

# Medyear Consumer

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Prepared for

ONC Consumer Health Aggregator Challenge

by



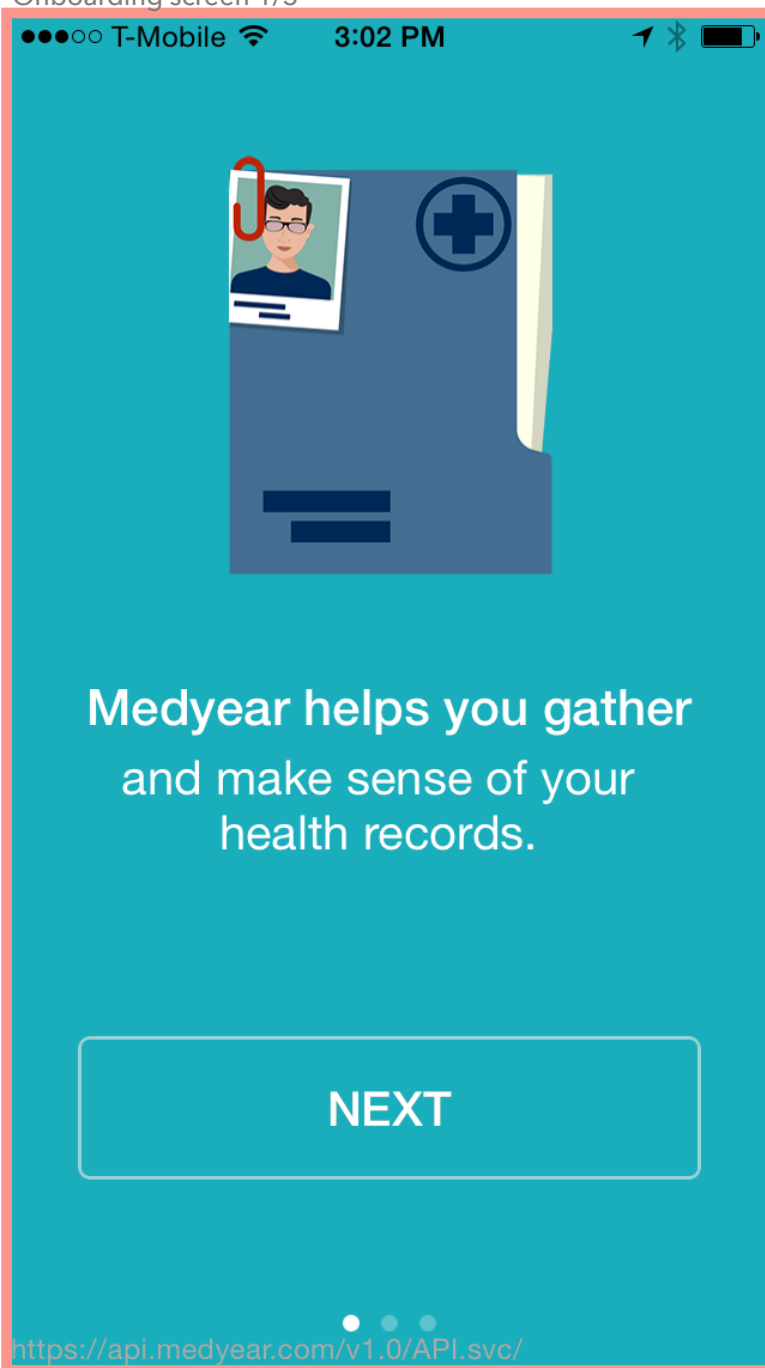
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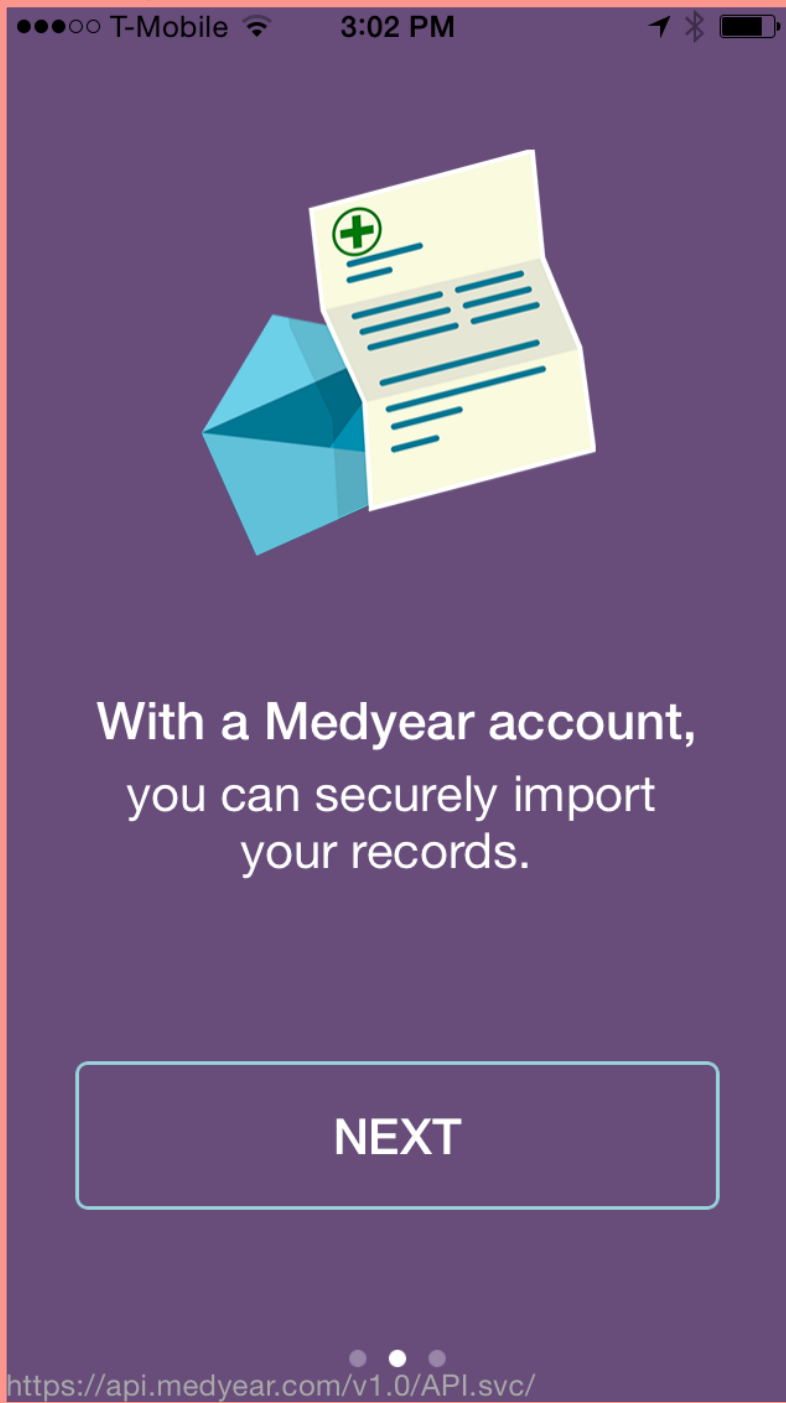
**MAY, 2016**

