



Telemedicine: Like Skype on Steroids



the right care in the right place at the right time

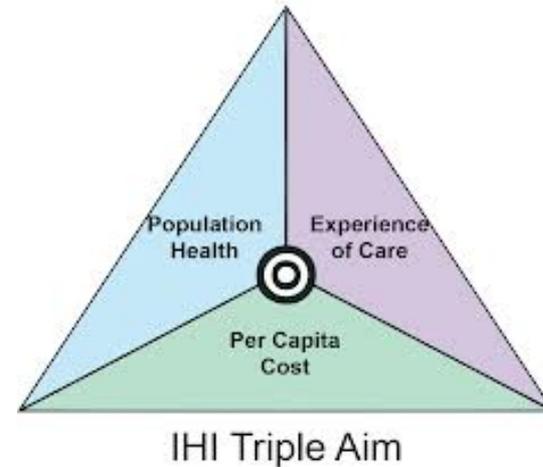
Miles S. Ellenby, MD
Associate Professor Pediatrics & Anesthesia
Medical Director, Telemedicine Program



Telemedicine

Why?

- The Triple Aim of Healthcare Reform



- Commitment to improving access to care
- Keeping patients as close to home as safely possible



Motivation – The Desire & Reality of Access to Care

Desire

Specialty services everywhere & at all times

Realities

Children – 27% of all ER visits

Only 6% of US ER's have all necessary pediatric supplies

Emergency Care for Children: Growing Pains
Institute of Medicine 2006 Report

Regionalization of services improves Quality of Care
and Outcomes

Consensus report from the Pediatric Section of SCCM
Task Force on Regionalization of Pediatric Critical Care

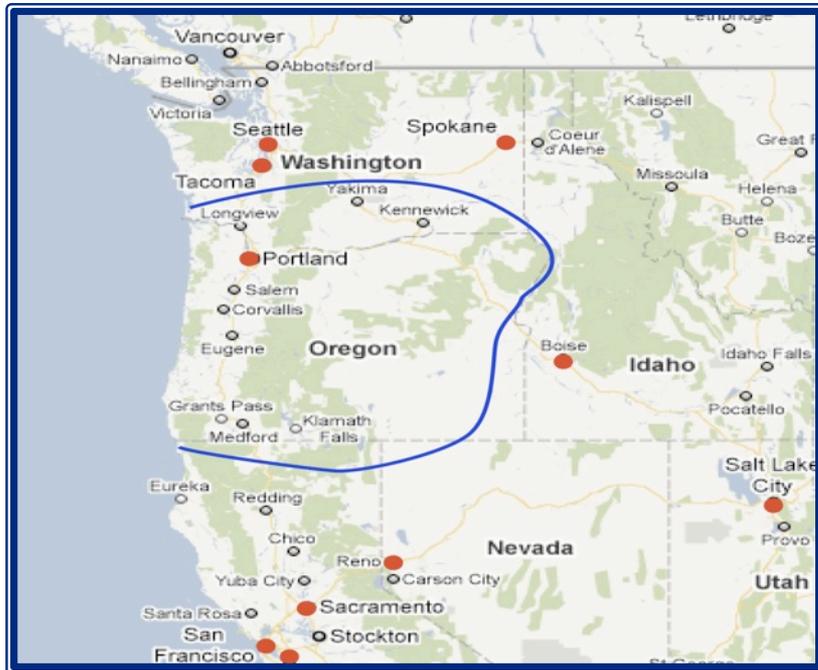
Crit Care Med 2000; 28: 236-239

Oregon & Pediatric Intensive Care

Limited Access due to Geography:

Only 3 PICUs in region

< 10 miles apart Portland



> 100,000 sq. mile catchment area

> 800 neonates & infants transported/year to our center alone

Many transported unnecessarily,
at great risk & greater expense

Triage Decisions

- Consult calls 24/7/365
- The Dilemma for ER MD, Pediatrician, & PICU
 - Whether to transport...*
 - Based on a verbal report & institutional, provider and parental comfort levels*
- Who is impacted by the Decision?
 - Child
 - Parents
 - Transport Team
 - Financial Impacts to Healthcare System, Family, & Local Economy
 - PANDA to Eugene (ground ambulance) \$9,000
 - PANDA to Klamath Falls (fixed wing) \$24,000

What is Telemedicine?

