

# The House Call is Back and It's Better Than Ever!



UNIVERSITY OF UTAH  
HEALTH CARE



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**Like most good stories,**  
the story of house calls  
has a humble beginning.

*in 1940* the majority of provider visits saw their patients in their homes.

*in 1960* house calls by providers were 40% of the doctor-patient meetings.

*in 1980* that number dropped to less than 1%.

## **Benefits** of house calls

- Offers insights not available during an office visit
- Provides accessible healthcare for the patient
- Helps to save money by helping to keep those who are having a minor ailment from turning into a major operation.



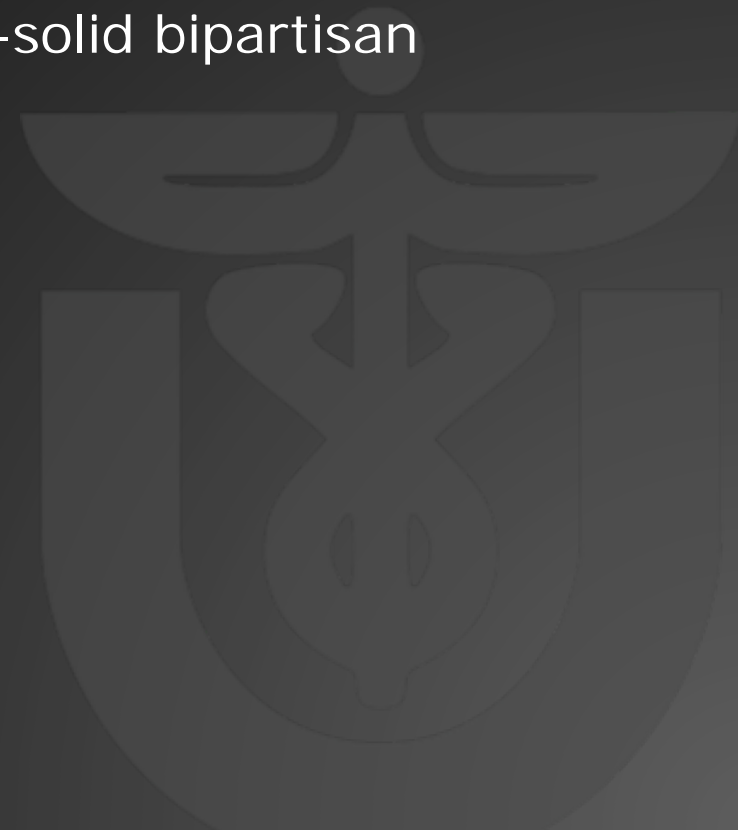


## The decline of the house call

- Lack of efficiency
- Time required
- Fewer family physicians
- Poor reimbursement
- Biomedical knowledge and technology
- Growth of 3<sup>rd</sup> party payers
- Heightened liability concerns

## Why are house calls **coming back**?

- Projected increase in the number of elderly
- Consumer demand
- Hospital readmission reduction
- The concept also has had "absolute rock-solid bipartisan support" among federal lawmakers.





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Never Trust the Internet

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Rewarding Possibilities  
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**Real Possibilities**  
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Romance Possibilities  
Reimagine Possibilities  
Reaching Possibilities  
Responsible Possibilities  
Rock 'n' Roll Possibilities  
Relaxing Possibilities

What can be used to bring back the **benefits** of house calls to patients and at the same time address the **issues** that caused its **decline**?