# Mockups

Medyear is a consumer's health record, journaling, and messaging tool in one app. It unifies all of a patient's health data in one place, and connects them to others involved in their health care, all through a smartphone app. Using Medyear, patients can save and merge health records from various providers into a single, organized account. With complete information at their fingertips, patients can better manage their own health care. Patients can also add and message members of their care team, securely and privately, about any health issue.

Onboarding screen 1/3







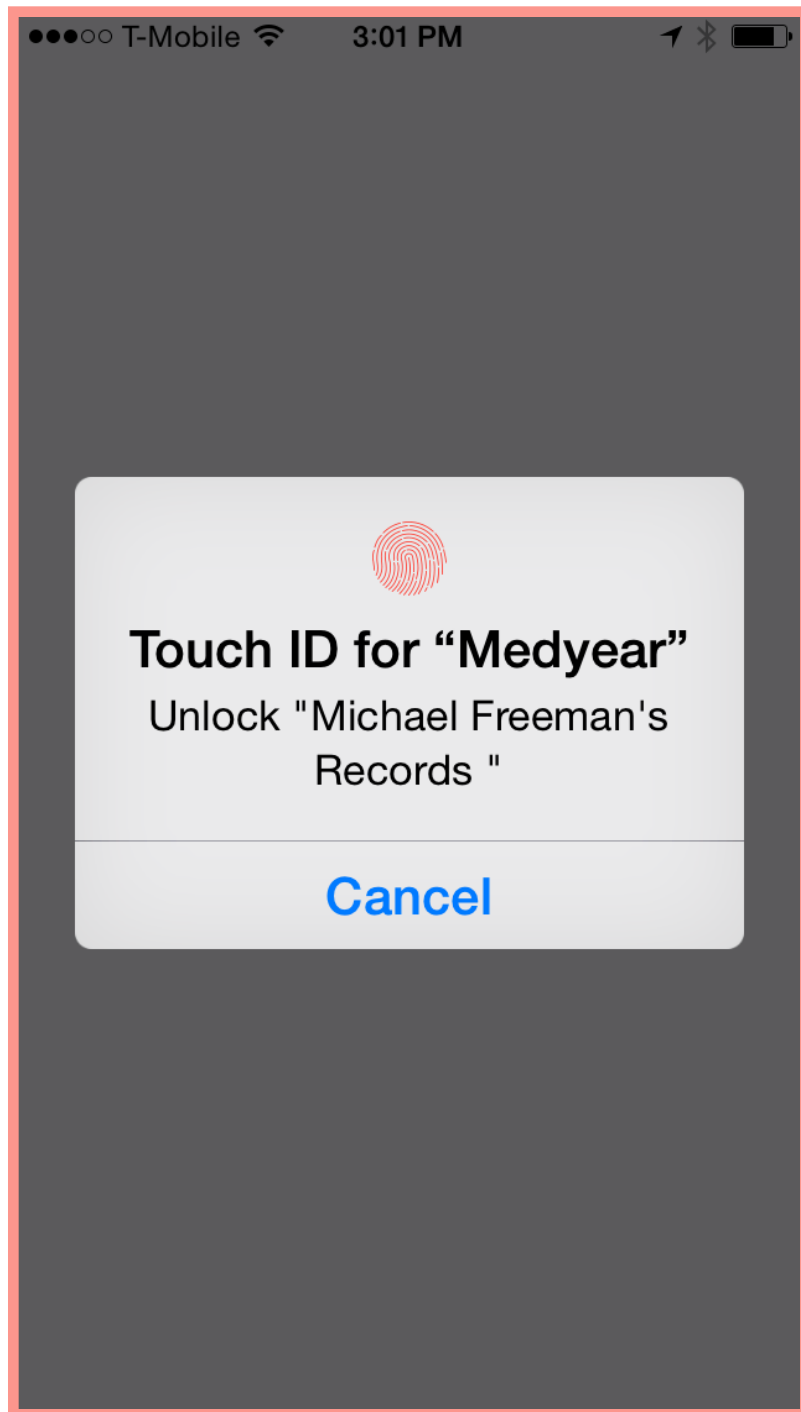
Your data stays private.  
Only you have the key.



