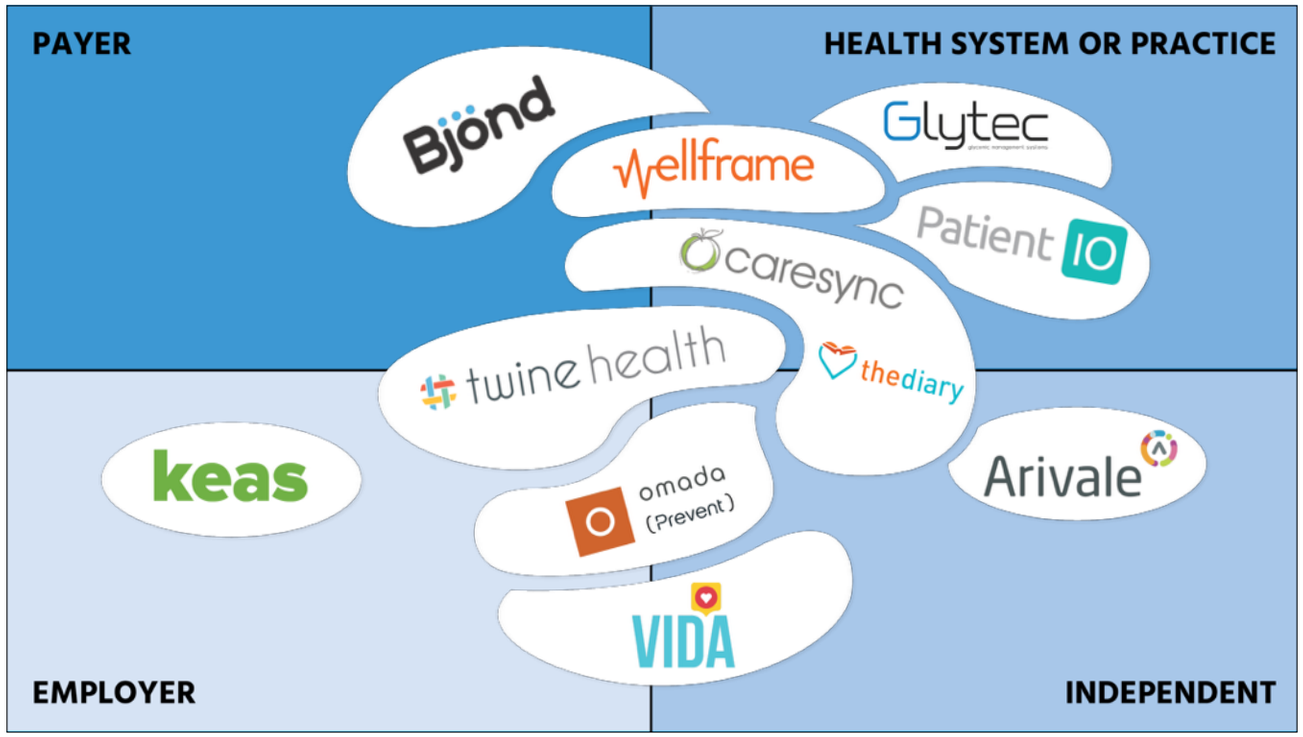


Images from http://www.keas.com/

allows self-insured employers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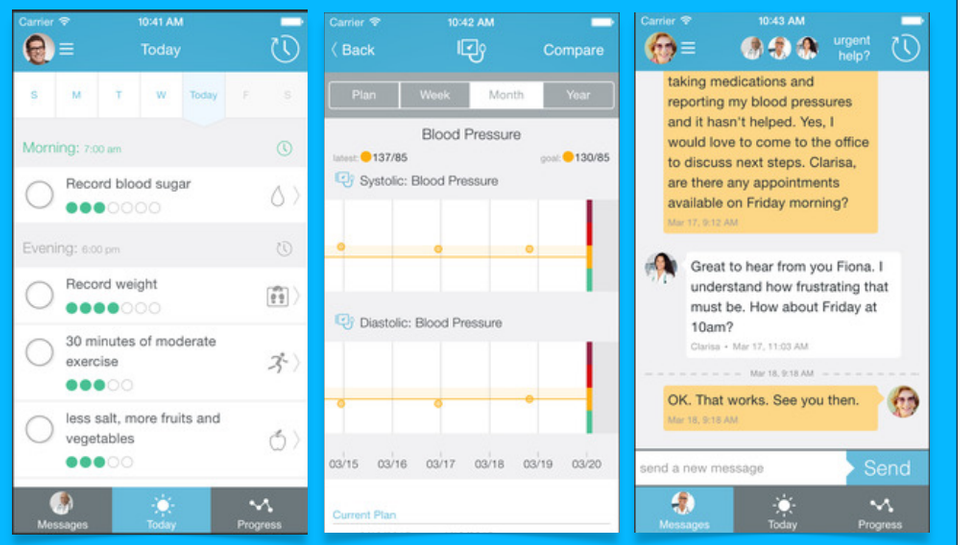
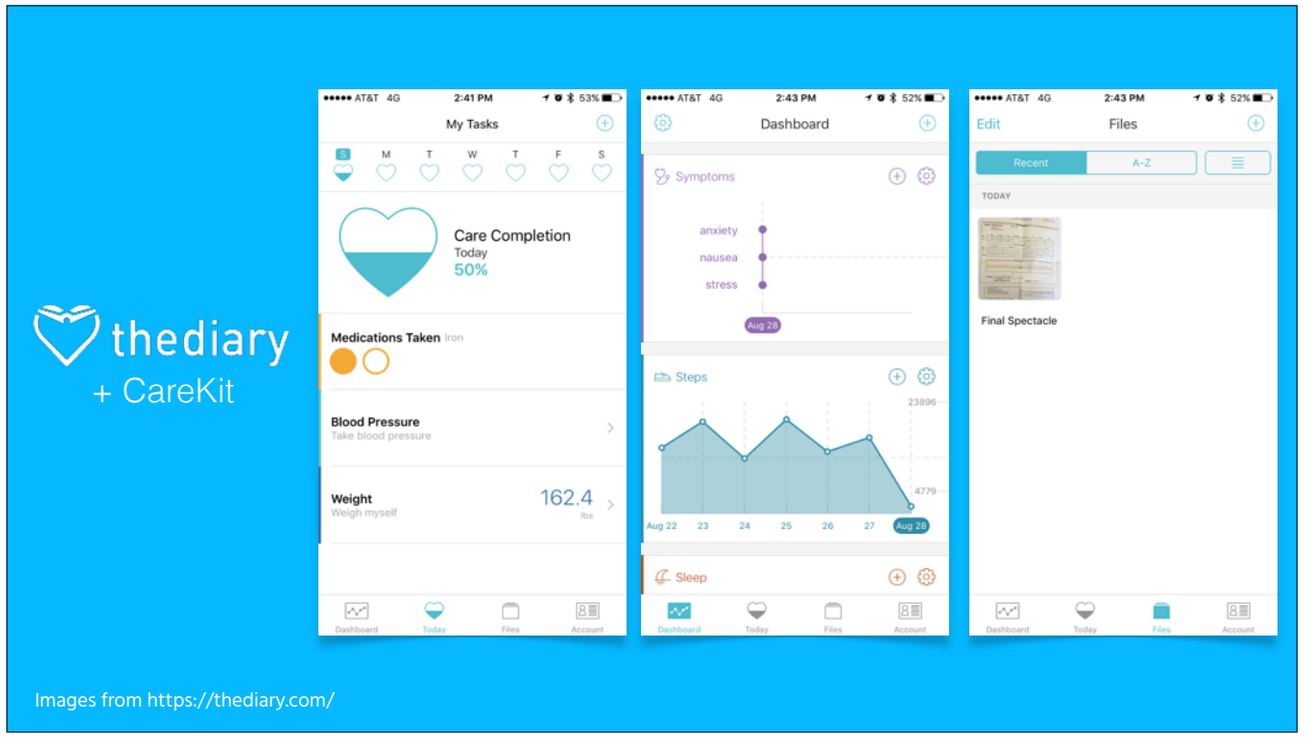
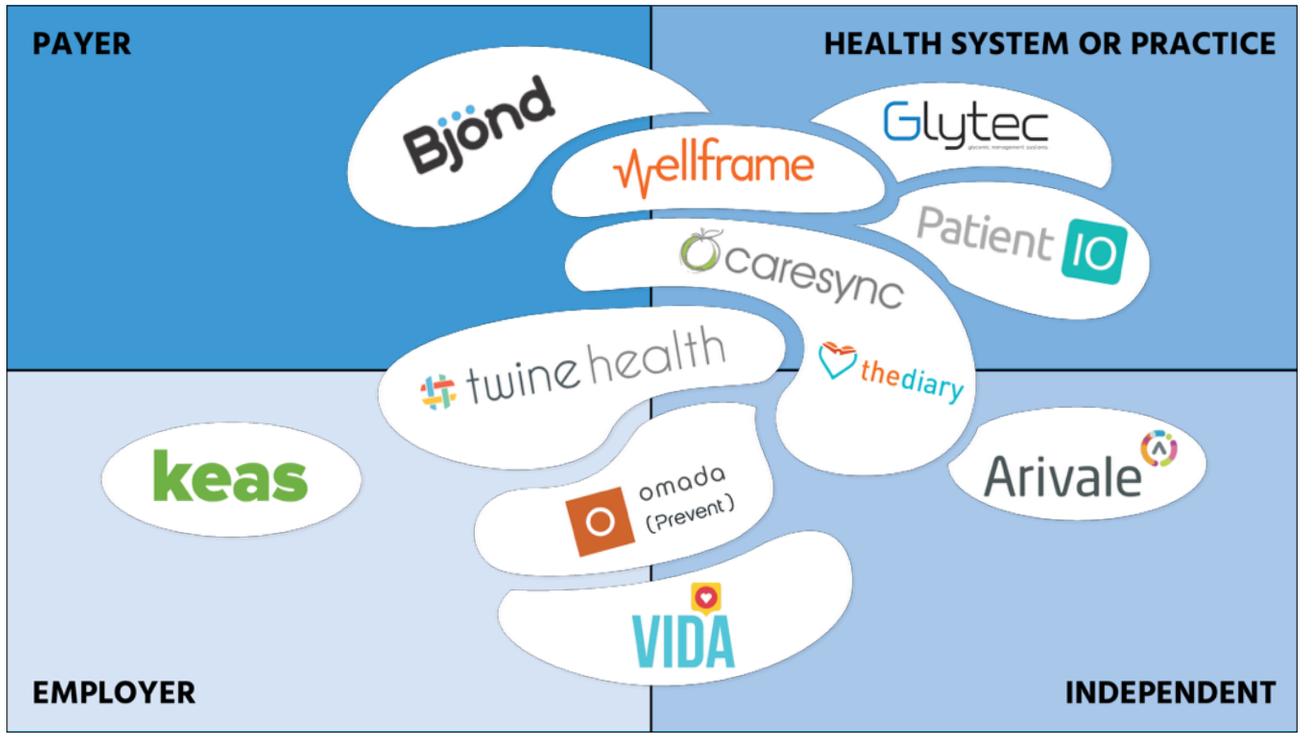


Images from https://www.twinehealth.com/

Provider, payer, and employer driven platform for managing patients



independent wellness service direct to consumer (but also now employer-facing)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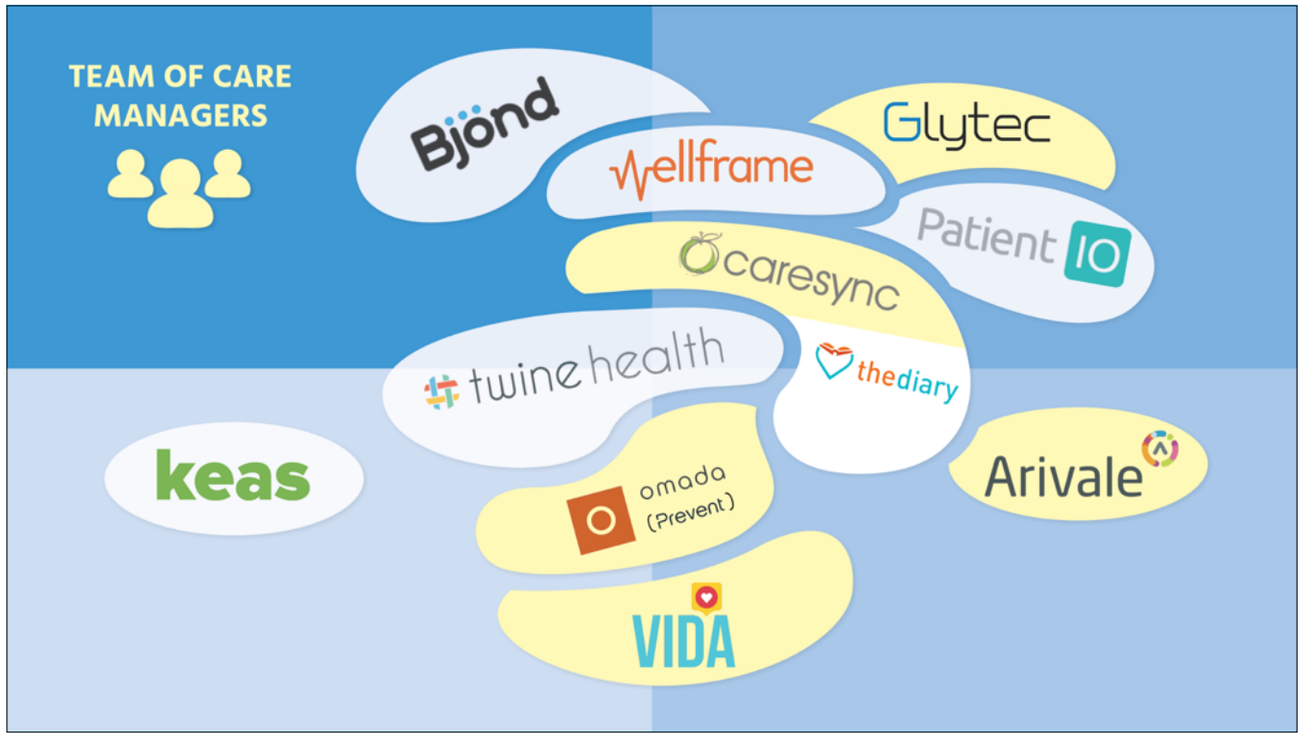

Among these services, there’s typically two models, one that provides solely a software product, and one that provides the software as well as access to a staff of care managers.

Care Plans

The concept of including the patient in a digital solution to better their health is still fairly new, and we have a long way to go in determining how to effectively design these solutions so that they work for the patient. NEXT…
But I’d like to start the much needed conversation about what the core principles for designing care plans might be. NEXT…
I’ll go through each of these in more depth.