- “Interactive healthcare over distance using telecommunication technology”
 - Store and Forward
 - Face to Face interactive
 - Real time monitoring
- Applications for different clinical settings
 - Inpatient
 - Outpatient
 - Home (& beyond) monitoring



Telemedicine



Telephone Call:

Helpful

Picture:

A Thousand Words

Live Interactive Video:

Priceless

*Replaces the Anonymity of a Phone Call with
the Intimacy of Live Interactive Video*

TeleStroke Demo

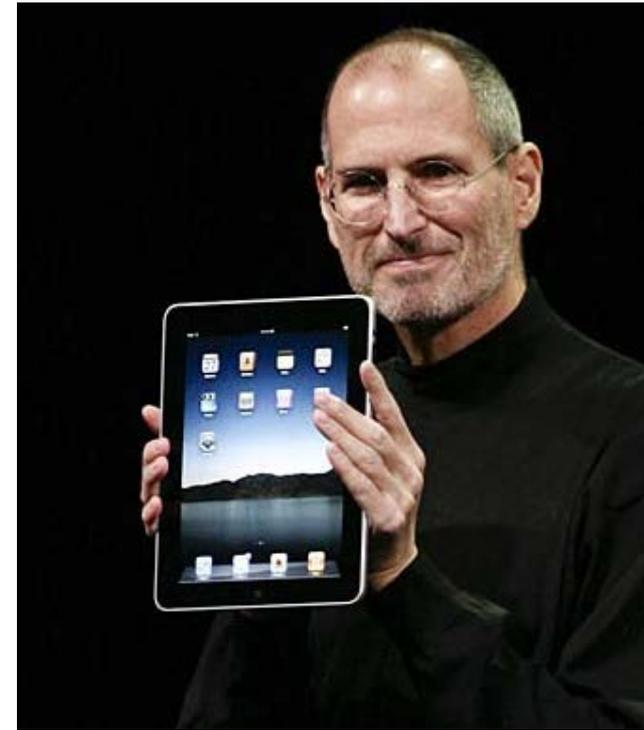
Technology Evolution



90's

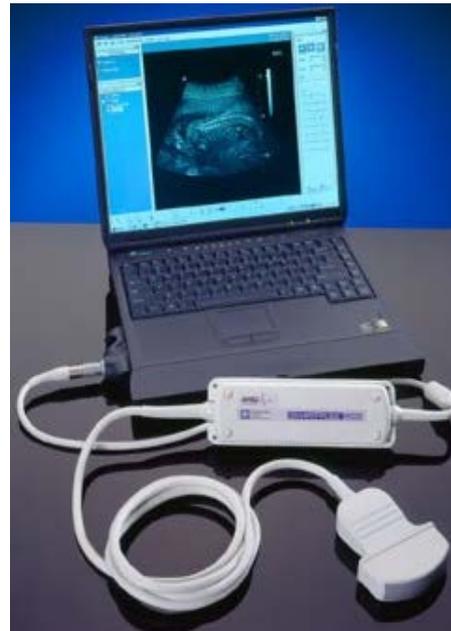
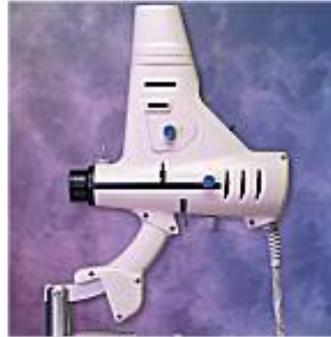


00's



Now

Medical Peripherals



Equipment

InTouch Health – RP-Lite®



Clinical Uses

- Inpatient
 - ER, wards, e-ICU, Robotic Surgery, Surgical Mentoring
- Outpatient
 - Primary & Specialty care
 - Prisons
- To the home & other care facilities
 - Independent care, SNFs, Rehab
- In-place monitoring
- Emergency Medical Services
- Multi-location conferences
 - Tumor Boards, Cardiac Surgery, Fetal Therapy
- Interpreter services

PICU Telemed Scenarios

- Unnecessary Transports
 - Toddler with a Febrile Seizure, intubated & requiring mechanical ventilation for a few hours
 - Asthmatic on continuous albuterol nebs
 - Known Diabetic in DKA with normal mental status on an insulin drip
- Waiting for PANDA?
 - Pre-transport management
- Bad weather - can't transport
- Capacity issues...