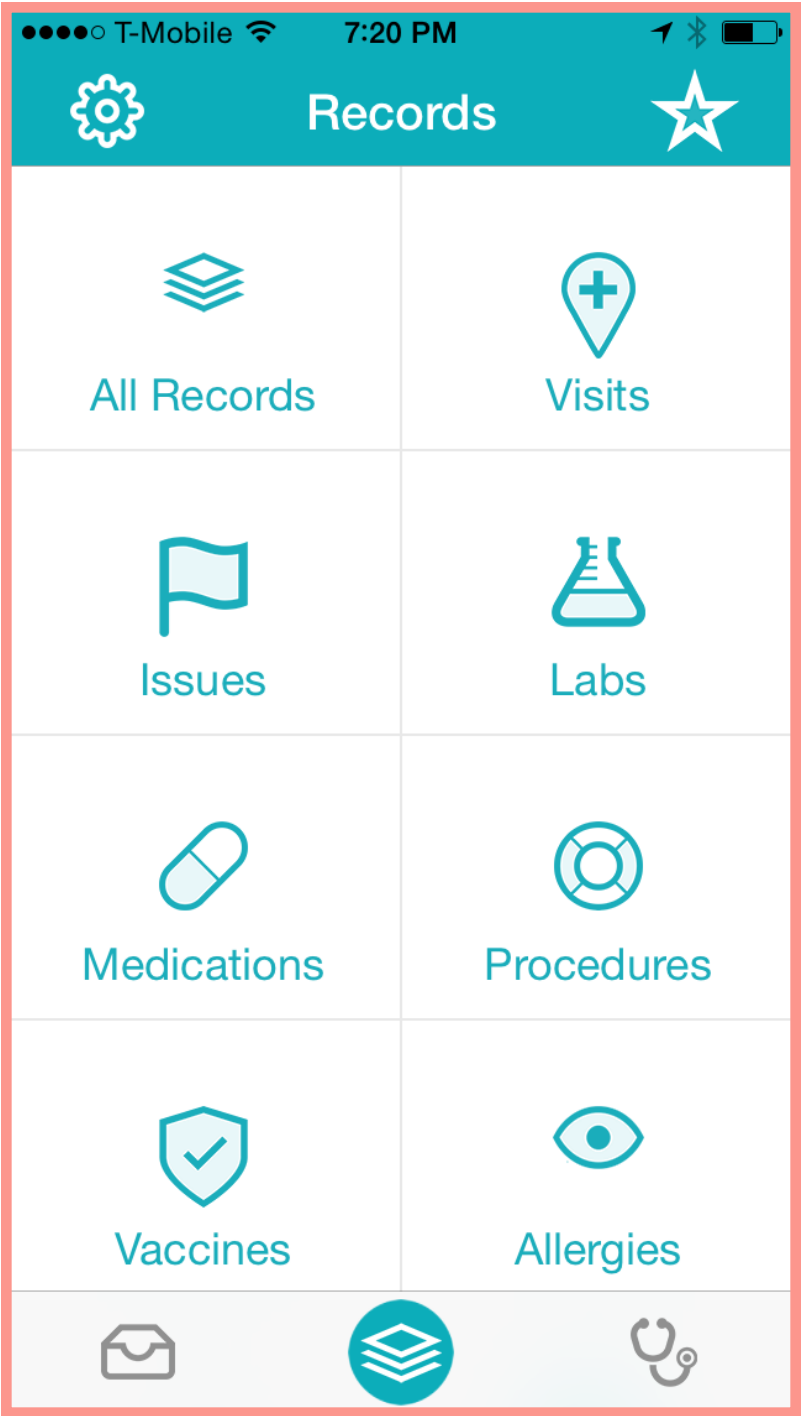
Get Started

Already A Member? Sign In

Medyear is TouchID enabled, allowing users to quickly and securely sign in to their account.




The Medyear Records home screen shows the wide variety of medical information that our app can ingest.




Medyear’s groundbreaking partnership with Michigan Health Information Shared Services (MiHIN), allows Michigan patients to instantly access a number of important health records, including immunizations, which are retrieved via a FHIR call.


←

Current Vaccines

 Vaccines needed


 Vaccination history

TDAP

 20


NEXT DOSE DUE	ACCELERATED DUE DATE
1	06/10/2005
RECOMMENDED DATE	OVERDUE DATE
06/10/2005	06/10/2005

Hepatitis B


 20


NEXT DOSE DUE	ACCELERATED DUE DATE
Consider	03/16/2015
RECOMMENDED DATE	OVERDUE DATE
03/16/2015	03/16/2015


Seasonal Influenza


 20

NEXT DOSE DUE	ACCELERATED DUE DATE
Complete	-









In addition to upcoming immunizations, patients can view a detailed vaccine history, which they can take with them in the app regardless of their healthcare institution.

Current Vaccines

Vaccines needed

Vaccination history

Hepatitis A

VACCINATION DATE #1

02/16/2015

Hepatitis B

VACCINATION DATE #1

02/16/2015

Seasonal Influenza

VACCINATION DATE #1

10/25/2011



VACCINATION DATE #2


02/16/2015





Journaling tools allow patients to log or health stats and measurements from providers, giving a more complete health profile.