7 design principles for
Care Plans

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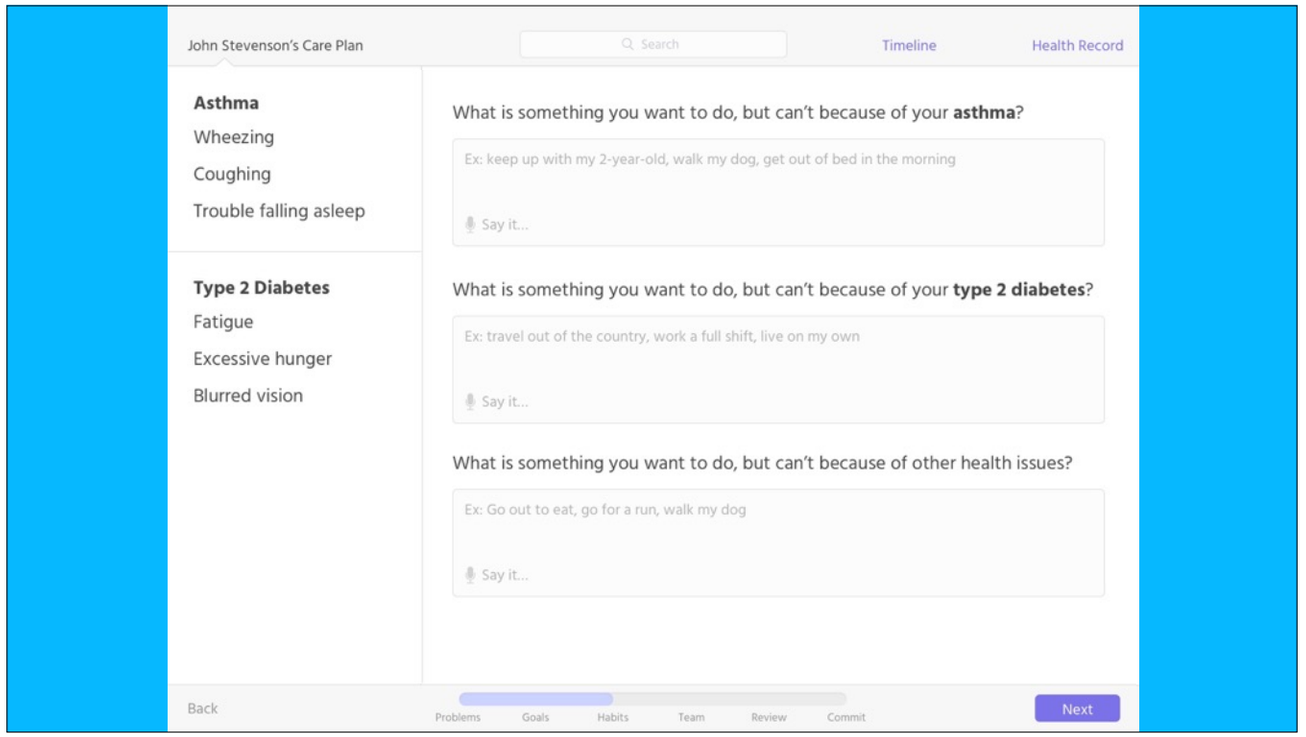
The first is a pretty obvious one, but it needs to be said. We have to start actually giving patients a care plan. Most patients don’t get one, and if we want to reduce cost and improve outcomes, this needs to change.

FACILITATE PATIENT GOALS

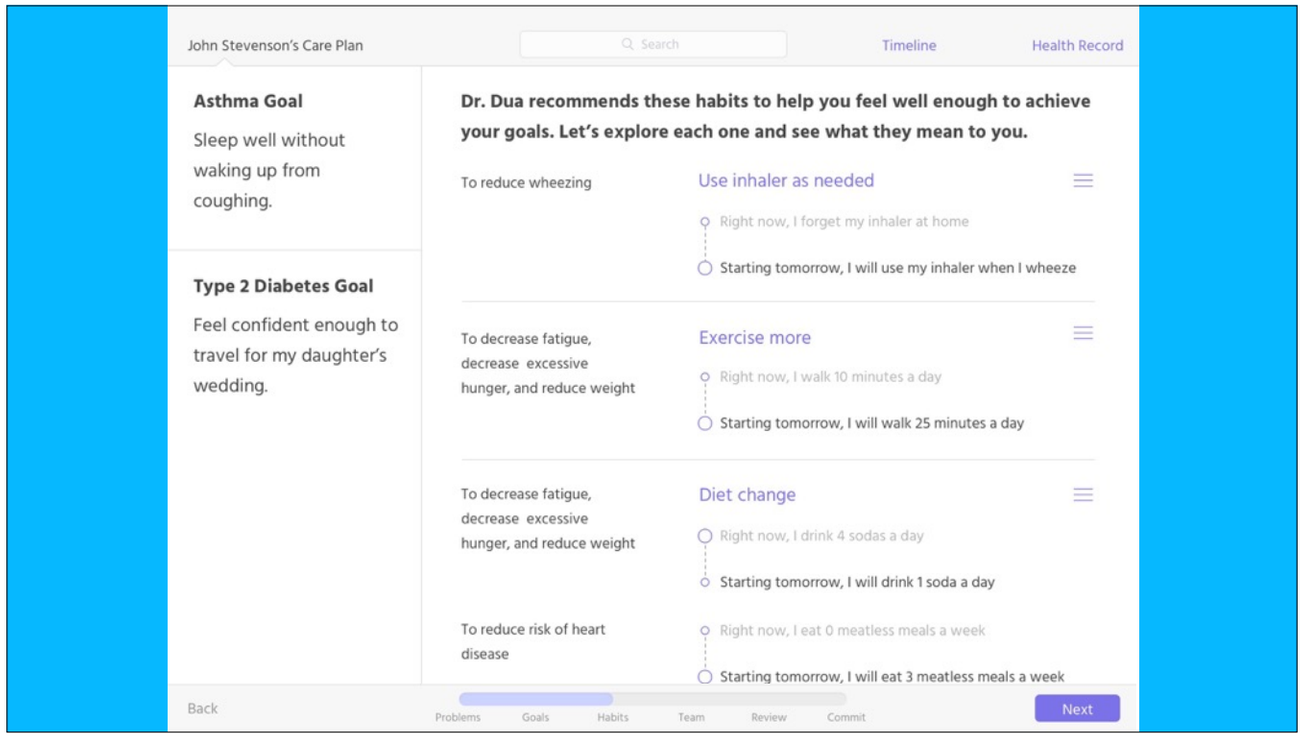
Understand where they are vs. want to be,
what barriers exist,
what steps they are willing to take,
and HOW.

#2

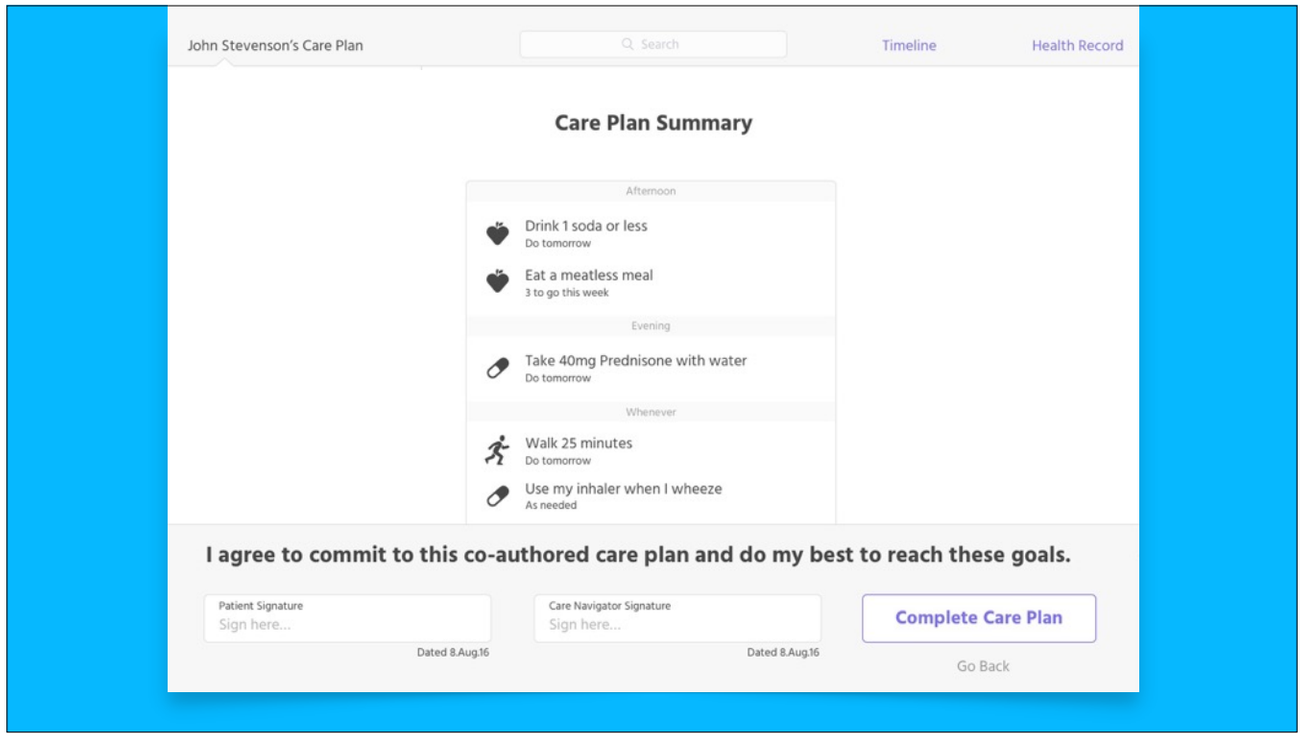
Determine current state and desired outcome
Use techniques like motivational interviewing to understand their intrinsic intention and ability
Outline what BJ Foggs called “tiny habits” using “triggers”.



Understand the current state
Patient-driven high level goals

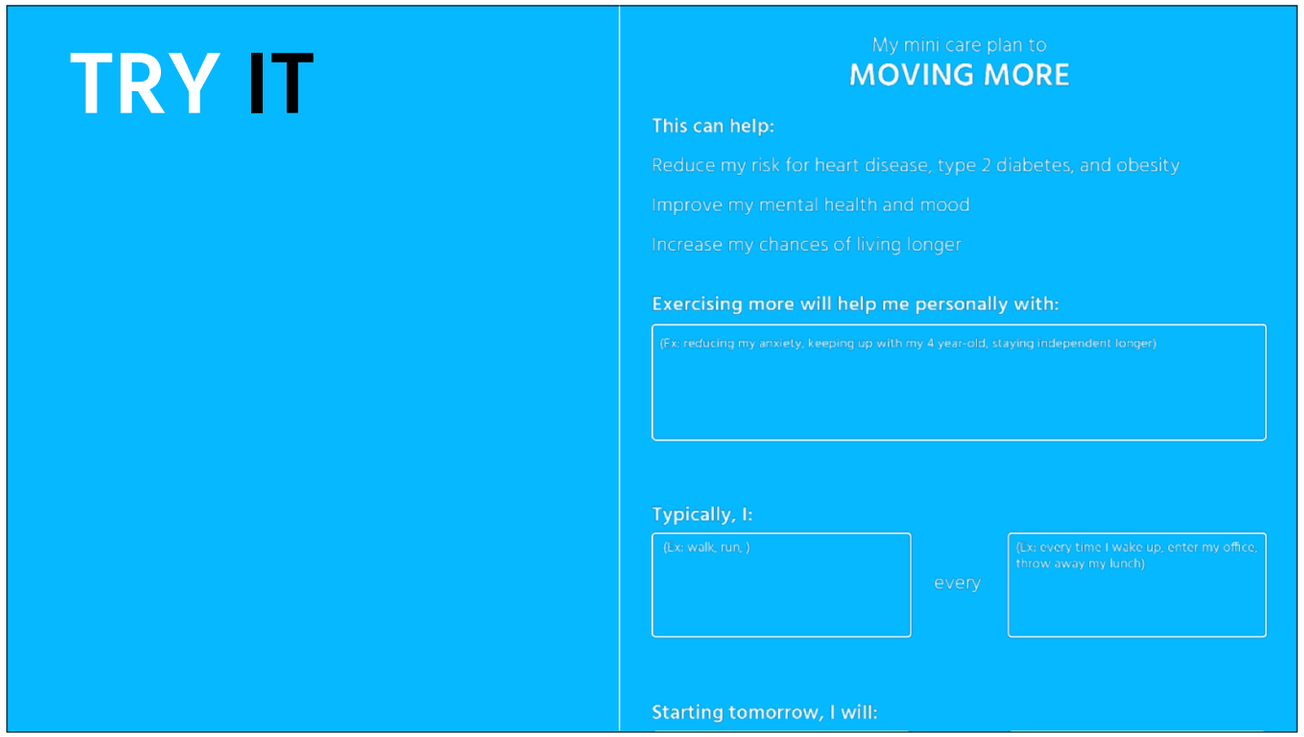


Help educate the patient by drawing a connection between behavior change and desired outcomes. The process is manual now, but will be automated in the future



Commit the patient to their co-authored plan

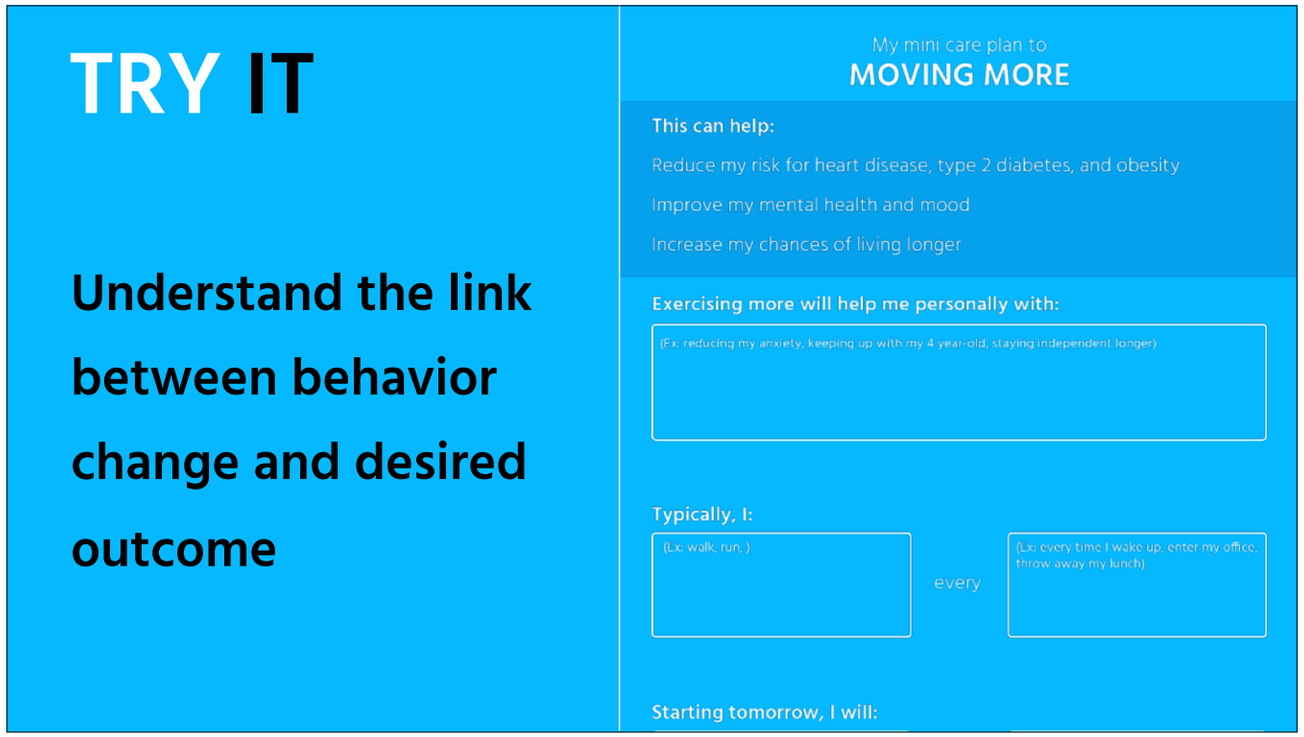
TRY IT



To get a better idea of how this could work for you, let’s try it out on one of the easier items - physical activity. (Assuming we all should be exercising a bit more).
[handouts]

