Agenda and Contents

Recap of Where We Are in the Process Timeline

Product Overview

Condition-Specific User Journey

Potential Impact to the Business

Further Questions

Recap: Timeline from Last Meeting

Milestone	Deliverable
Feb 7	Present Possible Project Ideas
Feb 14	SPRINT 1: *Hypothesis solution and tests based on what you've learned*
Feb 21	Value proposition and business case. Map user profiles. Master the "internal sales" pitch.
Mar 6	Solution architecture and initial wireframing
Mar 20	SPRINT 2: *Business Case* Implement essential functions
Apr 3	Refine product and algorithm
Apr 17	Minimum Viable Product
Apr 24 May 1-4	SPRINT 3 – Buffer Dress rehearsal and initial presentation | Final Presentation to CIO

# Updates from Lecture This Week
A Sneak Preview for Sprint 2 (March 20)

Create Business Case. Analyze the Problems and Potential Solutions

Brainstorming for Solutions Aligned to the Needs of the BigCo Organization and to the Corporate Culture

Keeping in Mind, May Need to Navigate Complex Organization Structure to Gather Feedback from MultipleStakeholders

Product: Customer Chatbot
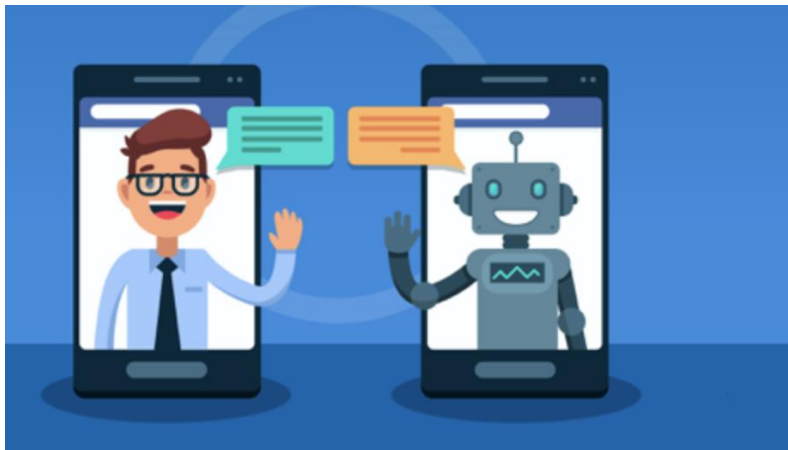
Flexible interactions with customers at scale. Gather unstructured health information and blend with publicly available information for added insights.

Enables

Learn about latest
medical conditions
Increased compliance
Enhanced Customer
Experience

Impact

Remote monitoring
Reduced Readmissions
Operates at Scale

Data 🔥FHIR

BlueButton2, Apple
Health, Synthea
Train chatbots using Elmo,
Bert

Risks

NLP algorithms can have
high complexity to capture
sentiment from medical
terms

User Journey

Meet Maria

✓ 50 Years Old, has a busy schedule with 2 kids getting married this year!

✓ Has type 2 diabetes and takes insulin shots for managing insulin levels

✓ Knows Missed Dosages Can Cost Her Visits to Hospital

✓ But can Be Forgetful and Sometime Life Just Gets in the Way

A Diabetic has risks!

Medication Compliance

- A missed dose could lead to spike in glucose levels
- Long-term poor compliance can land her in the hospital!

Diabetes Care Management

- Is Maria managing her weight well?
- Are the symptoms getting worse?

Early detection

- Diabetics are at high risk for poor foot neuropathy
- Complex Kidney Disorder
- Cardiac Complications

Potential Cost Savings

Chatbot providing early detection of risk for Diabetic Peripheral Neuropathy (DPN) has potential for significant potential savings, with total spend estimated at ~$1.8B per year

Annual costs of DPN and its complications for Type 2 Patients in US					
Health Condition	US Patients	Cigna Patients	Incidence	US Annual Cost ($m)	Cigna Annual Cost ($m)
Diabetes (type)*	10,267,500	2,333,523			
DPN*	5,027,995	1,142,726	49%	$216	$39
Foot ulcer					
Not infected	612,290	139,157	6%	$5,698	$1,036
With cellulitis	63,144	14,351	1%	$1,552	$282
With osteomyelitis	25,323	5,755	0.2%	$1,154	$210
Amputation					
Toe	15,617	3,549	0.2%	$355	$65
Foot	4,805	1,092	0.05%	$205	$37
Leg	18,820	4,277	0.2%	$965	$175
Total annual cost				$10,145	$1,845

*Sources:
- *Data from American Diabetes Association*
- *Cigna Population based on market share of 75M customers (Investor Presentation) out of 330M US population, and assuming 80% coverage*

Additional Questions

Appendix

DPN Detailed Description

Diabetic peripheral neuropathy (DPN) is a particularly debilitating complication of diabetes and accounts for significant morbidity by predisposing the foot to ulceration and lower extremity amputation.

It is estimated that between 12 and 50% of people with diabetes have some degree of DPN (1), which may be asymptomatic or symptomatic.

Symptoms may be disabling and are manifested as "positive" symptoms, including numbness, prickling, pain (e.g., burning, lancinating, aching), or allodynia.

A predominant feature of DPN is sensory loss, which may lead to foot ulceration due to even minor trauma.

The annual costs of DPN and its complications in the U.S. were $0.8 billion (type 1 diabetes), $10.1 billion (type 2 diabetes), and $10.9 billion (total). Range of costs were between $0.3 and $1.0 billion (type 1 diabetes), $4.3b and $12.7 billion (type 2 diabetes), and $4.6 and $13.7 billion (type 1 and type 2 diabetes).

Based on this, we consider our Total Addressable Market Size in the US for Type 2 to be $10.1B

Tentative Questions

CSP

Validating Assumptions for Business Case

Culture Questions from Today's Lecture

User Testing

Product Design Choices
• Rules vs Learning

Healthcare in the Age of Empowered Consumers

In a new paradigm, consumers are increasingly controlling access to their personal health data and selectively consenting to opt-in services if they feel that partners are delivering significant value.

This is a strategic shift from previously when large integrated companies controlled access to consumer/patient data.

How might established health services firms such as Cigna extract value from this democratized data, differentiate its services, attract customers and deliver outstanding quality care?

53 million

Medicare beneficiaries with data in Blue Button 2.0

150 Million

Users of opt-in mobile health apps such as Apple Health

Hypothesis

Timely communication and patient engagement improves medication compliance

🖼 Big Picture

Improved compliance leads to reduced episodes of acute or emergency care treatments

🩺 Testing the hypothesis

Identify	Remind	Laissez Faire	Compare & Verify
Test participants and one of their daily chores, such as going to the gym	Send daily reminders e-mails to the participants for one week	Stop sending reminder emails to the participant	Compare the compliance rates with and without the reminders

The Company

Patient-first

Integrates the physical, emotional, financial, social, and environmental aspects of health and well-being of every customer.

Innovation

Transforming health care, innovating across the delivery system to expand choice and improve quality, affordability, and experience.

Partnership and Collaboration

Making health care more affordable by partnering with providers who provide quality, cost-effective care.

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Next Steps

Experimentation

- Conduct prototype testing

- Study how to utilize data sets

Finalize Project Use Case

- Value Proposition and Business Case

- User Profiles

- Internal "Pitch" to BigCo

Chatbot Conceptual Diagram