No SIM 2:40 PM 85%


New post


Medications


Measurements


Images

Blood pressure☐

Peak flow☒


Height☐


Weight☐


Heartbeat☐


Cancel

Next

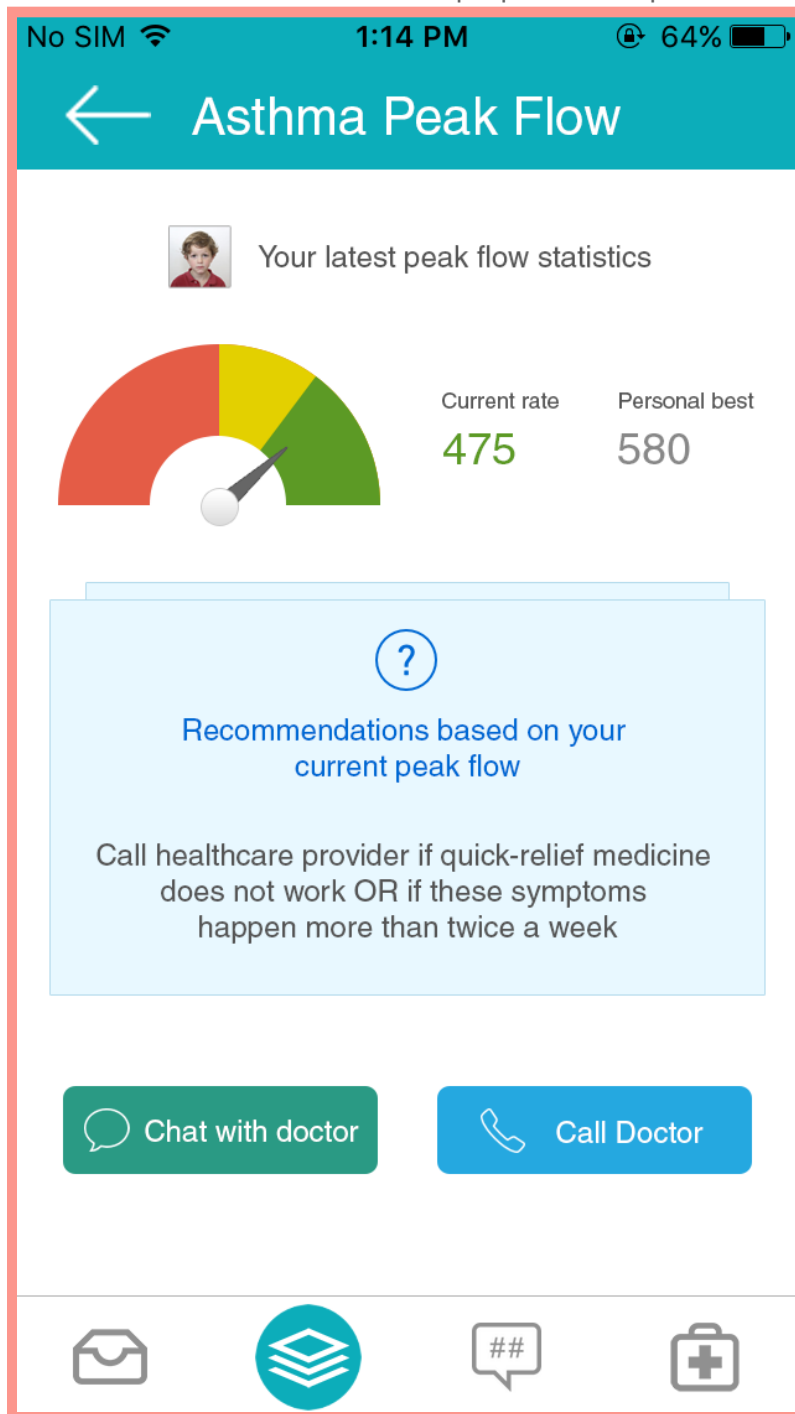









Any new health record gives the option to chat or call with a doctor, as well as useful notes to help a patient interpret results.





Patients can add information to their journal during a visit. This can be done manually, or, in more advanced environments, with an automatic download.