TRY IT

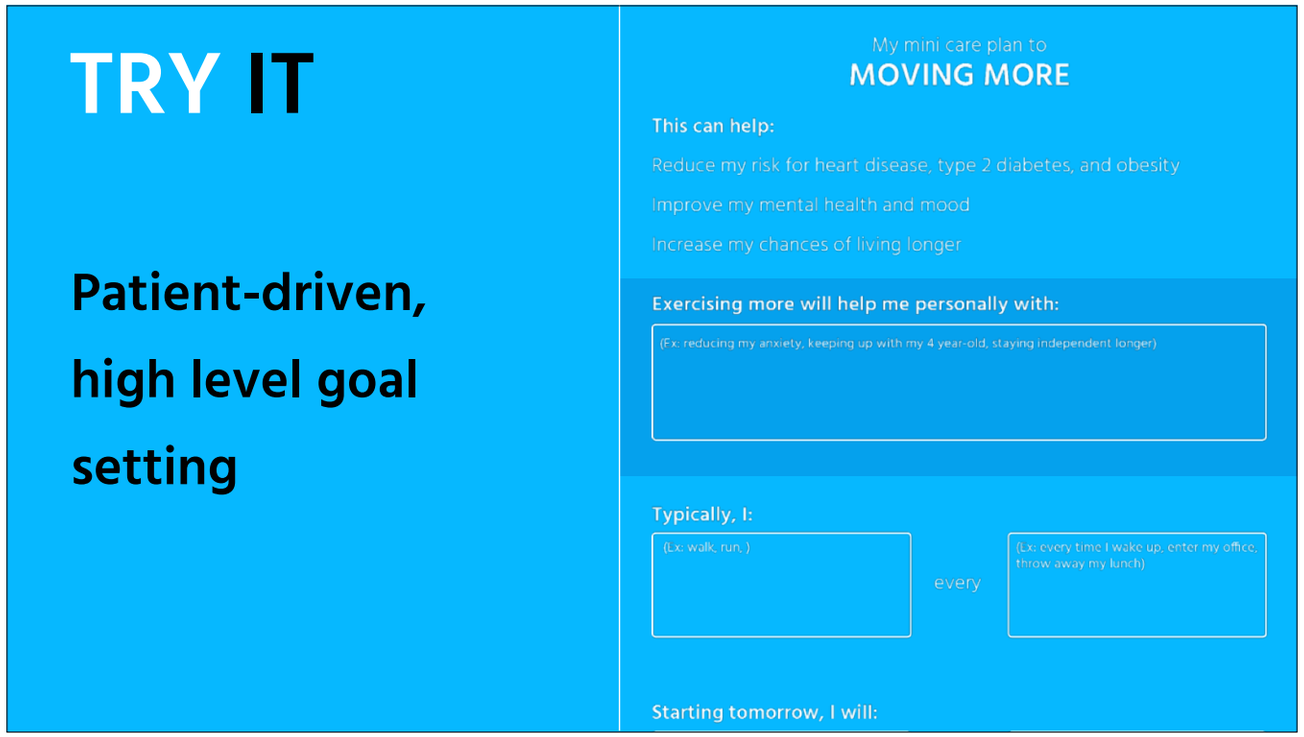
Understand the link between behavior change and desired outcome



To get a better idea of how this could work for you, let’s try it out on one of the easier items - physical activity. (Assuming we all should be exercising a bit more).
[handouts]

TRY IT

Patient-driven, high level goal setting



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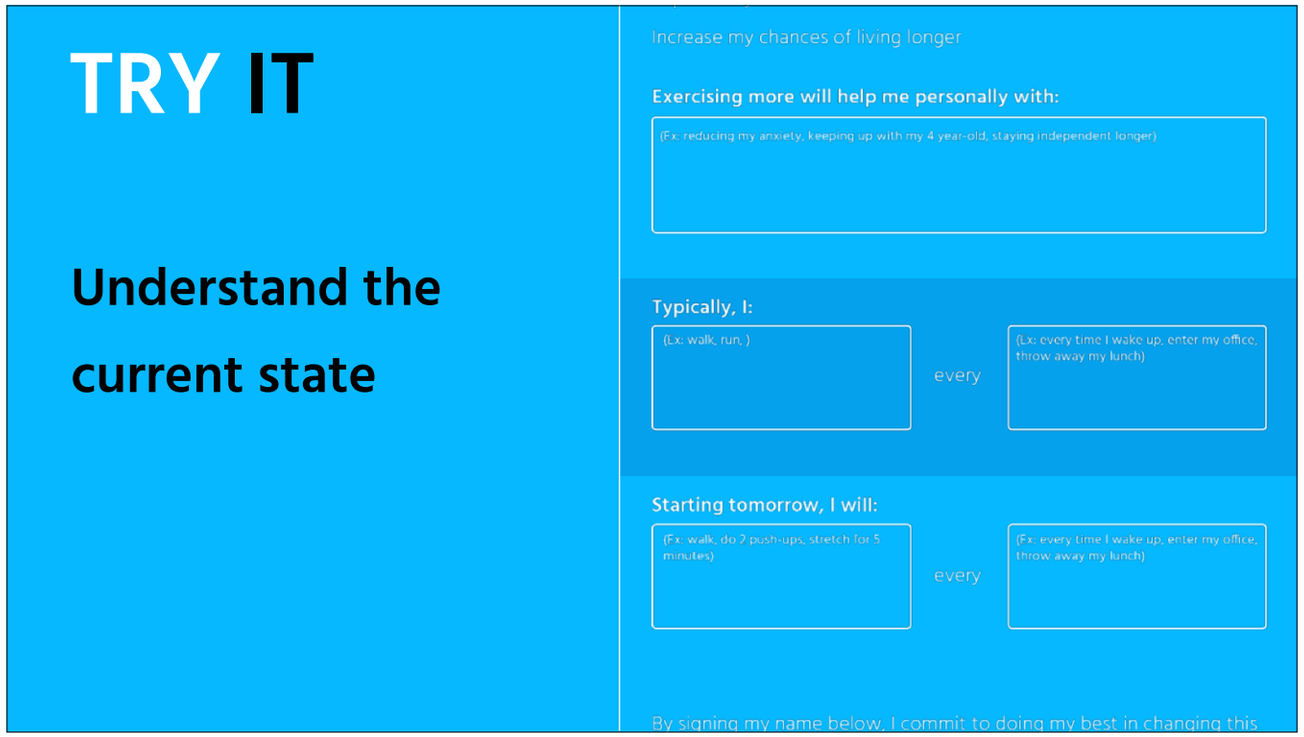
[handouts]

TRY IT

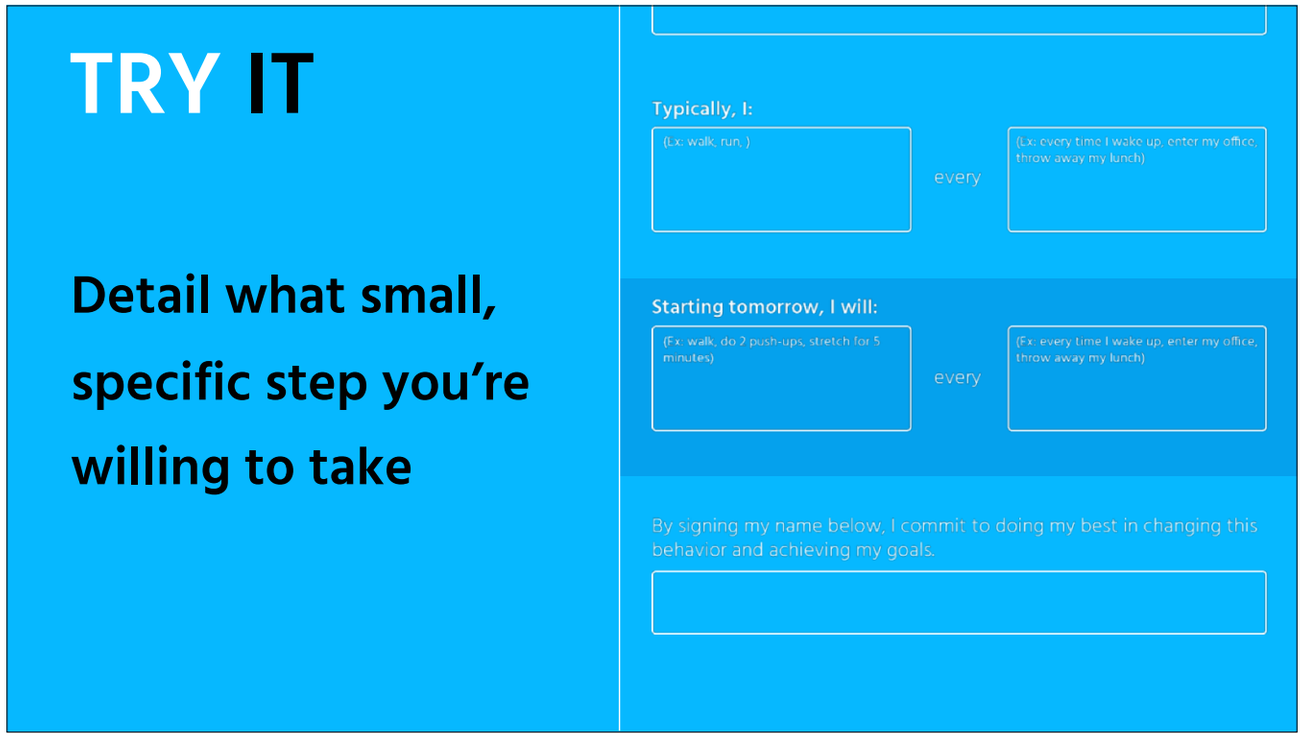
Understand the current state



To get a better idea of how this could work for you, let’s try it out on one of the easier items - physical activity. (Assuming we all should be exercising a bit more).
[handouts]

TRY IT

Detail what small, specific step you're willing to take



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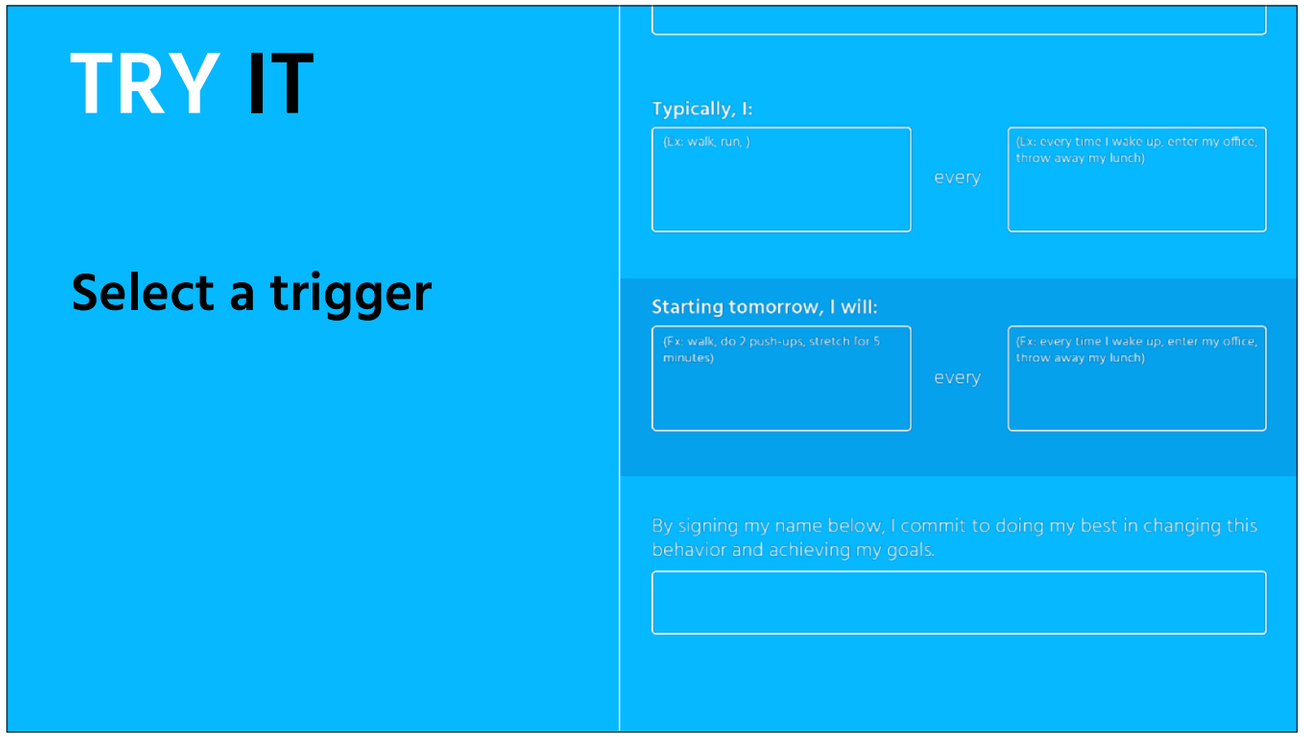
[handouts]

TRY IT

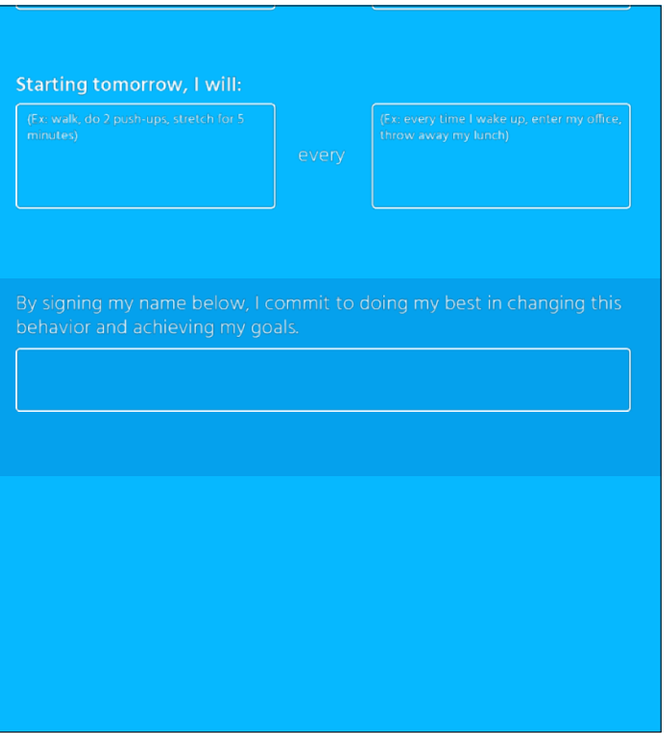
Select a trigger



To get a better idea of how this could work for you, let’s try it out on one of the easier items - physical activity. (Assuming we all should be exercising a bit more).
[handouts]

TRY IT

Commit.