### Benefits

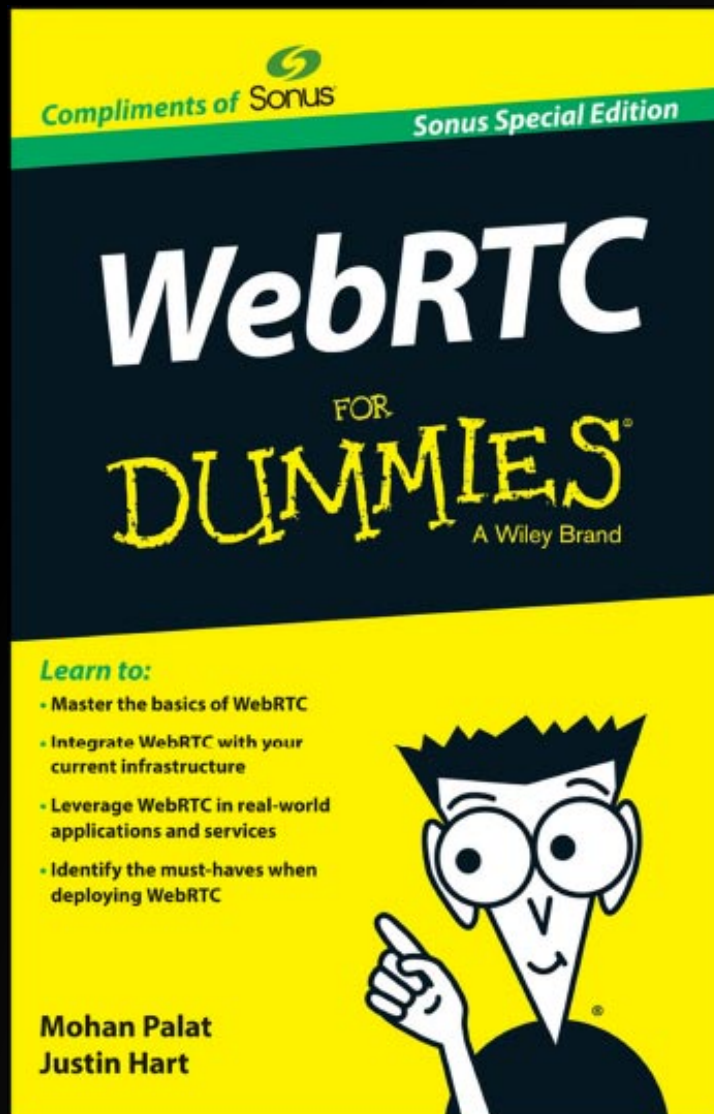
- Offers insights not available during an office visit
- Provides accessible healthcare for the patient
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### Decline

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## Where does WebRTC come from?



- Sweden
- Google
- Web browser market

Googlism



## **Who** is supporting the WebRTC project?

- World Wide Web Consortium (W3C)
- Google
- Mozilla
- Opera



## What is the **goal** of WebRTC?

- Developers access to open, high-quality, real-time communications technology.
- Open the door to a new wave of video, voice and data web applications.

## Where does WebRTC work?

Currently supported in

- Opera
- Google Chrome versions 23+
- Mozilla Firefox versions 22+



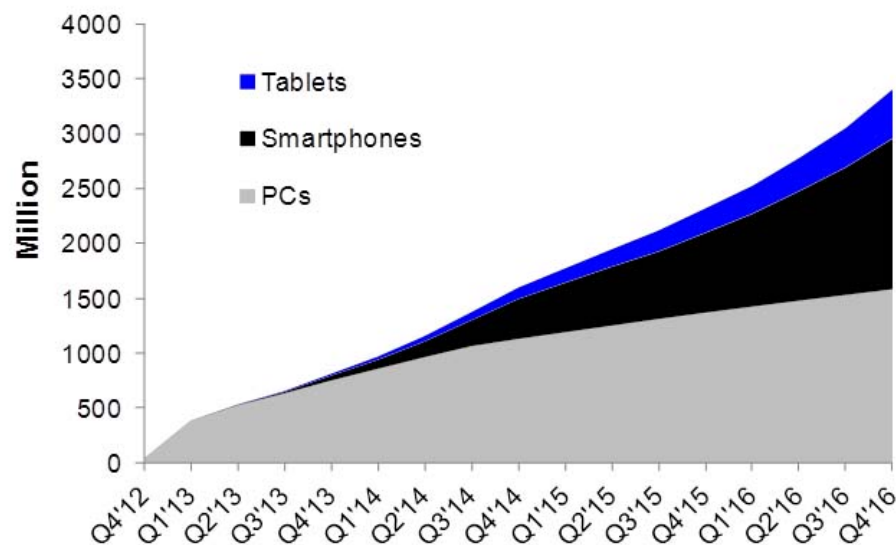
## Why is WebRTC **important**?