No SIM 2:40 PM 85%





New post



Medications

Measurements


Images


Add weight


Weight in kilograms


Cancel

Post

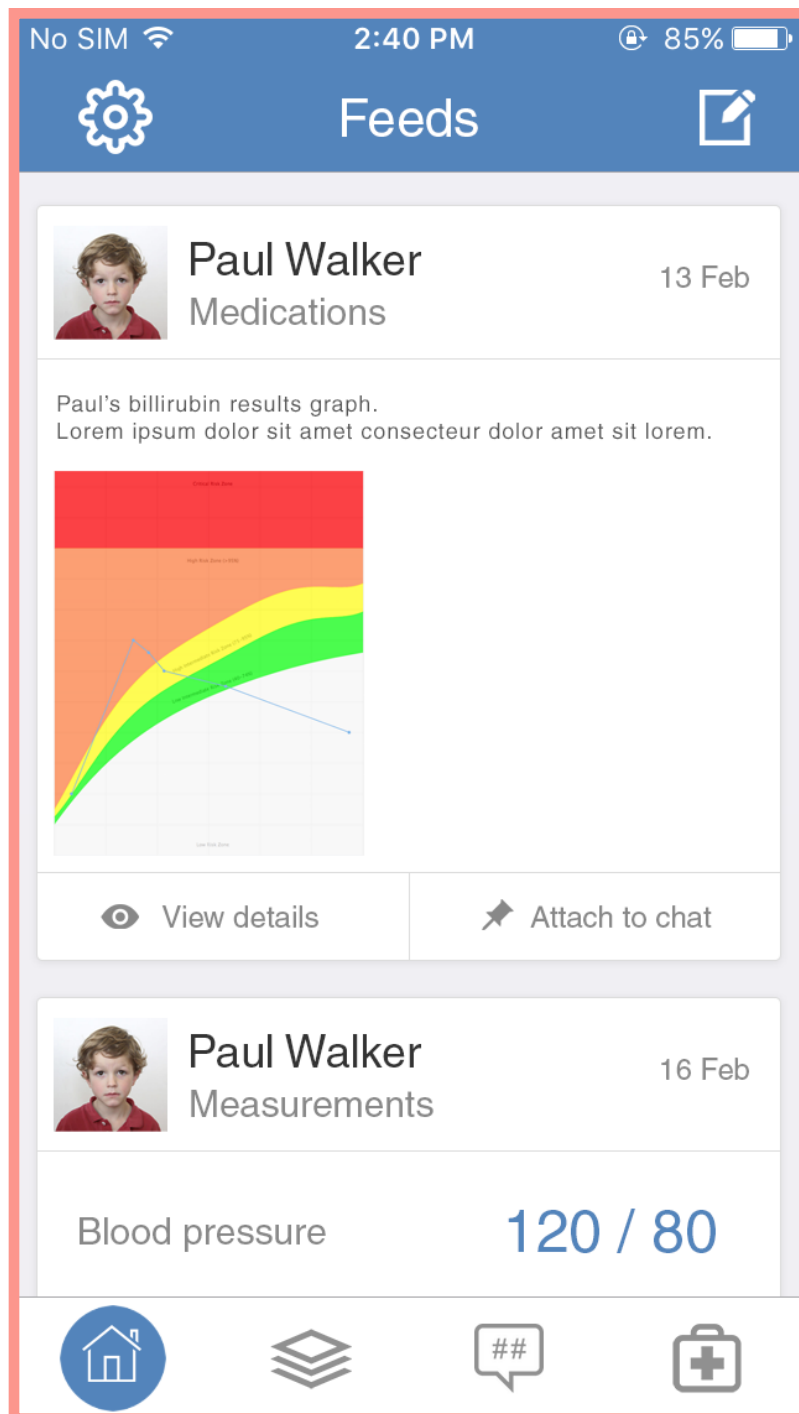








When entering the app, patients will view a live “newsfeed” of updates to their records as they become available. This design borrows from standard social media user interfaces.



Medyear’s powerful chat tools give patients the ability to chat instantly and securely with anyone in their care team. Here a patient creates a new chat with the ability to give the subject header a custom name.

No SIM

6:24 PM

83%

New Chat

Enter chat name

Choose chat members

Michael Freeman, MD

[MI] Family Medicine

Henry Ford, MD

[MI] Family Medicine

Neal Armstrong, MD

[MI] Family Medicine

George Carlin, MD

[MI] Family Medicine

Michael Schumacher...

[MI] Family Medicine

Kemy Raikkonen, MD

[MI] Family Medicine

Patient names the subject of the chat as “Asthma Peak Flow”

No SIM

5:39 PM

53%

 Asthm|



Henry Ford, MD

[MI] Family Medicine





Neal Armstrong, MD

[MI] Family Medicine





George Carlin, MD

[MI] Family Medicine





Michael Schumacher...

[MI] Family Medicine





Michael Freeman, MD

[MI] Family Medicine





Jonnie Walker, MD

[MI] Family Medicine



 Delete chat


Patient moves green sliders to select members of their care team to participate in group chat.

No SIM

5:39 PM

53%

←



Asthma Peak Flow

3 members





Henry Ford, MD

[MI] Family Medicine

☒



Neal Armstrong, MD

[MI] Family Medicine


☐



George Carlin, MD

[MI] Family Medicine


☒



Michael Schumacher...

[MI] Family Medicine


☒



Michael Freeman, MD

[MI] Family Medicine

☒



Jonnie Walker, MD

[MI] Family Medicine

☐

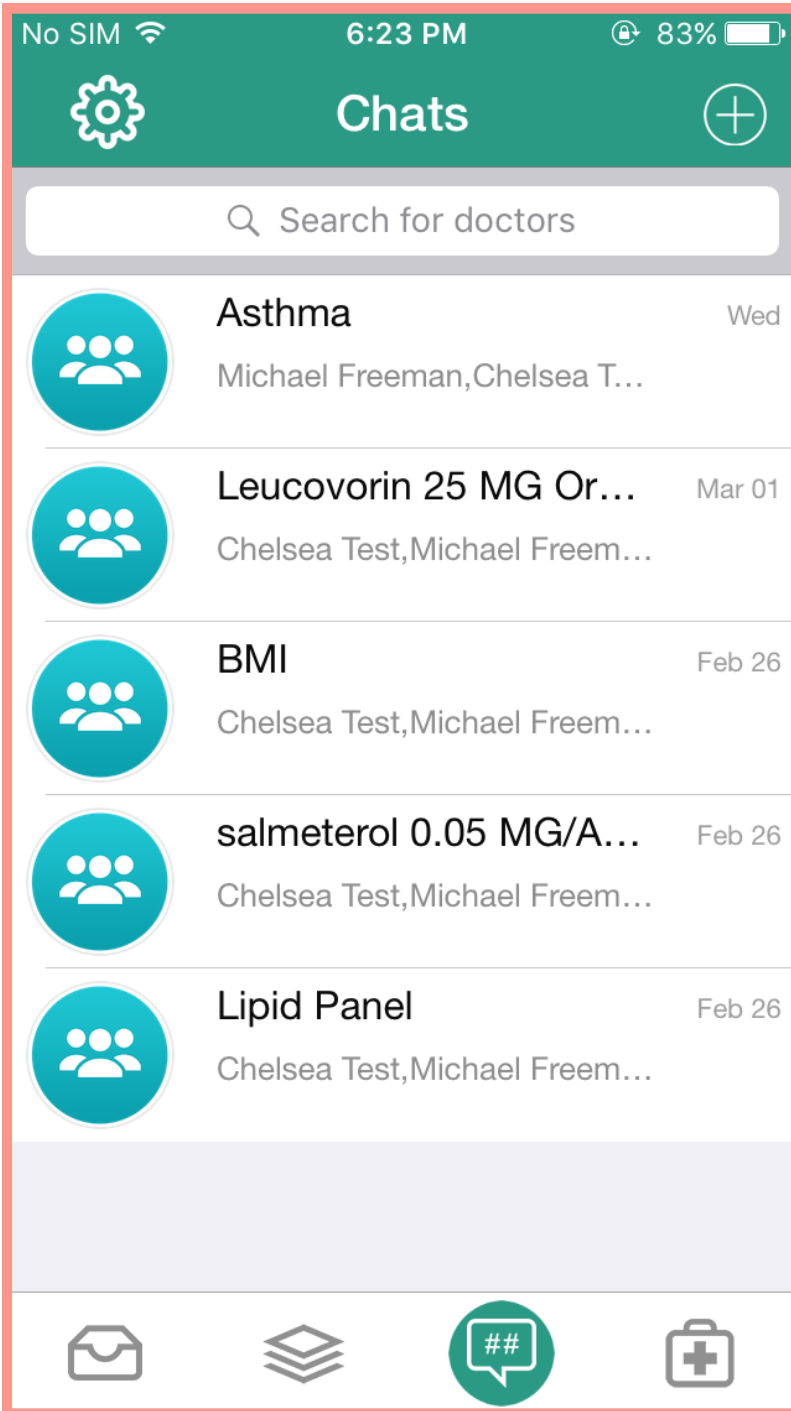
✕ Delete chat

Patient chats with care team group, all at once. Medical records can be attached with the same ease as adding a photo or hyperlink to a text message.