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[handouts]

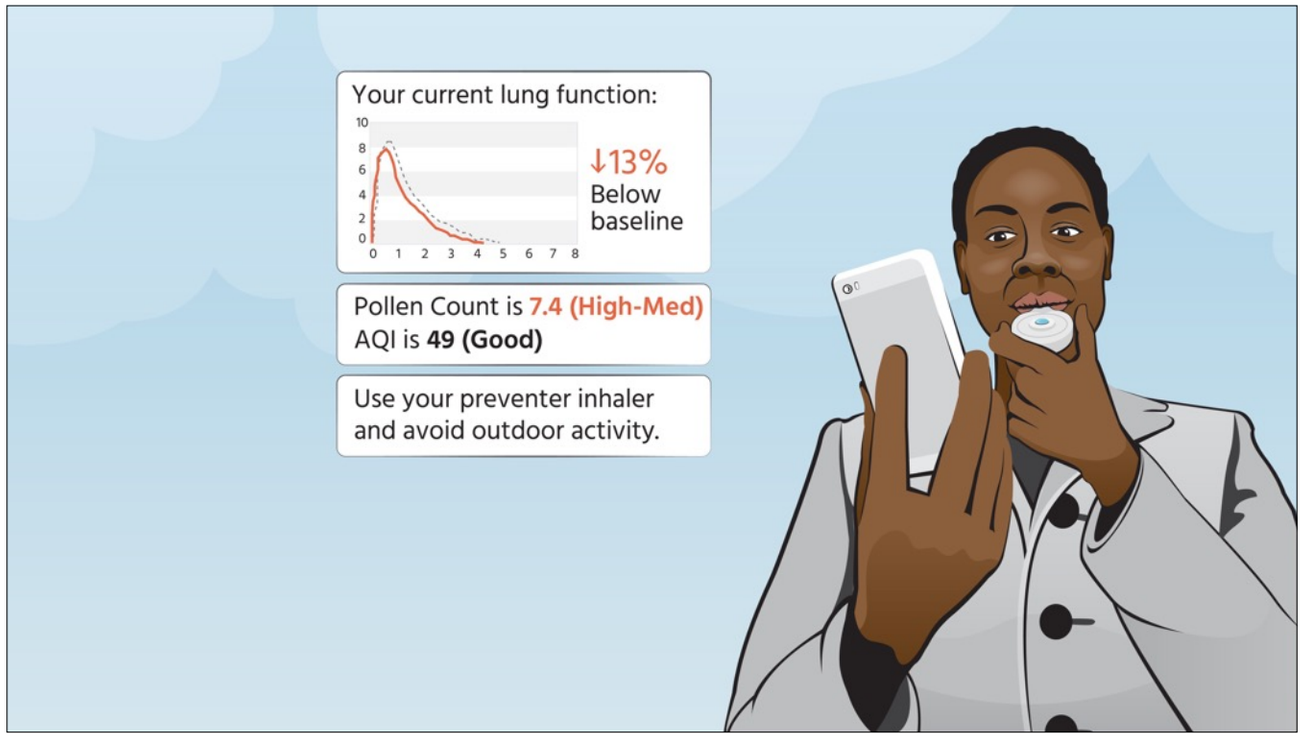
MAKE ACCURACY EFFORTLESS

Collect the right data,
at the right time,
with little workload.

#3

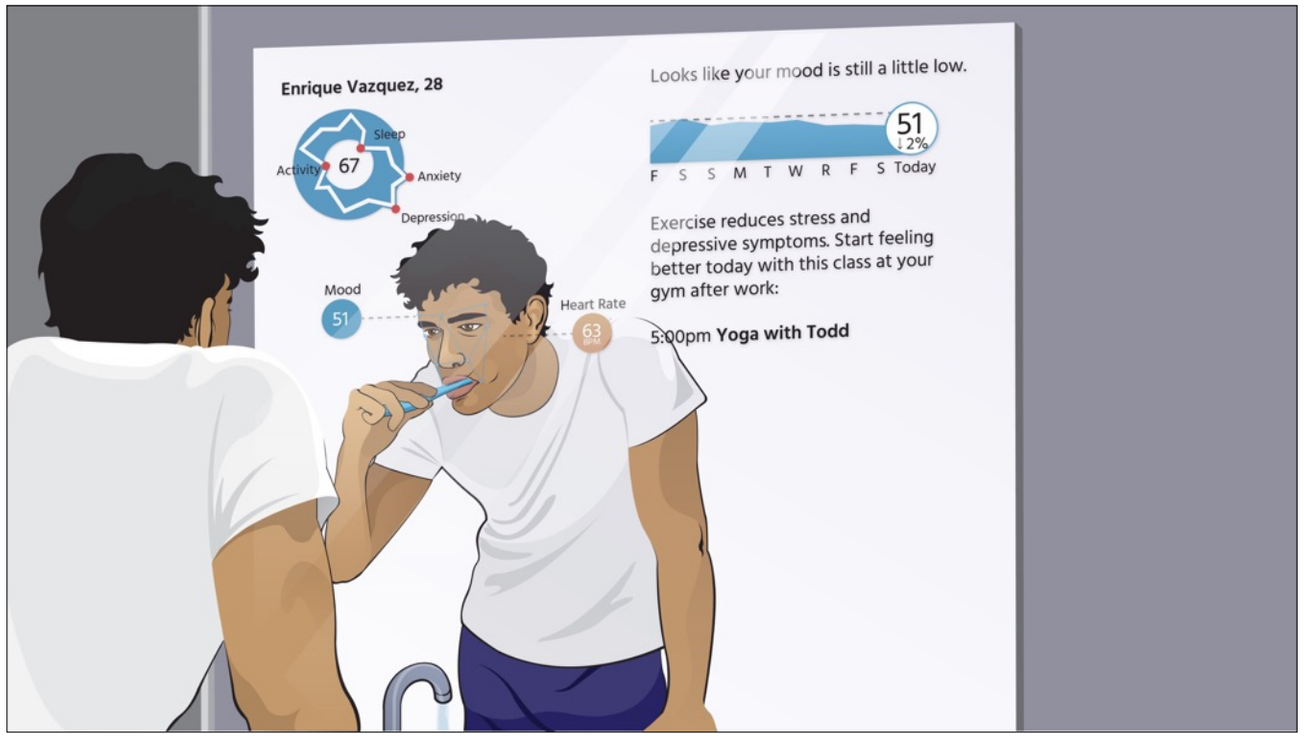
activity and sleep trackers, heart monitors, body temperature trackers, smart scales, breathing monitors (spirometers), hematology monitors, facial mood tracking, and monitoring of progress towards specific goals
= most relevant data, little effort

activity and sleep trackers, blood pressure cuffs, smart scales, spirometers, facial mood tracking, geolocation, and monitoring of progress towards specific goals
= most relevant data, little effort



“19 million patients will be monitored remotely by 2018”

http://mhealthintelligence.com/news/key-healthcare-trends-strengthen-remote-patient-monitoring


Enrique Vazquez, 28
Sleep
Activity
67
Anxiety
Depression
Mood
51
Heart Rate
63
Looks like your mood is still a little low.
51
↓2%
F S S M T W R F S Today
Exercise reduces stress and depressive symptoms. Start feeling better today with this class at your gym after work:
5:00pm Yoga with Todd

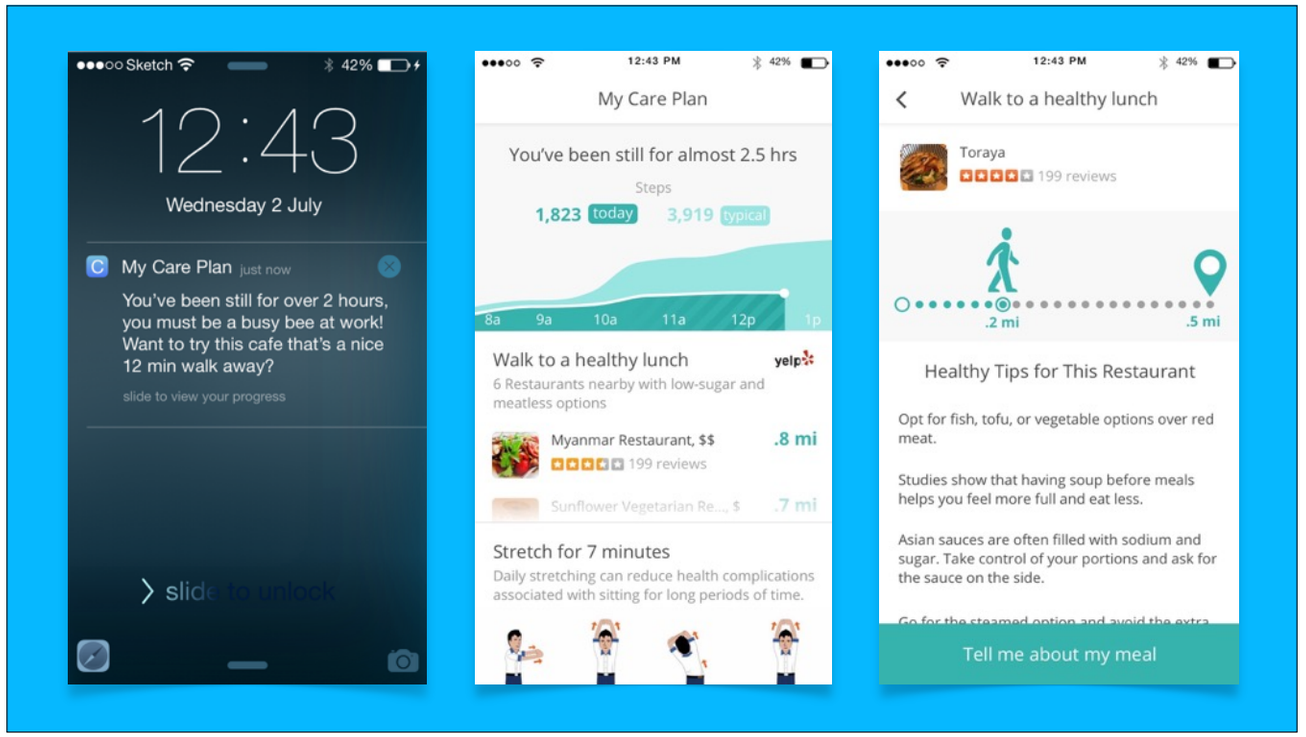
GIVE ACTIONABLE INSIGHT

Give relevant education
& action steps to improve
based on collected data.

#4

The data isn’t as important as what you’re supposed to do with it.


MOVE MORE
SLOW DOWN
SUGAR KILLS
SUGAR KILLS
Sucrose. Fructose.
They're not just about cavities
and empty calories any more.
Research suggests that sugar's negative impact on
human health results not only from its caloric
value—it's in how our bodies process sugar, and
that is the same whether one is lean or obese.
High sugar consumption is closely linked to
metabolic syndrome, insulin resistance, diabetes,
and several other chronic disorders.
Added sugars are hard to avoid in the
American diet. Reduced-fat products,
"naturally sweetened" items, fruit and vegetable
juices, and many low-fat, low-sodium
"healthy" foods are loaded with sugar.
k to your care team. Learn to read food labels.
Question information sources.
Know your risks.
WWW.CARECARDS.ME


Sketch
42%
12:43
Wednesday 2 July
My Care Plan just now
You've been still for over 2 hours, you must be a busy bee at work! Want to try this cafe that's a nice 12 min walk away?
slide to view your progress
slide to unlock
12:43 PM
42%
My Care Plan
You've been still for almost 2.5 hrs
Steps
1,823 today
3,919 typical
8a
9a
10a
11a
12p
1p
Walk to a healthy lunch
6 Restaurants nearby with low-sugar and meatless options
yelp
Myanmar Restaurant, $$
199 reviews
.8 mi
Sunflower Vegetarian Re..., $
.7 mi
Stretch for 7 minutes
Daily stretching can reduce health complications associated with sitting for long periods of time.
12:43 PM
42%
Walk to a healthy lunch
Toraya
199 reviews
.2 mi
.5 mi
Healthy Tips for This Restaurant
Opt for fish, tofu, or vegetable options over red meat.
Studies show that having soup before meals helps you feel more full and eat less.
Asian sauces are often filled with sodium and sugar. Take control of your portions and ask for the sauce on the side.
Tell me about my meal

MAKE HISTORY READABLE

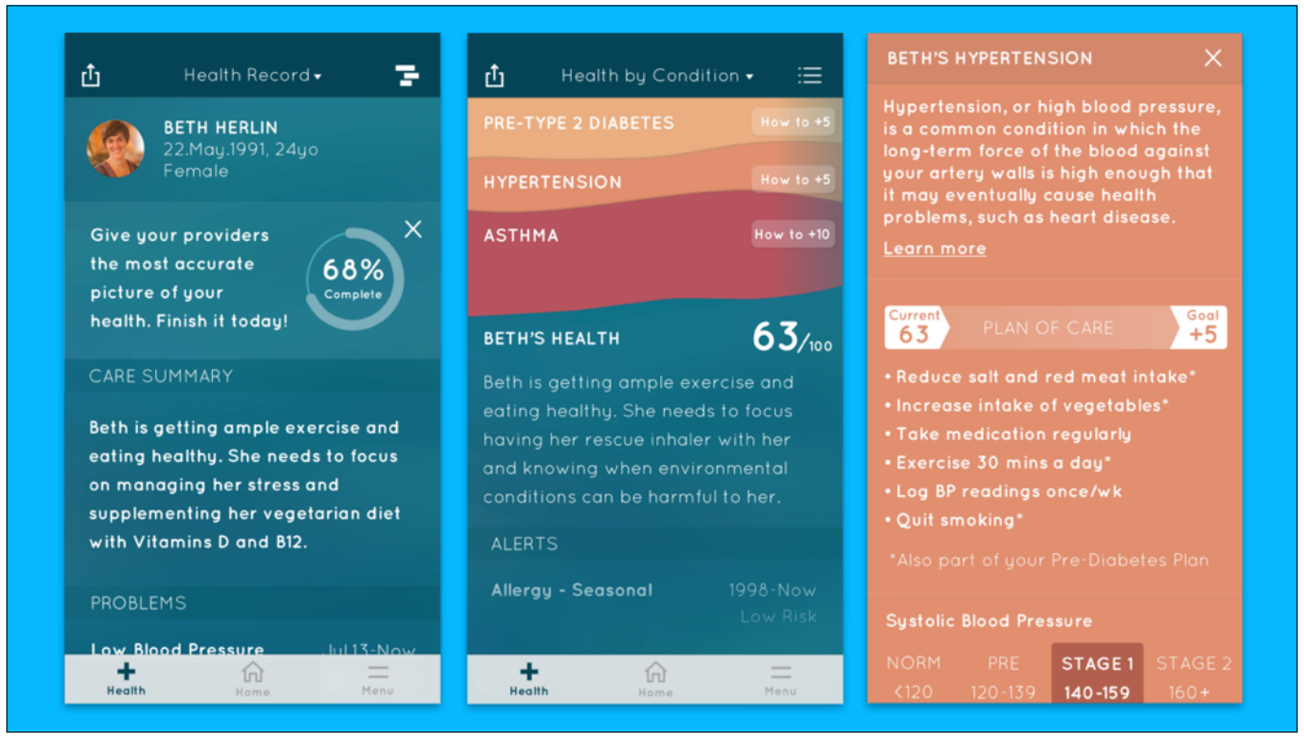
Chronological, filterable, with a summary.

Visualize trends & future predictions.