- Better video quality
- Faster Connection speeds
- Reduced audio/video latency
- Freedom from Flash
- Native HTML5 elements



## WebRTC Penetration

Figure 1: WebRTC support will grow quickly, led by PCs initially

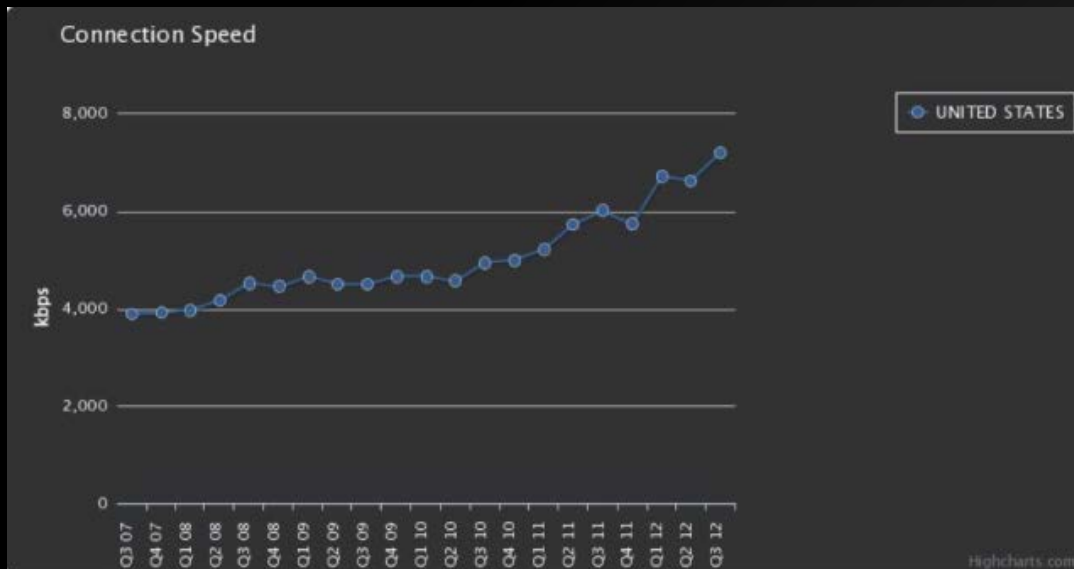


Source: Disruptive Analysis WebRTC Strategy Report, Feb 2013  
Definitions & methodology in report

Source: Disruptive Analysis

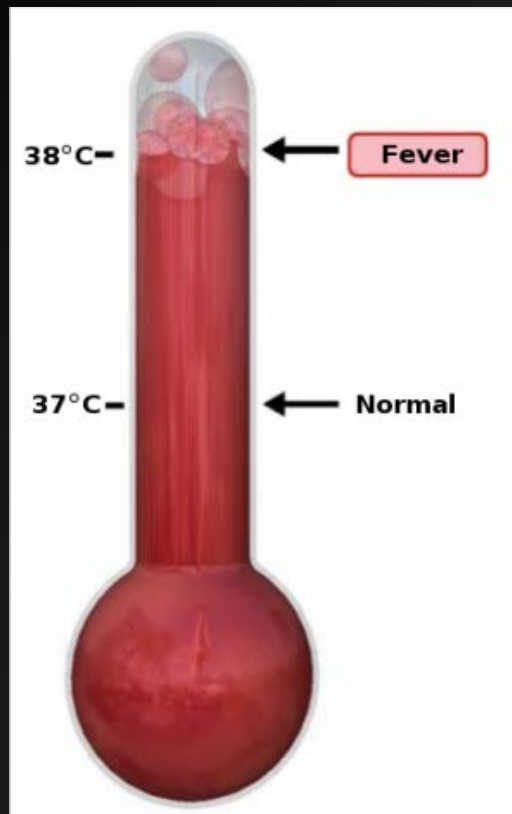
By the end of 2013 it is estimated that half of the internet population will be enabled for WebRTC.

