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

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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 3rd 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.
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**?

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Decline</th>
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<tbody>
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WebRTC FOR DUMMIES

Learn to:
- Master the basics of WebRTC
- Integrate WebRTC with your current infrastructure
- Leverage WebRTC in real-world applications and services
- Identify the must-haves when deploying WebRTC

Mohan Palat
Justin Hart
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

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

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
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?

<table>
<thead>
<tr>
<th>Company</th>
<th>VP8</th>
<th>H.264</th>
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<tbody>
<tr>
<td>Google</td>
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<td></td>
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<td>Mozilla</td>
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<tr>
<td>Ericsson</td>
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</table>
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 across all browsers?
- What about Safari?
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 bringing back house calls, what can you do?
August 8, 2013

University of Utah Health Care Joins with TruClinic to Bring Online Healthcare to Patients

The relationship will extend the reach of UUHC's world-class physicians beyond the University's campus
University of Utah Health Care:
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.
As the **Only Academic Medical Center** in the Intermountain Region, University of Utah Health Care:

**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](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
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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  
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.
Your Choice
Our Experts