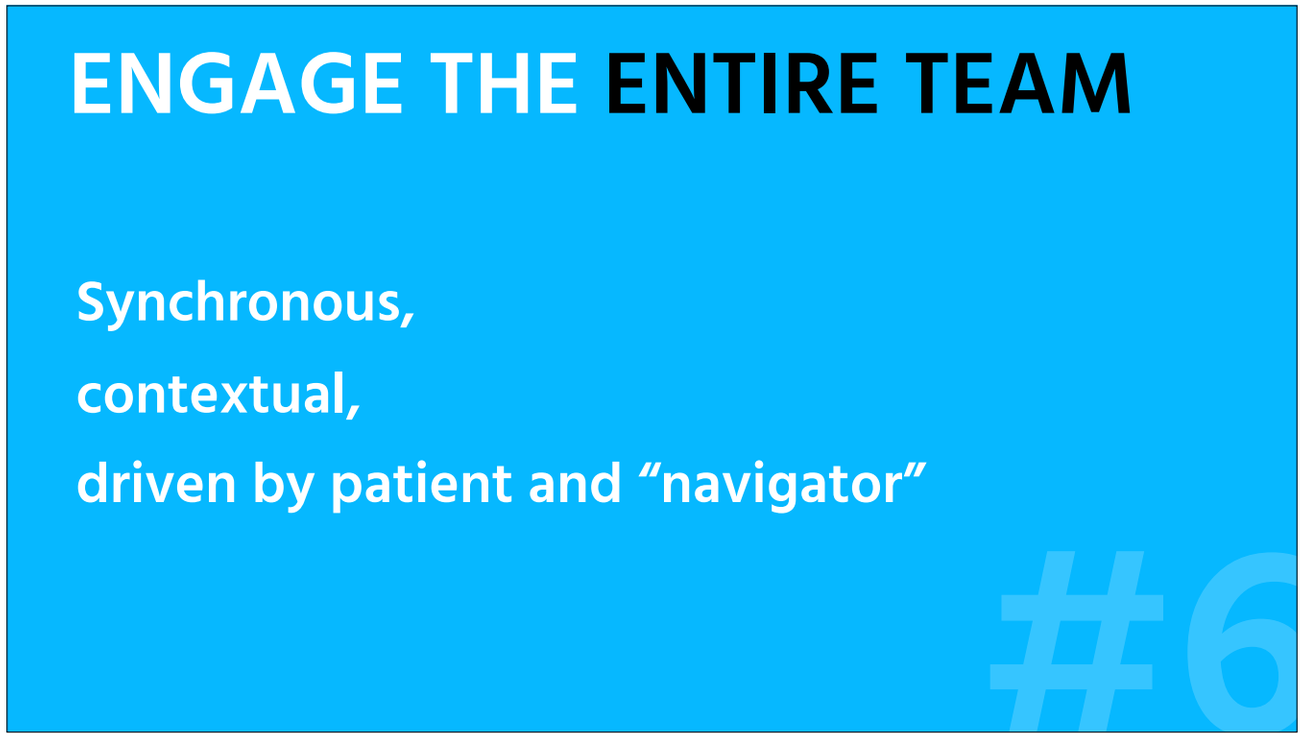
Allow correction/input by patient.

#5

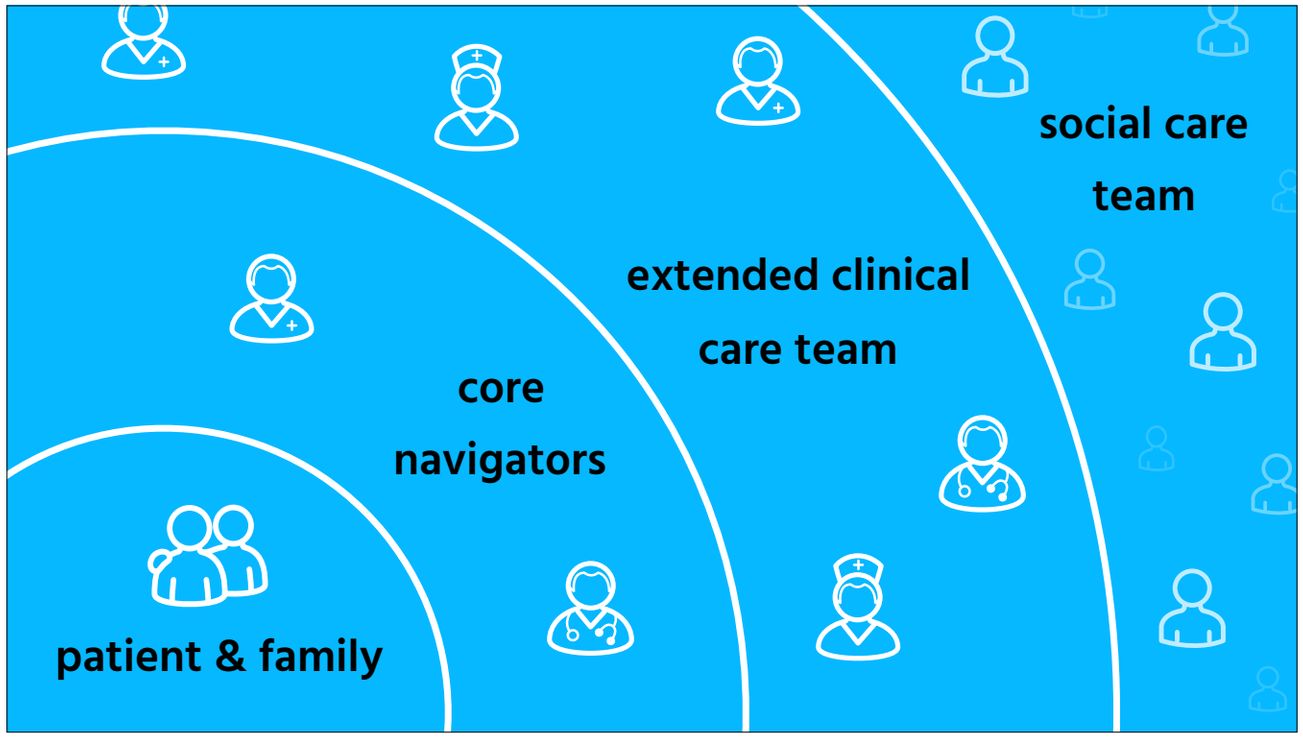
1. View entire health record over time; Always updated summary of the human (along with a generalized health score).
2. Anytime there is more than 1 data point, you can show a trend. As we get more advanced, we can start to predict where these trends are going in the future. Important to emphasize the abnormal data here.
3. Let patient correct information that’s wrong, and input big life events (facebook style)



the most control in influencing



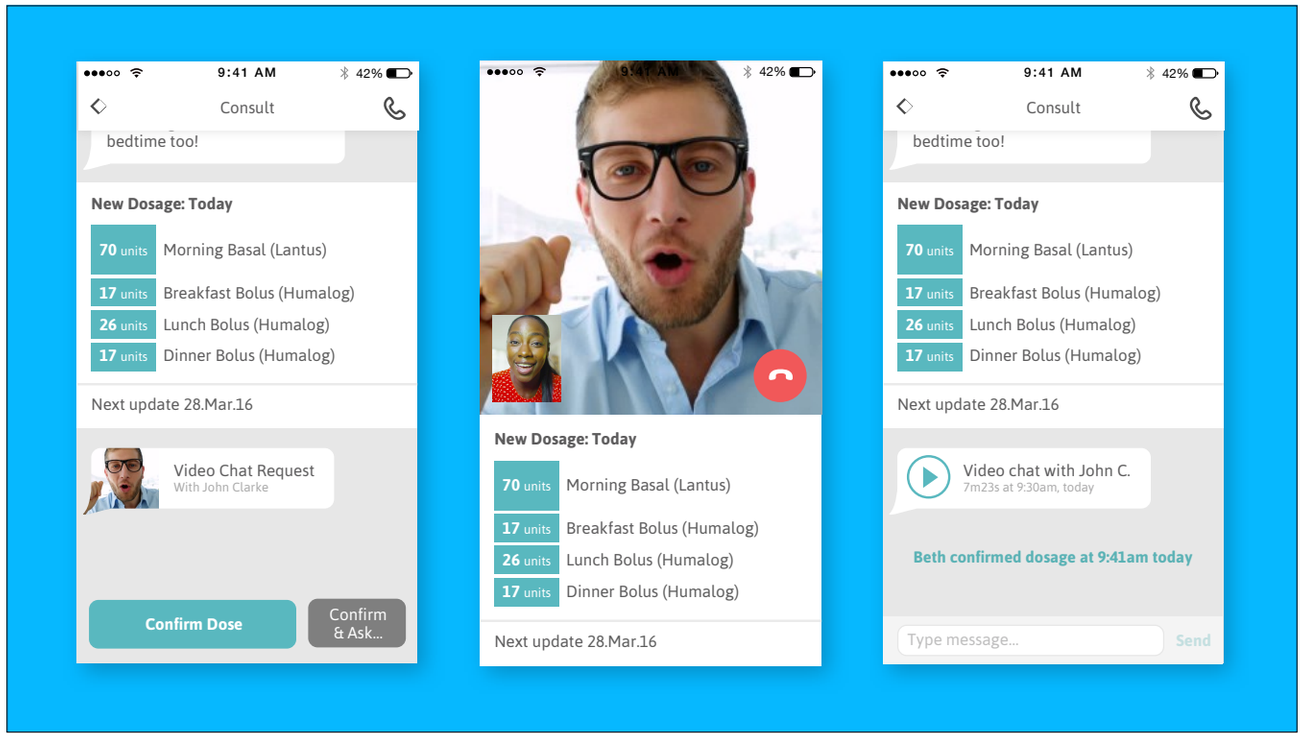
Collaboration across the entire team on a patient’s health needs to be as synchronous and contextual as possible, and needs to be driven by the patient and their navigator.



The care plan should tap into all levels of the team from….
essential to this is to include education about how that collaboration can influence outcomes.

Involvement of family in care is associated with better self management behavior, higher patient self-efficacy, and decreased patient depressive symptoms and stress…= better outcomes.
30-50% people already have family and friends involved in their care…they need to be included in the plan. - California Healthcare Foundation
http://www.chcf.org/~/media/MEDIA%20LIBRARY%20Files/PDF/PDF%20F/PDF%20FamilyInvolvement_Final.pdf

Online Communities (HealthTap, PatientsLikeMe) provide education, emotional support, extensive network of similar peers. (Though there are privacy and misinformation risks here).
In a study conducted by PatientLikeMe, they found that “41% of HIV patients agreed they had reduced risky behaviors and 22% of mood disorders patients agreed they needed less inpatient care as a result of using the site.”
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2956230/



Communication should be convenient and facilitated by context.

“An estimated $25 to $45 billion in healthcare costs due to lack of care coordination could be saved by taking a more holistic approach. Roughly 11% of the estimated 36 million hospitalization visits per year could be avoided.”

http://hitconsultant.net/2015/04/06/10-ways-remote-patient-monitoring-saves-money/

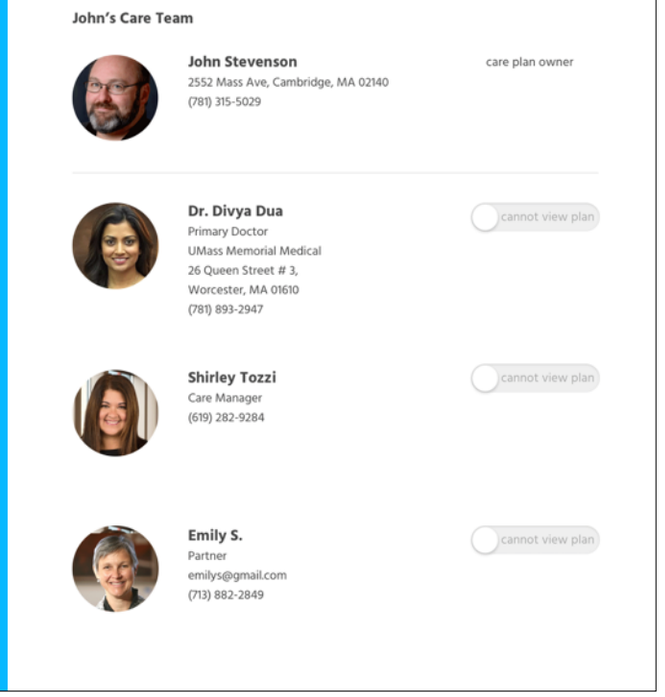
GIVE CONTROL

The patient should own their own care plan, and control who sees it.

#7

GIVE CONTROL

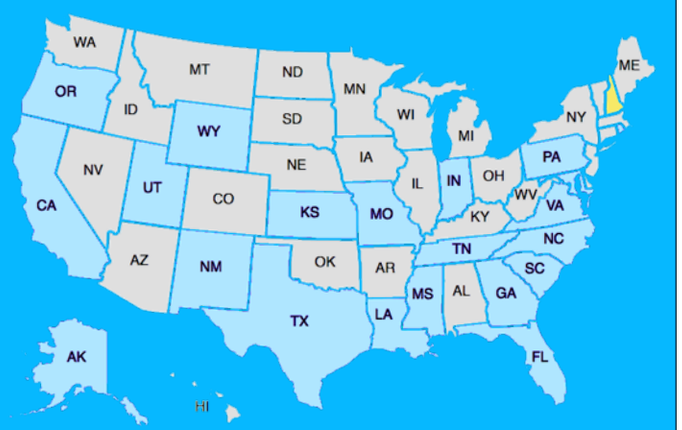
The patient should own their own care plan, and control who sees it.



CONTROL

The patient should own their own care plan, and control who sees it.

(Not usually the case)



http://www.healthinfolaw.org/comparative-analysis/who-owns-medical-records-50-state-comparison

Patients owns the information in their medical records in one state: NH
The 20 blue states are those with explicit laws stating the hospital and/or physician owns the medical record. The rest have no legislation.

It's important to note that collecting 'meaningful consent' is essential in giving patients control over their data. Some orgs are already starting down this path (Sage Bionetworks, ONC have open source toolkits for this kind of thing)

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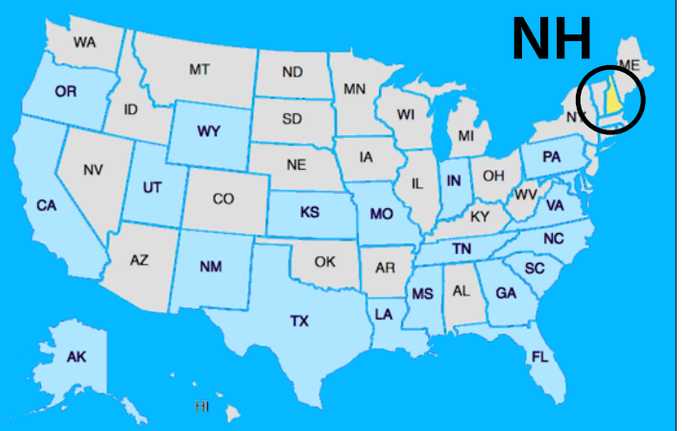

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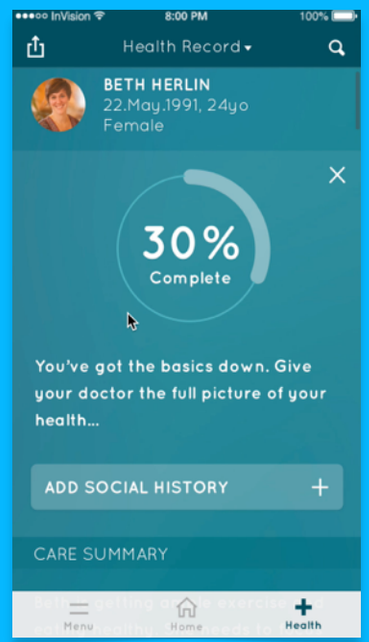
CONTROL

The patient can export their data.