## A Note on US Connection Speed



Over the last few years, the average Internet in the US has **increased significantly**. With companies such as Google building infrastructure for 1GB connections, speeds are poised to grow exponentially. This is great news for WebRTC as it means even faster “flights”.

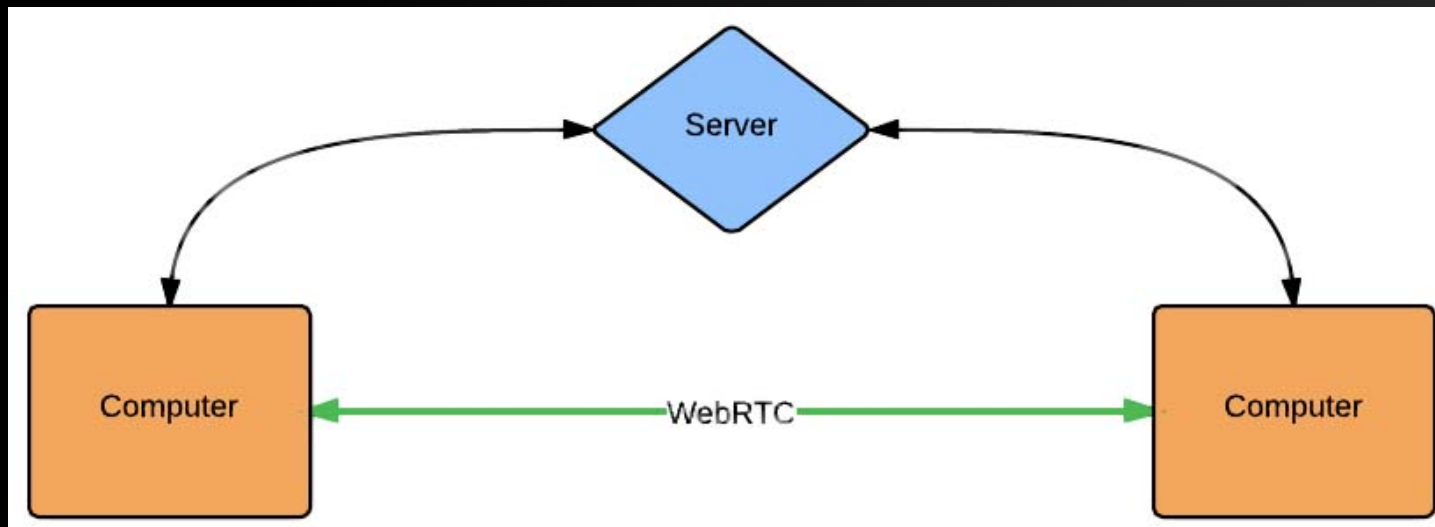
## Fast growth and its **consequences**



## What does WebRTC **mean to you?**

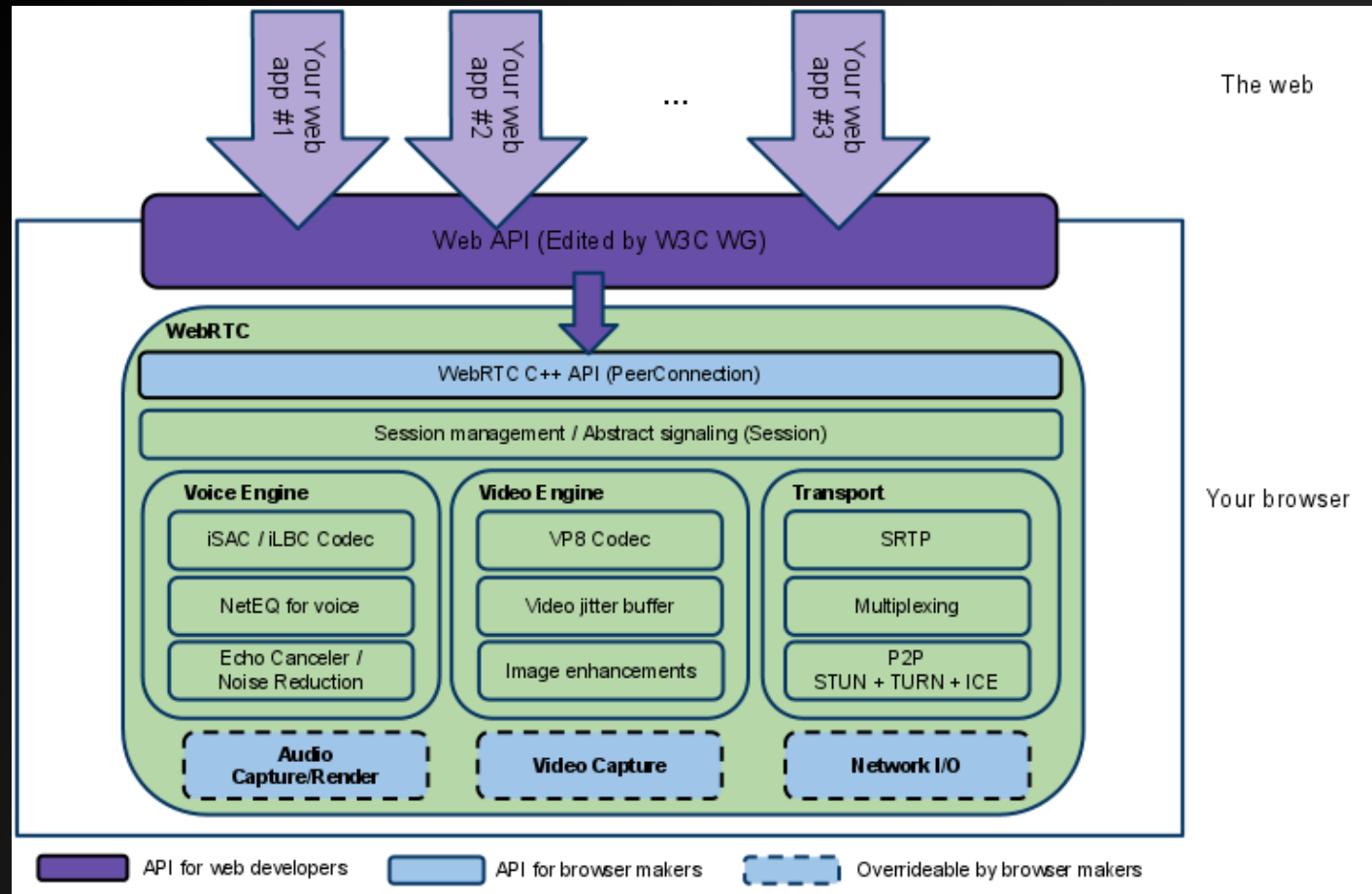
- Video endpoints
- Impact on your network





Prior to WebRTC, in order to send data (text, audio, video) from one web browser to another, the data would travel through a server (adding payload in terms of network traffic and latency).

## How does WebRTC work?



## What are the WebRTC **development roadblocks**?

### The video codec debate

- What is VP8 and VP9?
- What is H.264?
- What does WebRTC use?
- Do either of those video codecs work on mobile devices?