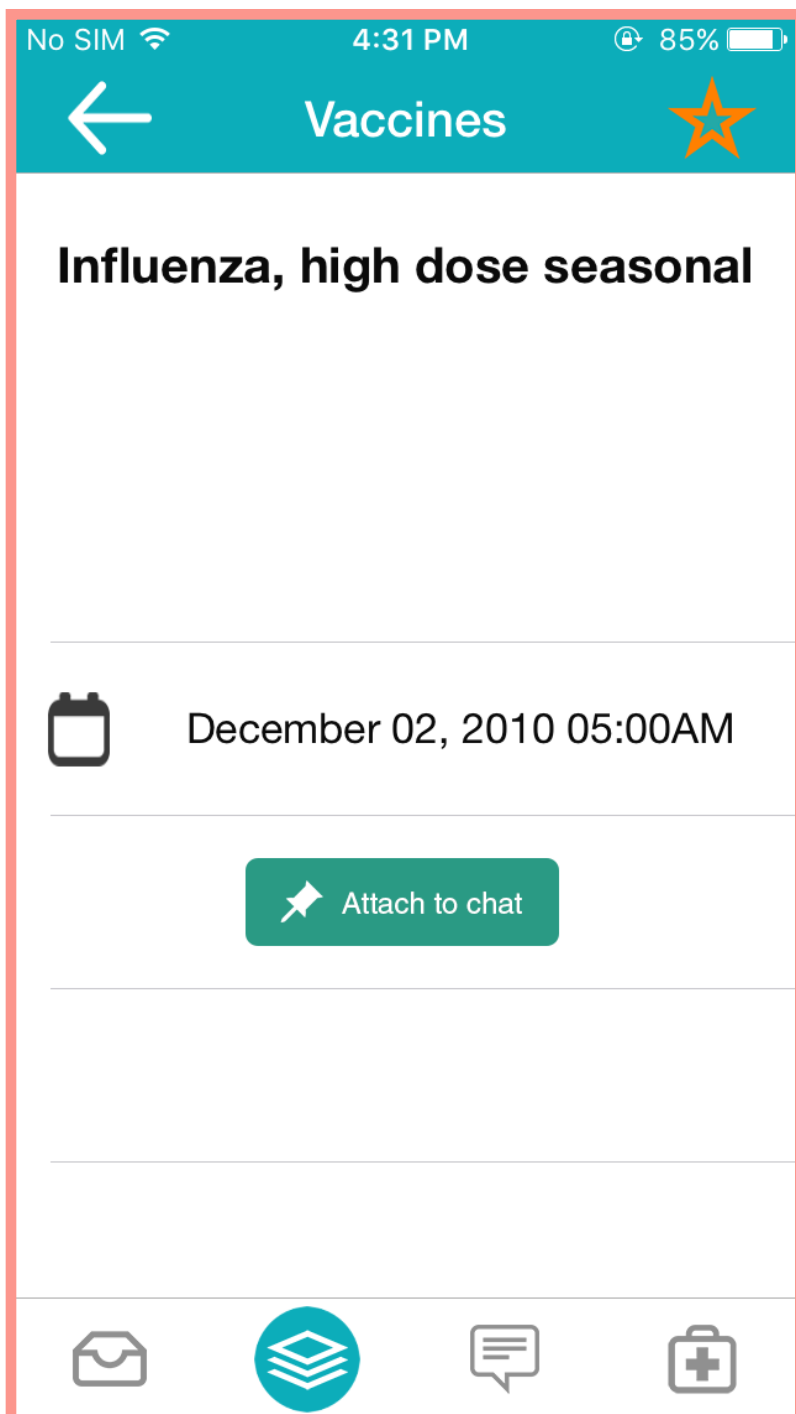




Chat histories are saved for future reference and are organized by subject.



Any piece of health information may be attached to a chat as needed.



# Supporting Technical Information

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## Technical Overview

The Medyear platform has been designed from the beginning as a secure consumer-mediated exchange. Architected on the Microsoft .NET platform, Medyear uses enterprise-grade components - such as Microsoft SQL Server Enterprise, which is used by a range of mission-critical organizations across the world - to ensure confidentiality, integrity, and availability.

Our private cloud infrastructure is operated on dedicated servers running in secure data centers owned and operated by IBM. The platform and system controls have been designed to pass EHNAC Certification standards set by DirectTrust. Medyear is also an accredited and inaugural member of National Association of Trusted Exchange's (NATE) consumer trust bundle, which certifies companies on their technical and administrative controls exceeding the HIPAA standard for covered entities.

All data transmissions are via secure Direct messaging or via secure FHIR REST APIs, and all data is stored internally using database encryption, on robust platforms such as Microsoft SQL Server Enterprise 2014.

## Data Sources

Medyear supports the inbound receipt of CCDAs documents delivered via secure Direct Protocol email. We have proven Direct protocol integration with Epic and Cerner EMRs during live demos at HIMSS 2015 and on Capitol Hill.

Medyear also consumes and writes data via FHIR. We have proven FHIR API integration with a leading academic medical center, a leading statewide health information network, and with CMS's BlueButton on FHIR API.

Medyear has developed software that can connect to multiple FHIR APIs.

