# Crossing the Health IT Chasm

## Challenge

Today's health information technology (IT) infrastructure is largely a collection of systems unable to support the transition to value-based care—creating a chasm between the health IT ecosystem we have and the one we need.

## Solution

Concerted, non-heroic actions by clinicians, developers, researchers, and policymakers to leverage data and better deploy health IT for patient care.

### Patient

**Mr. Stuart receives quality care, and benefits from a modern, connected, and innovative health care system.**

#### Mr. Stuart selects Dr. Weaver as his new primary care physician.

Mr. Stuart uses his previous physician's online portal to transmit his old medical record data to his new provider, and integrates health data from his smartphone, smartwatch and digital scale. Mr. Stuart receives email instructions ahead of his first meeting with Dr. Weaver to review and confirm his current list of active medications, family and past medical history, and allergy information; he also completes a web-based health risk assessment.
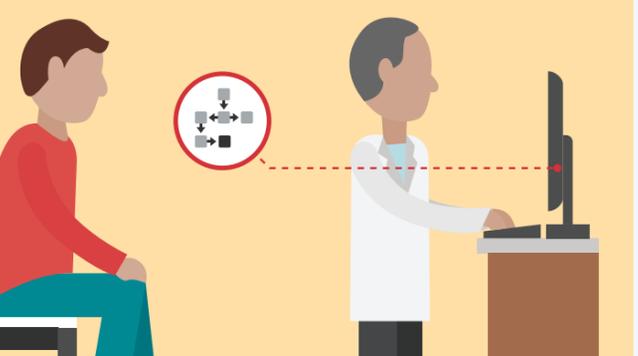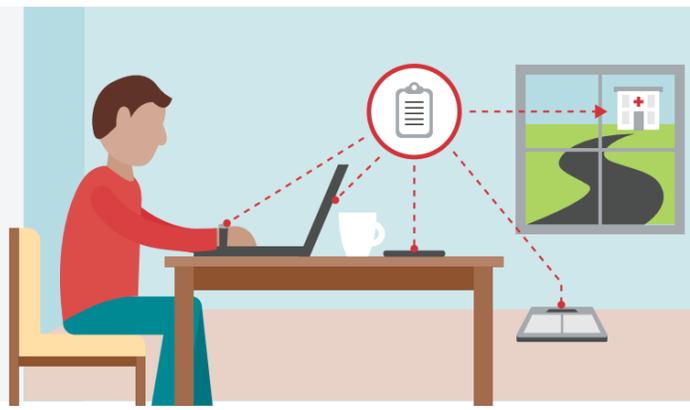
#### After meeting with Dr. Weaver, Mr. Stuart meets with a cardiologist for further assessment and testing.

Mr. Stuart has something unusual in his family history, so his new cardiologist, Dr. Jones, uses a web-based personalized clinical decision support algorithm to predict what Mr. Stuart's increased risk might be. As a result of the cardiac catheterization, a genetic screening test, and his family history, Dr. Jones identifies triple-vessel disease and recommends surgery.

#### After a successful surgery, Mr. Stuart's care experience adds to research and helps others learn.

Mr. Stuart agrees to participate in a clinical trial to have his information and residual blood stored and shared with researchers, who may study patients like him to develop new diagnostic tests and treatments. Mr. Stuart is also prescribed a mobile application to help manage his condition. The app helps by tracking his pulse rate, exercise tolerance and dyspnea, and reports this information back to a segmented portion of his health record.
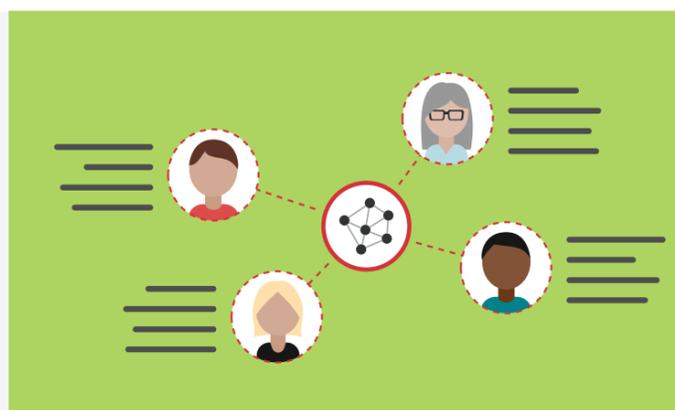
### Provider

**Mr. Stuart's clinicians are informed about his condition every step of the way.**
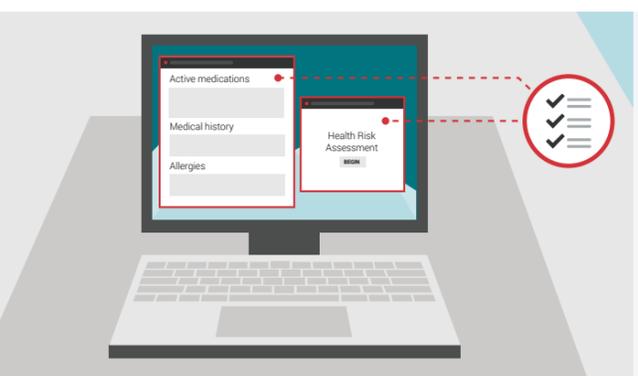
#### Dr. Weaver reviews Mr. Stuart's information for their first meeting.