## What are the WebRTC **development roadblocks**?

### The video codec debate

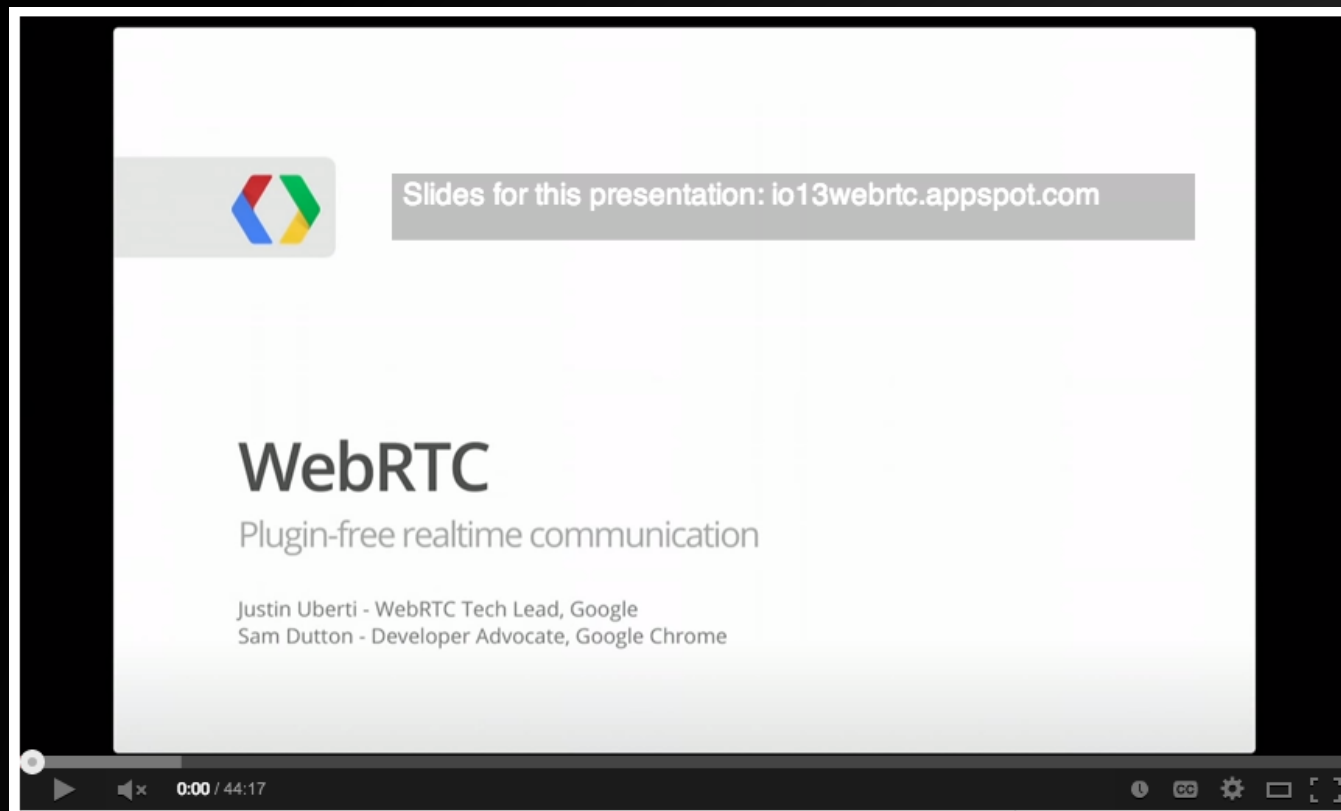
Where do all the interested parties stand on the issue?

Company	VP8	H.264
Google	X	
Mozilla	X	
Opera	X	
Cisco	X	X
Microsoft		X
Apple		X
Ericsson		X

## What are the WebRTC **development roadblocks**?

### Browser Incompatibility

- Do any browsers interoperate with out-of-the-box WebRTC?
- Is it possible to build WebRTC applications that interoperate cross all browsers?
- What about Safari?



<http://www.youtube.com/watch?v=p2HzZkd2A40>

## Examples for WebRTC?

The possibilities are impossible to count!

- Video conferencing
- Web collaboration
- Smart TVs
- Video Diary
- Social media



**Recognizing the benefits of WebRTC as a possible medium  
for bring back house calls, what can you do?**



August 8, 2013

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4 Hospitals, 10 Neighborhood Health Centers, 200 Medical Specialties, over 1,000 Board-Certified Physicians, connected to 78 non-University Hospitals & Clinics throughout the Midwest using Telemedicine.

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**Only Academic Medical Center**  
in the Intermountain Region,  
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**Serves** the largest catchment area of  
any academic medical center in the country,  
with a referral area that encompasses  
more than 10 percent of the continental U.S.