Medyear has been able to access multiple FHIR Resources, including:

- Patient
- Practitioner
- Organization
- Observation
- DiagnosticReport
- ExplanationOfBenefit

Using CCDAs over Direct we have been able to receive data from major EMR platforms, such as Cerner and EPIC. Medyear is able to extract all major segments of the CCDAs including:

- Demographics
- Vitals
- Labs
- Medications
- Procedures
- Immunizations

## Consumer Privacy

Medyear puts the consumer in control of their information. Patients log onto the app with their fingerprint, and no information is acquired, or shared without the Medyear member's explicit permission. With Medyear Plus, users can share their information with their caregivers, professional care team or a loved one by inserting relevant parts of their medical record into a secure chat message. Sharing is explicit and granular, and patients always control who is privy to their medical information.



# Business Plan

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## Issue Analysis: Consumer Challenge

The “Triple Aims” call for improved care quality, lower costs, and improved patient experience. Many organizations have started to look at how to improve care quality, primarily through science and analytics. Lowered costs is also being pursued with optimizations, marketplaces, and transparency. But the last of the triple aims - the improved patient experience - has not quite benefited as much from technological advancements. Some organizations like Oscar, Pager, and Sherpa are starting to make some strides. But these products and services rely heavily on well-trained human staff to provide an elevated patient experience. Additionally, these approaches are mostly limited to the less complex aspects of medical care, such as flu shots and low-level physician Q&A.

The main barrier standing in the way of an improved experience that can more thoroughly take advantage of modern technologies is the lack of patient control over his/her own medical records. Independent PHRs such as Microsoft HealthVault, Humetrix, and NoMoreClipboard have struggled for different reasons. However, we have seen some limited success of tethered PHRs, such as Kaiser Permanente’s implementation of Epic MyChart, in which doctor-patient messaging features are gaining traction. Unfortunately, tethered PHRs are severely limited in their ability to only serve patients of a given institution, neglecting the principle that the patient is the best possible steward of his or her own medical data. Building the healthcare experience around a patient’s own PHR data is both more responsible and efficient.

Fortunately, this barrier can now be overcome thanks to a courageous government. Patient data liquidity has become a pillar of the Obama administration's health reform policy agenda, yielding Meaningful Use, HITECH, MACRA, Blue Button, and now FHIR. As a result of true data liquidity and FHIR, patients and doctors can now finally experience an entirely modern and unconstrained care delivery experience where all of the information and people required for an individual's care resides inside of a digital apparatus. This new type of digital experience should address the main shortcoming of older non-FHIR PHRs, namely the requirement that patients either input their own information, or ask their doctors to learn the intricacies of Direct messaging, which is difficult even for the most technologically-capable individuals.

Even when information flows freely and in real-time, a deep and meaningful mobile PHR experience with one's health is not easy to craft, especially for the masses. The design must be simultaneously flexible (because healthcare is complex), intuitive (because everyone needs to be able to understand it), and empathetic (because new paradigms are going to challenge conventional thinking). Medyear focuses on well-crafted, user-centric designs that can elevate the healthcare experience for everyone, from healthy to sick, to clinicians and caregivers. Thus, we compete on design, as well as interoperability.

## **Medyear: Elevating the healthcare experience for consumers**

Medyear is a consumer's health record, journaling, and messaging tool in one app. It unifies all of a patient's health data in one place, and connects them to others involved in their health care, all through a smartphone app. Using Medyear, patients can save and merge health records from various providers into a single, organized account. With

complete information at their fingertips, patients can better manage their own health care. Patients can also add and message members of their care team, securely and privately, about any health issue.

Controlling and transferring personal records from one health system to another is an outdated, cumbersome and often slow process. We solve the problem of poor interoperability. When patients cannot easily access their own data due to the lack of interoperability, they are left feeling disenfranchised and confused. Moreover, their lives may be put at risk. This is a huge issue; preventable medical errors are the third leading cause of hospital deaths per year. Medyear has worked with leading health information systems in the United States to provide a well-designed and secure Personal Health Record that passes stringent US health data transmission standards and also uses FHIR.

Our partnership with the Michigan Health Information Network is historic in nature, and uses FHIR to provide advanced consumer-oriented interoperability for the entire state. In Q3 of 2016, Medyear will go-live with the Michigan Health Information Network, which transmits 7 million messages per week on behalf of 10 million patients. For these Michigan residents, they will immediately be able to view their Care Team, Immunization History and Forecast, as well as automatically receive copies of any new records into their Medyear account. We will initially target Michigan's 2.2m Medicaid patients, for whom medical data across the care spectrum is already being shared.

Thus, for Michigan and elsewhere, data will flow automatically and seamlessly, using modern internet technologies. Medyear will provide an experience on par with other consumer tools in the modern digital age.



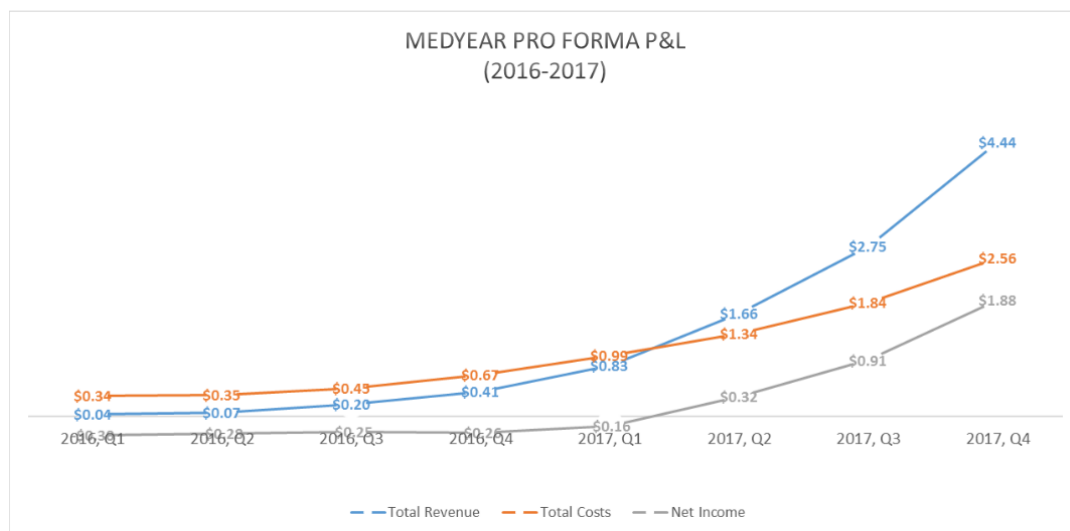
In a typical use case, the head of the household monitors the health data and hospital records for her aging parents and her young children. With Medyear, she is able to see when her family's new records become available on her smartphone via push notifications. With the "posts" feature, she can also keep track of the OTC medications that she is using, as well as important measurements such as weight, peak flow, or blood glucose as part of a journal that inherits a design from the world of social media.