CONTROL

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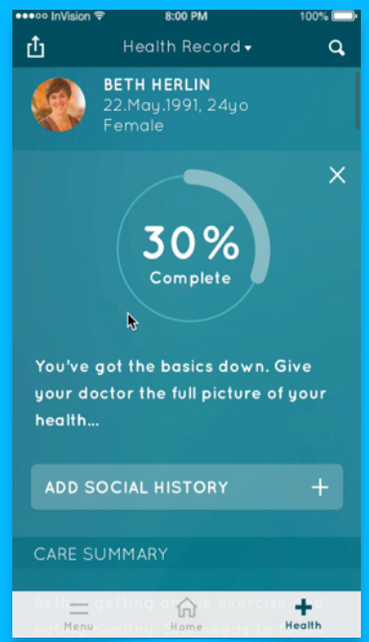

CARE PLANS **TODAY**
TOMORROW
IN THE FUTURE

This obviously won’t all happened overnight, it’s a slow progression.

CARE PLANS TODAY

In a 2013 survey by AMN Healthcare…
http://www.amnhealthcare.com/industry-research/2147484673/1033/

Demand for physicians predicted to exceed supply by 46-90 thousand (growing elderly pop + ACA

CARE PLANS **TODAY**

2/3

healthcare executives need

more MDs & RNs

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CARE PLANS **TODAY**

2/3

healthcare executives need more MDs & RNs

1/2+

healthcare executives need more RN practitioners & PAs

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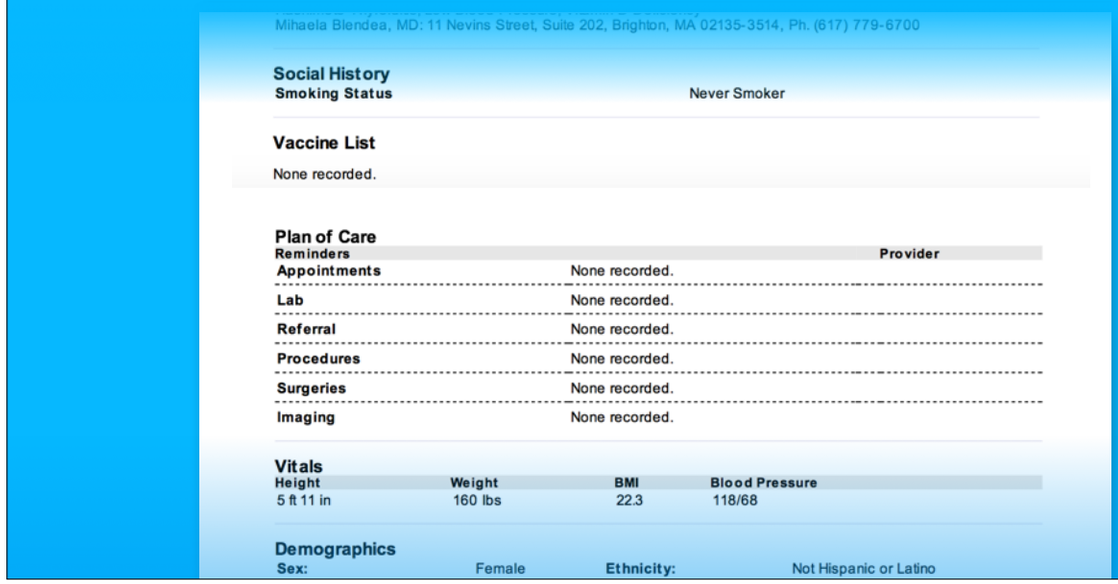
CARE PLANS TODAY



Mihaela Blendea, MD: 11 Nevins Street, Suite 202, Brighton, MA 02135-3514, Ph. (617) 779-6700

Social History

Smoking Status	Never Smoker

Vaccine List

None recorded.

Plan of Care

Reminders		Provider
Appointments	None recorded.	
Lab	None recorded.	
Referral	None recorded.	
Procedures	None recorded.	
Surgeries	None recorded.	
Imaging	None recorded.	

Vitals

Height	Weight	BMI	Blood Pressure
5 ft 11 in	160 lbs	22.3	118/68

Demographics

Sex:	Female	Ethnicity:	Not Hispanic or Latino

Inadequate care plans multiplied across the spectrum of a patient’s care team just leads to confusion, disengagement, sometimes medical error, and poor outcomes.

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Payers have started reimbursing for quality, holistic care (CCM) in 2015, which is getting care professionals to create an **actual** care plan (for medicare patients of practices that have taken the leap)
Once medicare prove's the value, these incentives need to shift to preventative care as well.

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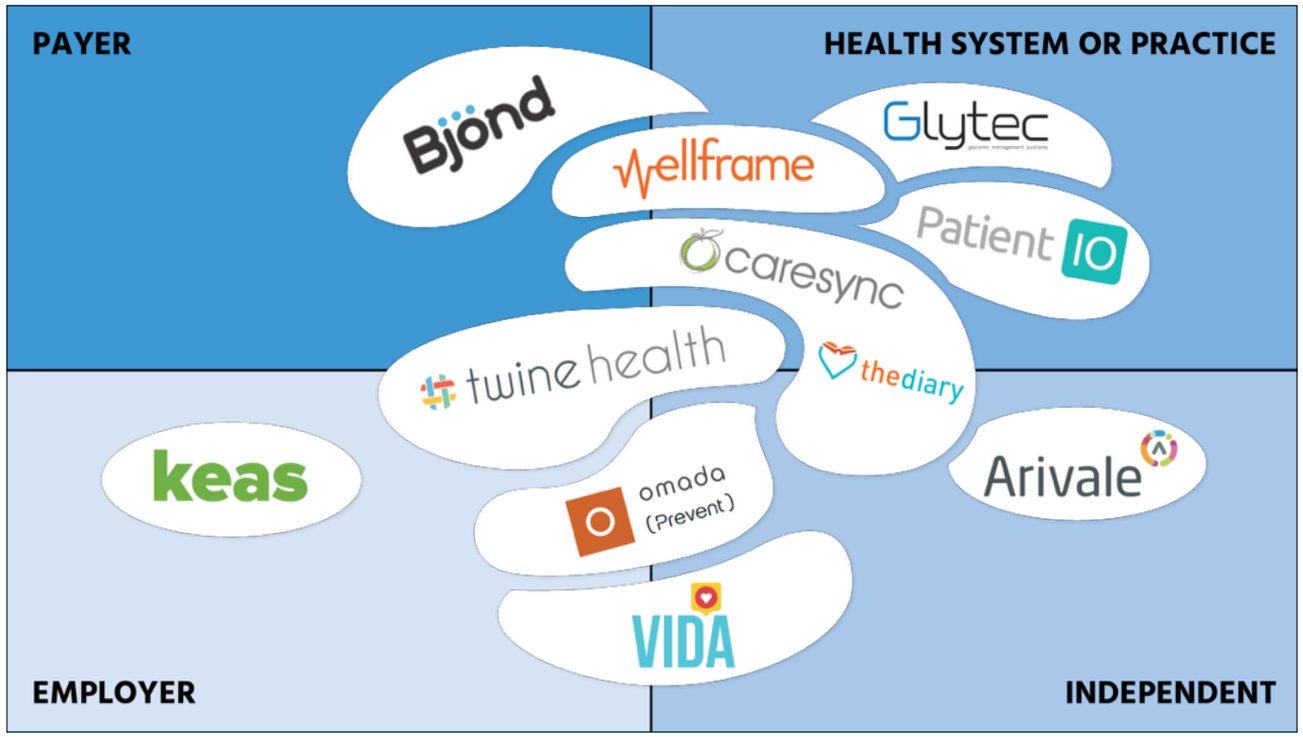


Shift towards ACOs and Medicare’s CCM reimbursement has allowed for these services to emerge. As they evolve along with our sensing tech, lower-power connectivity, and better data analytics…

68%

of population has a smart phone

57%

people said lower insurance premiums would make them more likely to use tracking device

$4K /yr

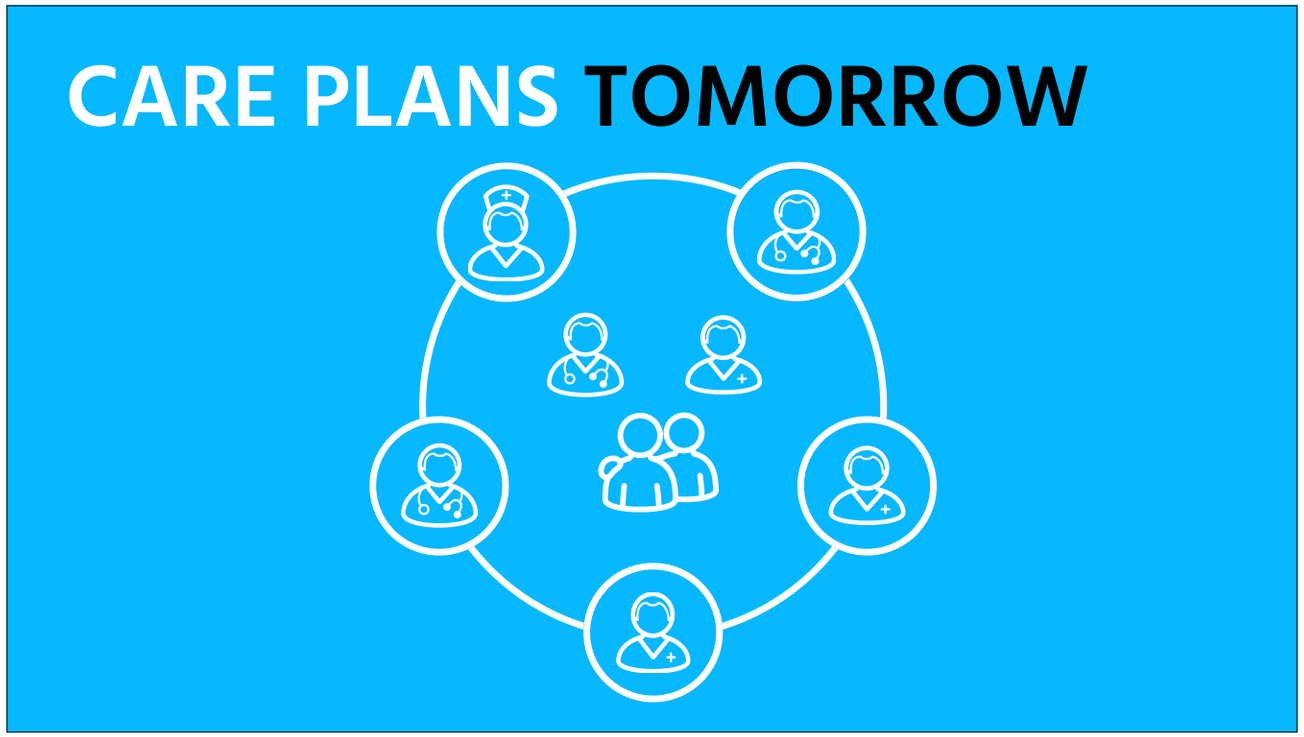
saved per patient in reduced ED visits and readmissions from remote monitoring

Start to increase accessibility of quality healthcare by engaging the 68% of the people with a smartphone and the 57% of people that will adopt health tracking devices when incentivized with lower premiums.
This monitoring of patients alone could yield as much as 4k/yr/patient

Engaging software accessible to anyone of the 68% of pop. with a smart phone
“Using remote monitoring technology to reduce ED visits and readmissions can save over $4,000 per patient per year elderly, chronically ill populations” …but it needs to be covered by insurance…
http://hitconsultant.net/2015/04/06/10-ways-remote-patient-monitoring-saves-money/

There’s not enough doctors to provide this continuous care to EVERYONE. But as these care planning services start to engage patients and coordinate their care teams…

“Some analysts say the shortages can be avoided through new models of team-based care that rely on non-physician clinicians—such as nurse practitioners and physician assistants—for primary care. A RAND Corp. study maintained that this strategy could reduce the physician shortage by more than half.” - See more at: http://www.amnhealthcare.com/industry-research/2147484673/1033/#sthash.ps4Y5XcU.dpuf



They can leverage care “navigators” and more advanced AI to act as extensions of the doctor.

When more people gain access to empowering and engaging care plans, we will see more activated patients that practice preventative self-care.

+ ACCESSIBILITY

ENGAGEMENT

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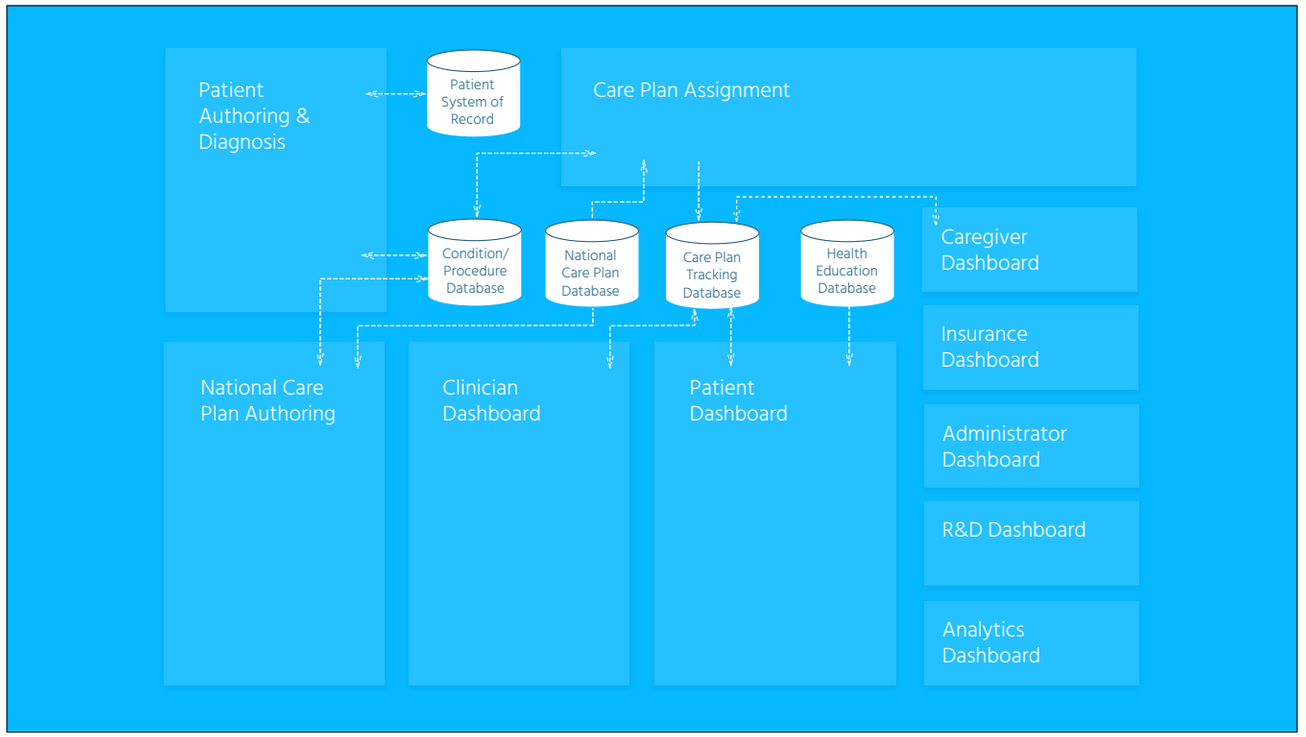
CARE PLANS IN THE FUTURE

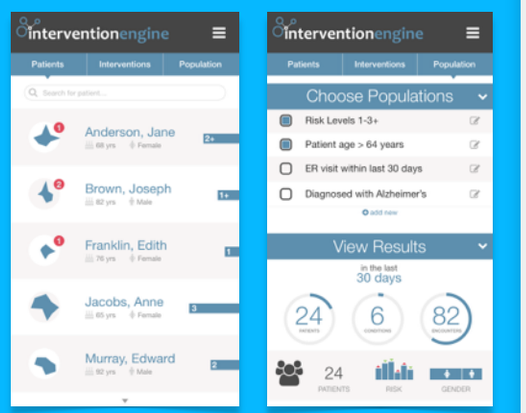
I’d like to conclude by looking even further into the future.