**Ensures** that patients from Utah  
and five surrounding states have access to  
the best, most specialized care.

**Provides** services available nowhere else  
in the region, such as University Hospital's  
Burn Center and the Moran Eye Center.



## Are there any **FDA issues**?

TruClinic does not provide results used in diagnosis. It is only a communications medium with no clinical decision support. Therefore it does not fall under the FDA.

**Source:** <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm369431.htm>

## How about **compliance**?

- HIPAA
- HITECH
- PIPEDA
- COPPA



If there is a **problem**, how is TruClinic going to be **supported**?

- Patient issues
- Provider issues



## What are the **patient benefits**?

- Ease of use
- Provides accessible healthcare
- Helps to save money by helping to keep those who are having a minor ailment from turning into a major operation.
- Efficient
- Saves time



## What are the **provider benefits**?

- Ease of use
- Increased rural access
- Offers insights not available during an office visit
- Helps to save money by helping to keep those who are having a minor ailment from turning into a major operation.
- Efficient
- Saves time
- Reimbursement
- Access to latest biomedical knowledge and technology

## What are the **hospital benefits**?

- Provides accessible healthcare for the patient
- Increased rural access
- Helps to save money by helping to keep those who are having a minor ailment from turning into a major operation.
- Meets consumer demand
- Reduces hospital readmission



## How is TruClinic currently being **used**?

- Mental Health



How is TruClinic currently being **used**?



- NICU



## **To Summarize**

- Projected increase in the number of elderly
- Consumer demand
- Hospital readmission reduction

## **Benefits to patients, providers, and hospitals**

- Ease of use
- Helps to save money by helping to keep those who are having a minor ailment from turning into a major operation.
- Efficient
- Saves time
- Offers insights not available during an office visit

WebRTC provides web application developers with the ability to write rich, real-time multimedia applications similar to video chat, for use on the web, with no plugins, downloads, or installs required.

**Currently supported in:**

- Opera
- Google Chrome versions 23+
- Mozilla Firefox versions 22+

**It is important because:**

- Better video quality
- Faster Connection speeds
- Reduced audio/video latency
- Freedom from Flash
- Native HTML5 elements



*Imagine the impact of hundreds or thousands of potential video endpoints to your telemedicine program?*



## **Video codec debate**

- Browser vendors, outside of Google and Mozilla, can't agree on which video codec—VP8 or H.264—should be included in WebRTC.

## **Browser incompatibility**

- Firefox, Chrome, Chrome for Android and Internet Explorer (with Google Chrome Frame) interoperate today.
- Unfortunately Google recently announced the Chrome Frame product will be retired in January 2014.
- WebRTC implementations do not function in Safari.

*The future ain't what it used to be.*

-Yogi Berra



## Contact Information

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## What are other WebRTC resources?

### The WebRTC Project

<http://www.webrtc.org>

The WebRTC initiative is a project supported by Google, Mozilla, and Opera. This page is maintained by the Google Chrome team.

### W3C

<http://www.w3.org/2011/04/webrtc/>

The Web Real-Time Communications Working Group is the official body involved in the development of WebRTC.

**IETF** [http://datatracker.ietf.org/doc/draft-ietf-rtcweb-use-cases-and-requirements/?include\\_text=1](http://datatracker.ietf.org/doc/draft-ietf-rtcweb-use-cases-and-requirements/?include_text=1)

The Internet Engineering Task Force is an open standards organization that is helping to develop and promote WebRTC.

### HTML5 Rocks

<http://www.html5rocks.com/en/>

HTML5 Rocks is a Google project that offers educational resources about HTML5 through tutorials, videos, and provides information on APIs that are not part of the W3C HTML5 specification.

### BlogGeek.me

<http://bloggeek.me>

Blogger Tsahi Levent-Levi is an experienced telecommunications technologist who covers WebRTC.

A close-up portrait of a young child with light brown hair and blue eyes, smiling warmly at the camera. The child is wearing a black, short-sleeved zip-up shirt. The background is a soft-focus indoor setting with a grey couch and a brown cushion.

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