Dr. Weaver opens the electronic record to find that she has one new patient this morning—Mr. Stuart. She clicks on his name and reviews information from his prior providers, and data that Mr. Stuart has reported himself. She creates a check-list of the topics she wants to discuss with him, incorporating both the topics she thinks are clinically important and those reported by Mr. Stuart.

#### Health IT helps close the referral loop for Dr. Weaver.

After referring Mr. Stuart to the cardiologist to discuss a shortness of breath, Dr. Weaver receives an electronic summary of Mr. Stuart's results, indicating a need for surgery, for her files. After the surgery, Dr. Weaver receives a discharge alert, receives digital images from the cardiac catheterization, and is sent a notice from a company regarding Mr. Stuart's use of a new mobile app to help him manage his condition.
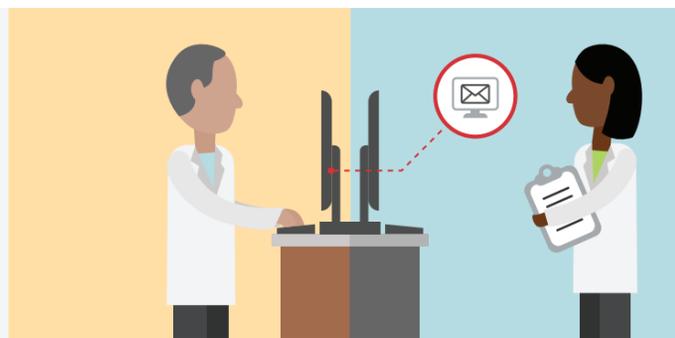
### Researcher & Innovator

**Researchers and innovators use Mr. Stuart's care experience to inform new treatments and develop patient-centered applications.**
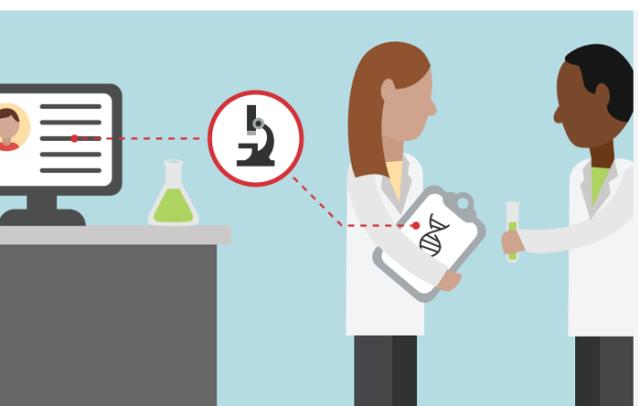
#### Mr. Stuart's data contributes to local, national research.

As part of Mr. Stuart's surgery, he volunteered to participate in a clinical trial by sharing his data and residual blood. Mr. Stuart's data can also contribute to the All of Us Research program, so that researchers can compare Mr. Stuart's data with similar participants across the country. For example, electronic orders and results for laboratory tests and radiological studies are automatically imported into a local study database, as well as a national database for precision medicine efforts across the country.

#### Mr. Stuart's episode also created opportunities for innovation.

Mr. Stuart's cardiologist asked if he had an Android or iPhone mobile device and advised him to download an app endorsed by the American College of Cardiologists (ACC) and developed by a startup company working with the hospital. A company called Beats Per Minute, or BPM, calculates a patient's probability for hypertension-related complications by mining historical records and comparing those to his present-day status to create a personalized risk assessment using an ACC algorithm in the "cloud."
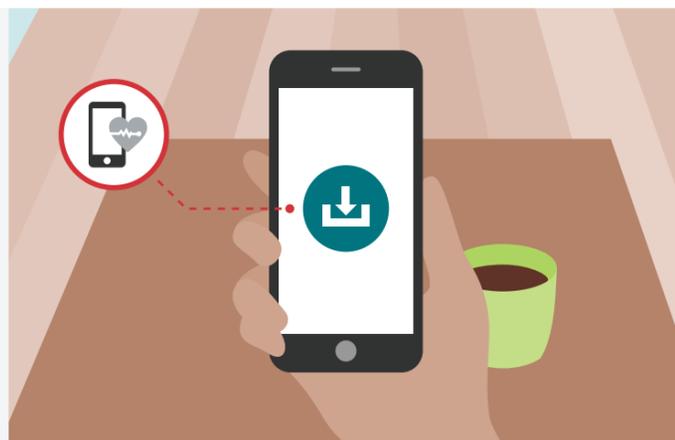
**Mr. Stuart receives high-value care, delivered by a coordinated care team, and supported by an integrated health IT environment.**

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### Questions?

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