As we start to shift toward more organized population efforts such as the precision medicine initiative, we can develop national standards for personalized interventions informed by population metrics. There are already some steps towards using advanced data analytics to deliver the right intervention from a library of care plan content…

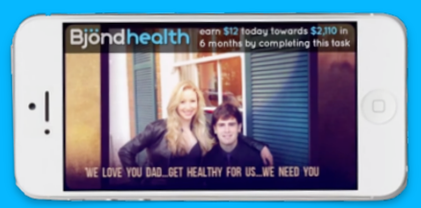
MITRE

https://github.com/intervention-engine

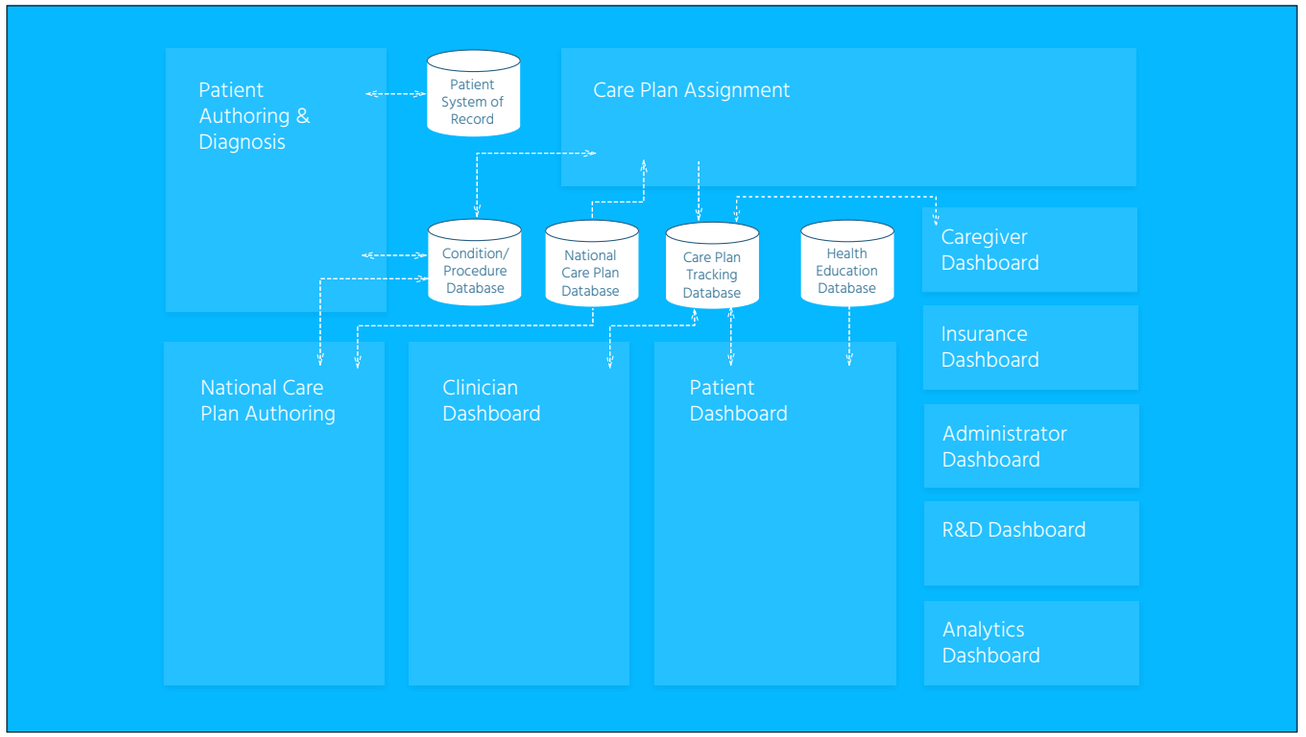


MITRE is someone who has already started down this path in their open source intervention engine.
Needs more examples…

Björndhealth



http://www.bjondinc.com/#health



With a rich, research-based library of content, we can start to leverage it along with advanced health tracking tech, eventually including genome, exome, and microbiome sequencing, in more automatic interventions delivered to people through engaging interfaces.

We as humans are too distracted by our activities of daily living to recognize poor health patterns and identify the right solution. To reach the best outcomes, our care plans should always be fine tuning and changing, just like our lives - and we can’t rely on the dwindling doctor population to do it. We must continue utilize technology, policy, and culture to educate and empower people to take control of their future health.

So to review, here are the design principles I've just laid out. An essential foundation to implementing these is… NEXT… personalized education at the right level, in the right way, at the right time.

But this is just a start. The 7 I've laid out are by no means exhaustive of all the considerations for designing care plans, and there are… NEXT…many more to think about it. As services develop further, I'm hoping more designers, developers, entrepreneurs, and healthcare professionals will engage in discourse about care planning to drive better outcomes.

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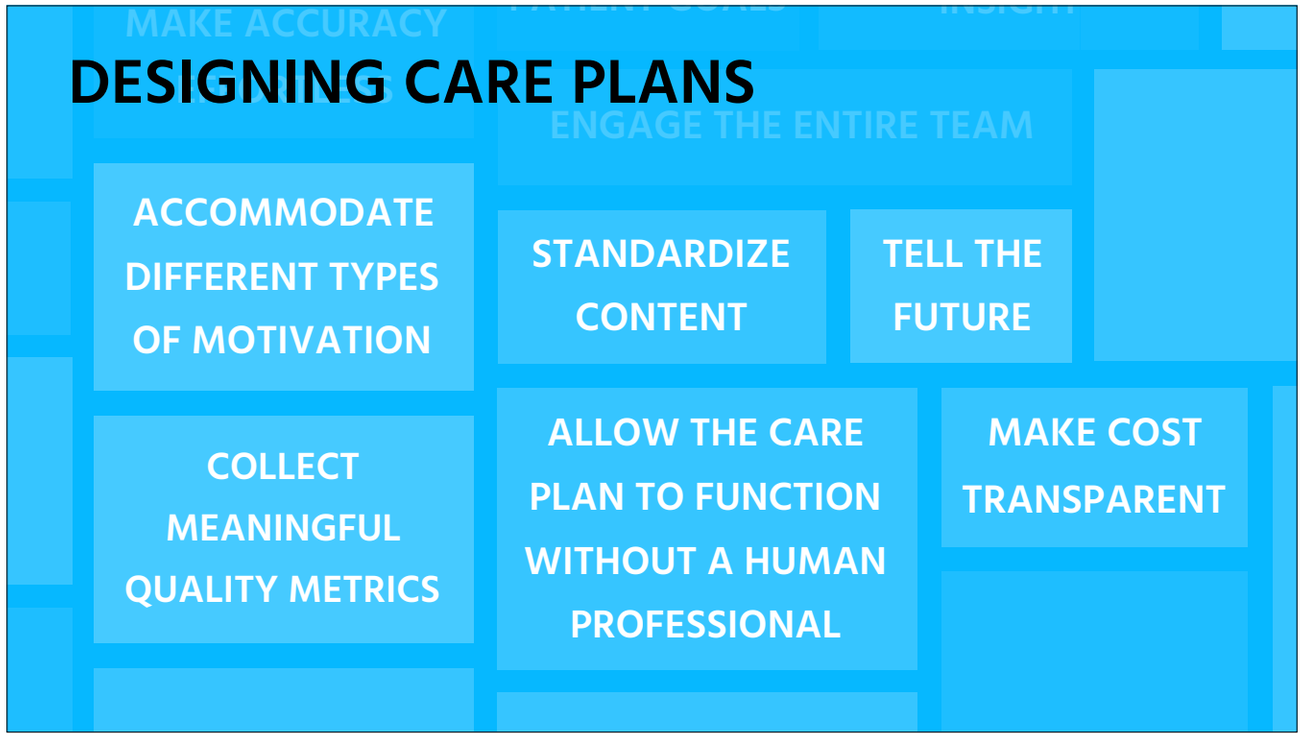

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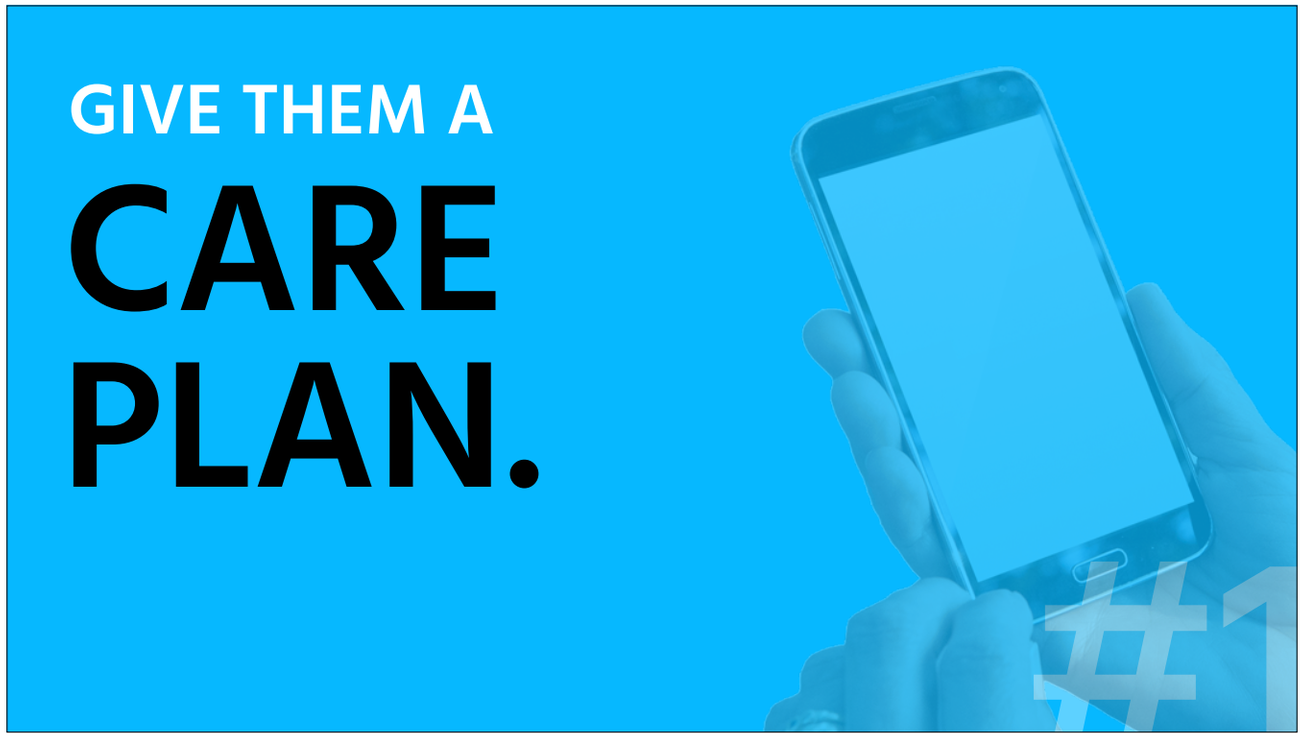
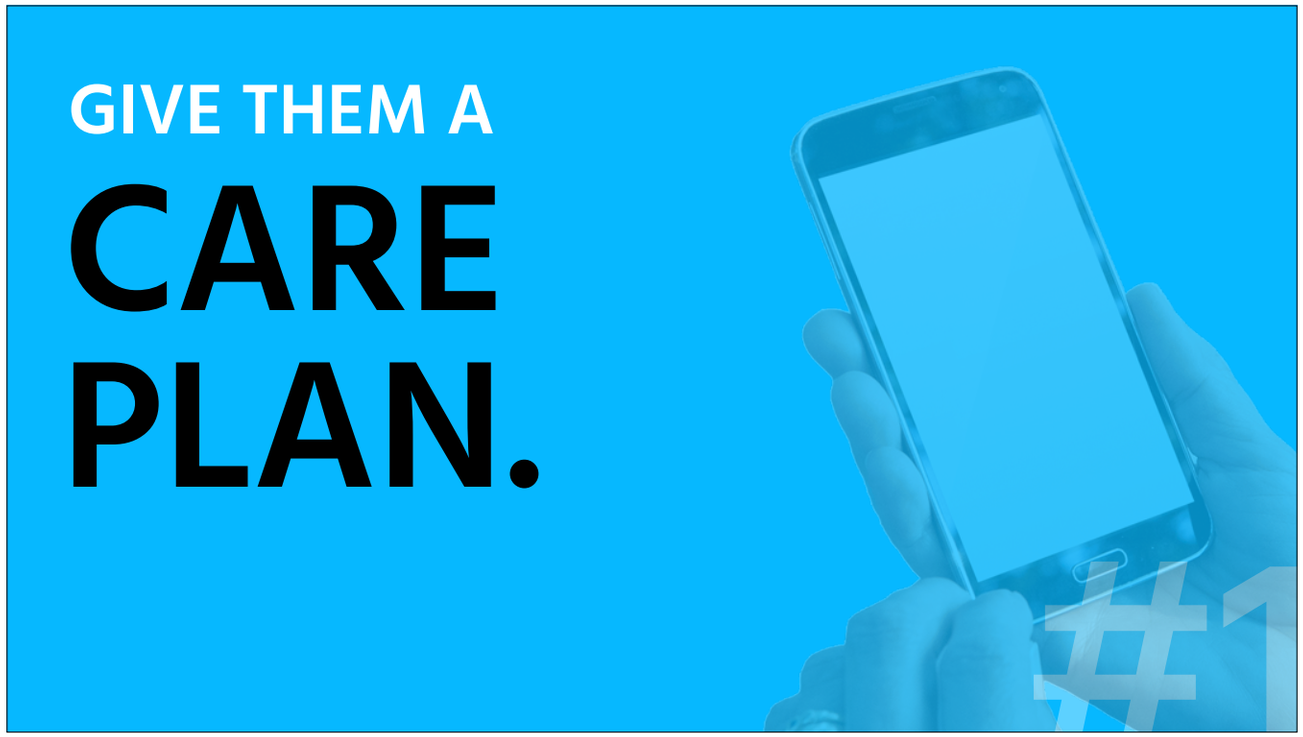


But by far, the most important of any of these principles, is the first. Gone are the days of avoiding our health when we all have a dynamic, collaborative, engaging care plan in hand.