Beyond the peace of mind from having your medication information in one place, we recognize that when people get sick, they need support. Thus, Medyear also provides the ability to securely message doctors and caretakers with any questions or follow-ups related to their health data. When our head of household has questions about the data she sees, she can send a secure message to her doctor on behalf of her father. Relevant parts of a medical record can be attached into a secure chat, just like adding photos to a text message or stickers to a Snapchat message.

For our head of household, if her father gets very sick, she can take her father's medical history with her to the appointment. Medyear can also automate some aspects of the dreaded hospital visit with a "check-in" feature. This helps patients to easily navigate their hospital visit experience, starting with their first steps in the door. When patients check-in, they can also report on how they're feeling and capture a selfie to send to their care team in advance. Crucially, as the treatment proceeds, both patients and their care team (through their Medyear Enterprise app) are able to track progress in real-time. At the end of a visit, patients are offered a chance to rate their experience. We are teaming up with New York Presbyterian Hospital in order to bring all of this to life for pediatric oncology using FHIR.

## Financial Estimates

Figure 1: Medyear Pro-Forma P&L for 2016-2017



Medyear is both B2C and B2B, so we have revenue from consumer subscriptions and enterprise subscriptions. Our Pro Forma P&L for 2016-2017, by quarter, is as follows:

	2016, Q1	2016, Q2	2016, Q3	2016, Q4	2017, Q1	2017, Q2	2017, Q3	2017, Q4
<b>REV</b>	<b>\$36,602</b>	<b>\$67,736</b>	<b>\$201,193</b>	<b>\$406,053</b>	<b>\$826,709</b>	<b>\$1,659,177</b>	<b>\$2,749,603</b>	<b>\$4,438,245</b>
B2C	\$1,354	\$11,515	\$54,345	\$146,985	\$358,195	\$794,485	\$1,414,245	\$2,460,495
B2B	\$35,248	\$53,241	\$128,223	\$203,193	\$338,139	\$548,067	\$757,983	\$1,027,875
ADS	\$0	\$2,980	\$18,625	\$55,875	\$130,375	\$316,625	\$577,375	\$949,875
<b>COSTS</b>	<b>\$337,767</b>	<b>\$345,702</b>	<b>\$452,454</b>	<b>\$669,203</b>	<b>\$985,048</b>	<b>\$1,340,564</b>	<b>\$1,838,019</b>	<b>\$2,559,005</b>
COGS	\$172,299	\$181,944	\$224,470	\$375,925	\$556,600	\$839,625	\$1,206,475	\$1,838,500
SG&A	\$155,669	\$151,958	\$212,984	\$278,278	\$409,448	\$481,939	\$607,444	\$696,405
OPEX	\$9,800	\$11,800	\$15,000	\$15,000	\$19,000	\$19,000	\$24,100	\$24,100
<b>INCOME</b>	<b>-\$301,166</b>	<b>-\$277,967</b>	<b>-\$251,262</b>	<b>-\$263,150</b>	<b>-\$158,340</b>	<b>\$318,613</b>	<b>\$911,583</b>	<b>\$1,879,240</b>

# Engagement Plan

For our standalone Medyear app, our B2C model is unique in that it can also be considered “B2G2C” (with G standing for Government). In a B2G2C model, we partner with state and municipal health information exchanges (HIEs) to roll out advanced capabilities (such as FHIR) to support data liquidity across the state. With such groundbreaking partnerships, the end result is a modern PHR service powered by FHIR and available for the entire state as a public utility for a \$1.99 one-time fee. Michigan and Medyear have already partnered to deploy these historic innovations at scale, and have other regions such as Utah, San Diego, Philadelphia, Massachusetts, and New York in the pipeline. Over time, this “land grab” strategy will result in Medyear being able to connect nearly everyone in the US to their medical data that would otherwise be scattered across the country.

Beyond collecting medical records, Medyear users can upgrade to take advantage of premium offerings like chatting with your doctors, regardless of which EMR they use. As part of Medyear Plus (which costs \$30/year), identity-proofed users can chat with up to 400K physicians across the country, as well as include families and caregivers in the group chat. This feature is modeled after the success that Kaiser Permanente experienced with the physician messaging component of its Epic MyChart installation.

Medyear Plus will be available across the entire US, and also gives users an LOA3 Direct address. Thus, while some patients cannot currently receive records automatically like in Michigan and other advanced regions, their best-in-class Direct address greatly improves the chance that they can receive medical records from a physician’s EMR. This upgrade is available as a simple in-app purchase of either a monthly or annual Medyear subscription.

We also have a B2B model, wherein we partner with large institutions to deploy advanced patient and provider tools across the enterprise, in order to enhance the overall experience for both stakeholders. In such instances, a large hospital system will acquire Medyear Enterprise subscriptions for their clinicians and patients to ensure that a patient experiences a seamless hospital visit. The new tools and capabilities available as a result of FHIR parlay the Medyear consumer app experience into a “newsfeed”-like user interface, guiding patients, families, and hospital staff during an actual hospital visit. In the background, we deliver information between the Medyear app and the EMR using FHIR. We are initially deploying primarily with prestigious academic medical systems, such as New York Presbyterian, in order to test in the best possible environments. Over time, as other hospitals seek to replicate the success of NYP, we hope to secure many additional health systems as large enterprise customers.