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THANK YOU

Edwin Choi, Involution Studios

Juhan Sonin, Involution Studios

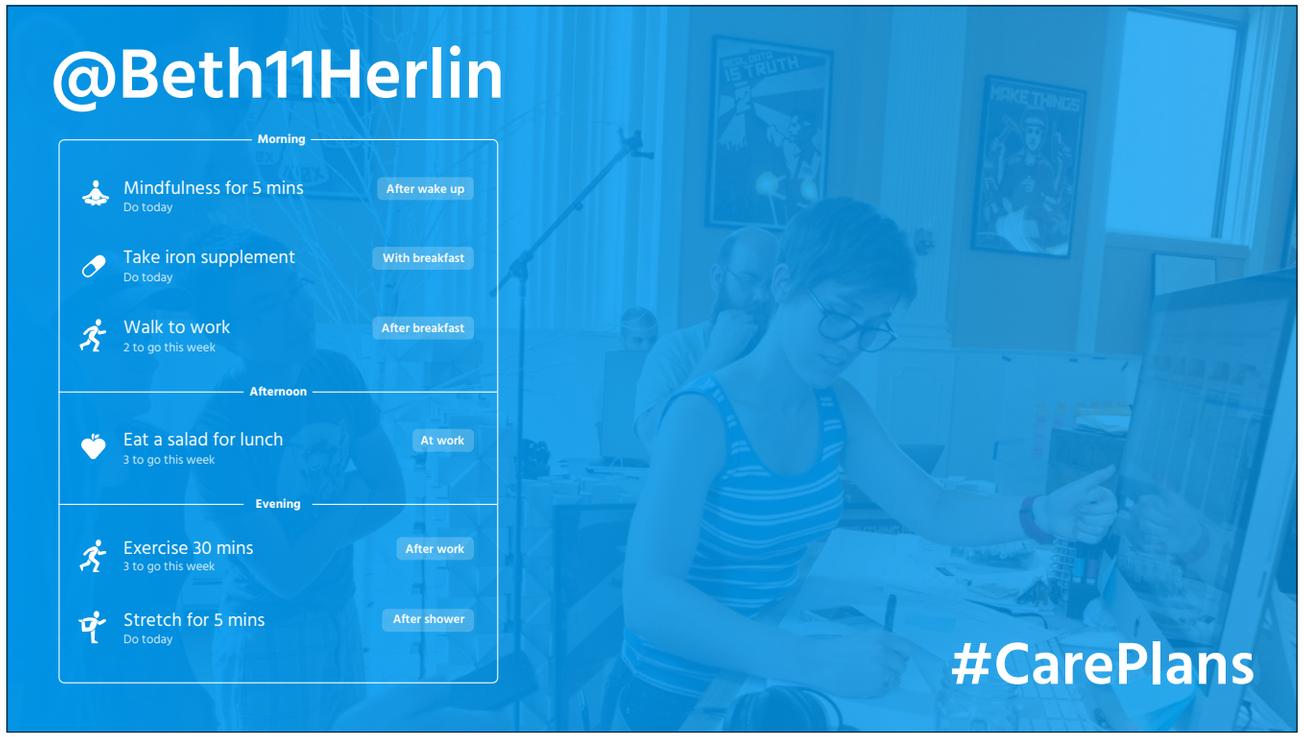
Harry Sleeper, Healthcare Provocateur

Joyce Lee, MD, MPH, University of Michigan

Jane Sarasohn-Kahn, MA, MHSA, THINK-Health, Health Populi blog, Huffington Post

Jeff Belden, MD, University of Missouri, toomanyclicks.com

Thank you so much for your time, and to everyone that helped in our research or gave feedback.



I’ll with that, I’ll end with my own care plan and move to any questions you have.

IN PROGRESS...

- Vetted by expert designers
- 4 services in development
- 2 services currently deployed to be tested
- Always getting industry feedback for validation

CRITERIA

STANDARDIZATION AND INTEROPERABILITY

- Complies with meaningful use requirements (providing patients with encounter notes/discharge summaries).
- Meets CDA and/or FHIR data standards to integrate with EHRs.
- CQM standard compliance
- HIPAA compliant.
- Integrates with clinical workflows.

PATIENT SUMMARY AND HEALTH HISTORY

- Provides overview of general health condition.
- Service takes into account patients individual health concerns.
- Provides comprehensive medical history.
- Ease of obtaining medical record or medical history information.

PATIENT INSTRUCTIONS AND EDUCATION

- Personalized, time-based instructions from care providers for both short and long term.
- Dynamic instructions based on assessment of understanding and new data.
- Education reinforcement through reminders, and context-sensitive notifications.
- Links to external relevant resources.
- Accounts for individual demographics

CRITERIA

PATIENT EMPOWERMENT AND GOAL SETTING

- Education-facilitated goal setting with or without clinician input.
- Editable and shareable plan of time-based goals.
- Patient encouragement and incentive.
- Feedback on progress toward goals.
- Projected outcomes based on current adherence trends.

CONNECTEDNESS / VITALS TRACKING

- Tracks progress towards specified care plan goals either manually through user input or through ambient sensors.
- Collects and stores biometric data such as heart rate, blood pressure, respiration patterns, posture, weight, physical activity, etc.
- Connects with other health applications and services (HealthKit, Fitbit, Jawbone, Withings, etc.) that track vitals.
- Ability to view trends in data.

DATA INSIGHT AND DYNAMIC TRACKING

- Provides summative insights about health status and actionable recommendations/ education for improvement.
- Provides projected outcome of recommended intervention.
- Communicates summative trends in progress and health concerns to providers.
- Incorporates provider input into dynamic care plan.

CRITERIA

PATIENT DATA OWNERSHIP AND ACCESS

- Provides secure access and proxy rights to view and edit health information
- Provides ability to export health information for personal records.
- Accessibility from many devices.
- Real time updating to the most recent health information.

PROFESSIONAL CARE TEAM COMMUNICATION

- Collects and stores contact information for all professional providers of care.
- Provides a search engine to locate and contact new care provider.
- Can schedule a physical or virtual appointment with a care provider.
- Can call or send an asynchronous message to care provider.
- Can synchronously chat or virtually consult with a care provider.
- Communication can be recorded and stored for later review.
- Can provide access to all or specific health information to select care providers.

NON-PROFESSIONAL CARE TEAM COMMUNICATION

- Collects and stores contact information for all non-professional caregivers, friends, and family members involved in care.
- Can call or send an asynchronous message to caregiver.
- Can synchronously chat or virtually consult with a caregiver.
- Communication can be recorded and stored for later review.
- Can collaborate on health tasks with caregivers.
- Can provide access to all or specific health information to select caregivers.

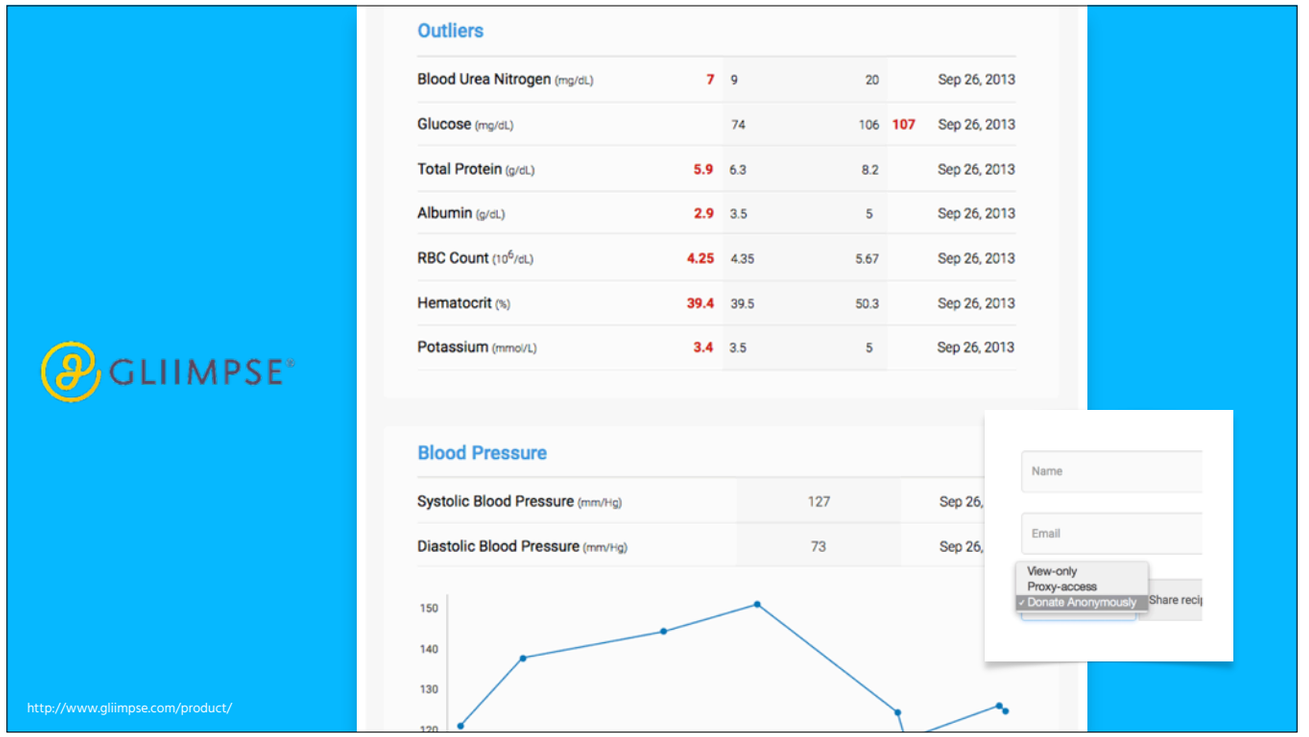
CRITERIA

CLINICAL VALIDITY

- Clinical trials or studies conducted to objectively view health efficacy.
- Involves vetted care professionals.
- Integration with clinical workflows.
- Reputable health or medical organizations or professionals behind product development.

CONTENT BREADTH

- Nutrition
- Physical activity
- Sleep
- Mental resilience
- Medication management
- Bad habit cessation
- Sexual health
- Managing activities of daily living.


GLIIMPSE®
Outliers
Blood Urea Nitrogen (mg/dL) 7 9 20 Sep 26, 2013
Glucose (mg/dL) 74 106 107 Sep 26, 2013
Total Protein (g/dL) 5.9 6.3 8.2 Sep 26, 2013
Albumin (g/dL) 2.9 3.5 5 Sep 26, 2013
RBC Count (10^6/cL) 4.25 4.35 5.67 Sep 26, 2013
Hematocrit (%) 39.4 39.5 50.3 Sep 26, 2013
Potassium (mmol/L) 3.4 3.5 5 Sep 26, 2013
Blood Pressure
Systolic Blood Pressure (mm/Hg) 127 Sep 26,
Diastolic Blood Pressure (mm/Hg) 73 Sep 26,
150
140
130
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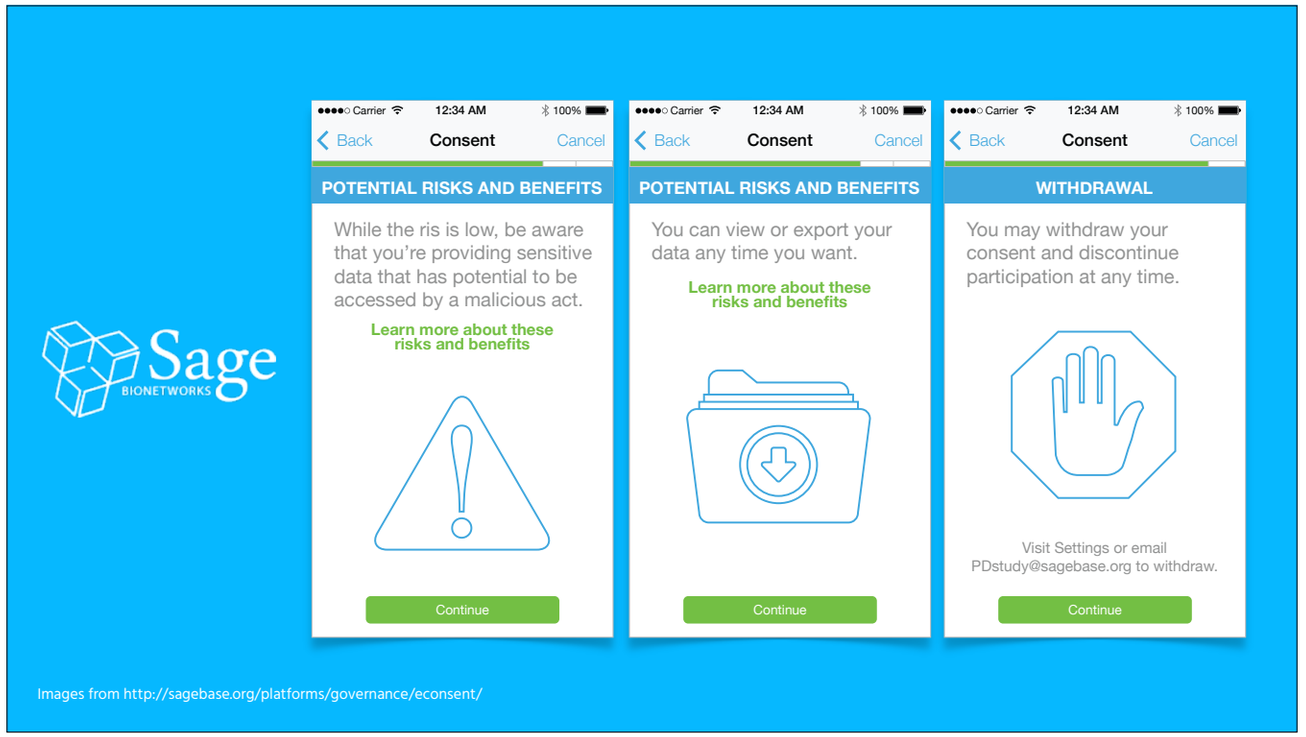

Images from http://sagebase.org/platforms/governance/econsent/

Collecting ‘meaningful consent’ is essential in giving patients control over their data. Some orgs are already starting down this path.

ONC eConsent Tool Kit

Image from https://www.healthit.gov/providers-professionals/econsent-toolkit

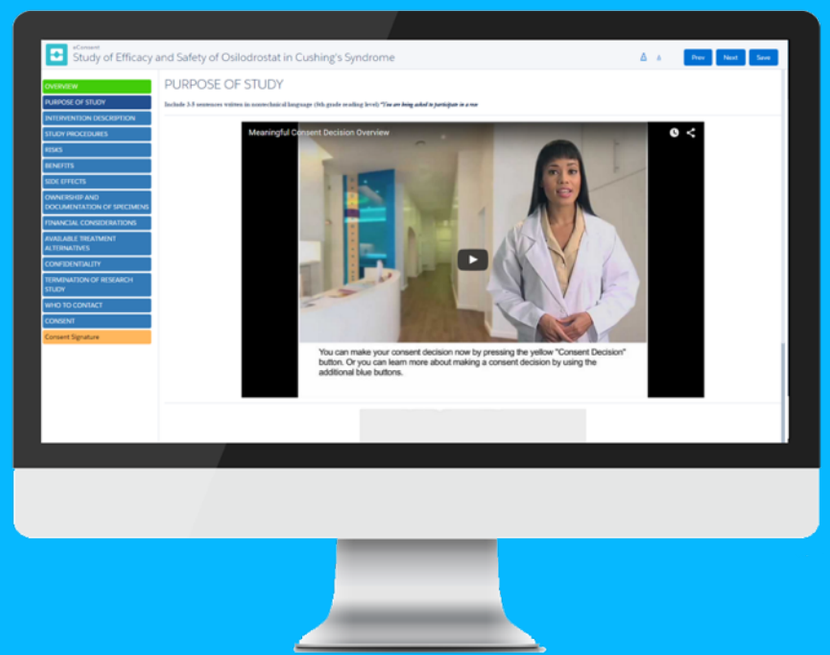

Image from http://www.cloudbyz.com/cloudbyz-news-econsent.html

Collecting ‘meaningful consent’ is essential in giving patients control over their data. Some orgs are already starting down this path.