OHSU Telemed Timeline

2005: Telemedicine Idea shared between OHSU & Sacred Heart MC – Eugene, OR

- Road Trip to UC-Davis, Meetings (many), Equipment, Contracts, Credentials/Privileges, Legal, Risk, etc, etc, etc...

2007: PICU Consults Pilot begins

- Success! Value recognized by Administration

2009: University embraces concept

- RFP for vendor
- Service Line Director & Team
- Reimbursement Legislation (OR Senate Bill 24) – signed into law 6/09

Timeline continued

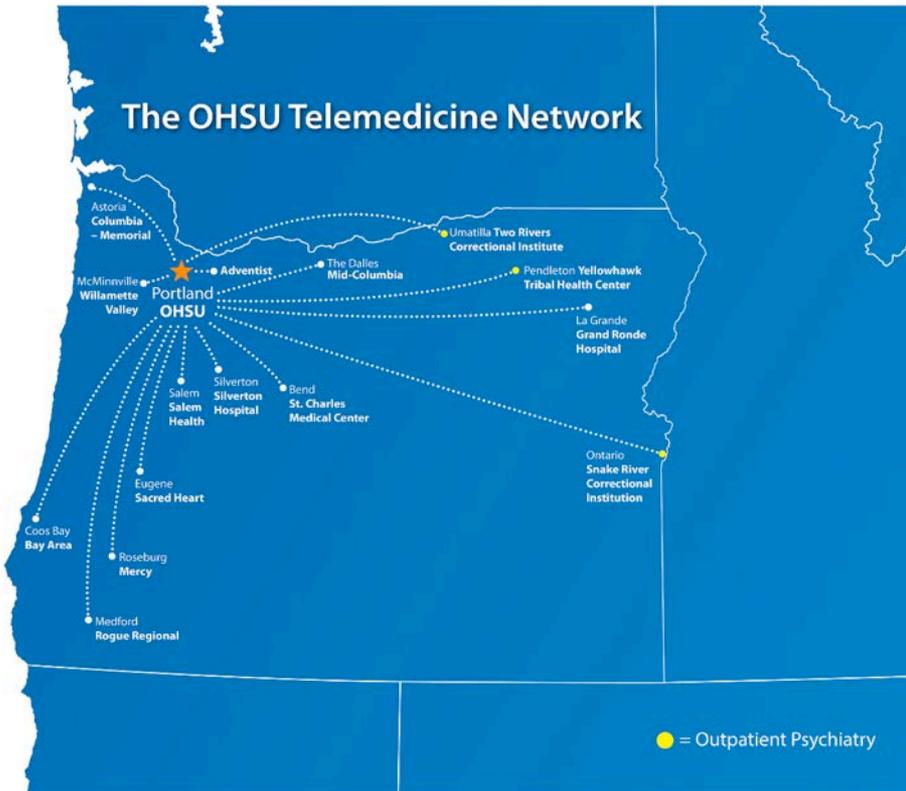
2010: OHSU TM Network begins – acute care focus

2011 & beyond:

- Acute Care Expansion (13 hospitals, 7 service lines)
- OPNN – Oregon Perinatal & Neonatal Network multisite, multidisciplinary prenatal/fetal care conference
- Peds Hospice Pilot Interpreter services
- Skilled Nursing Facilities
“Warm” Video Handoffs, Brown Bags, Consults
- Ambulatory Telemed
- In-Home Monitoring Pilots

Results

Service Lines offered: Pediatric Intensive Care, Neonatology, Stroke Genetics, Cerebrovascular-Neurosurgery, Trauma, Psychiatry



610 Acute Care Consults
373 Transferred to OHSU

237 remained in community
(39%)

Stroke – 50%
PICU – 23%
NICU – 18%
Genetics – 100%

Averted transport savings:
~ \$3,065,320

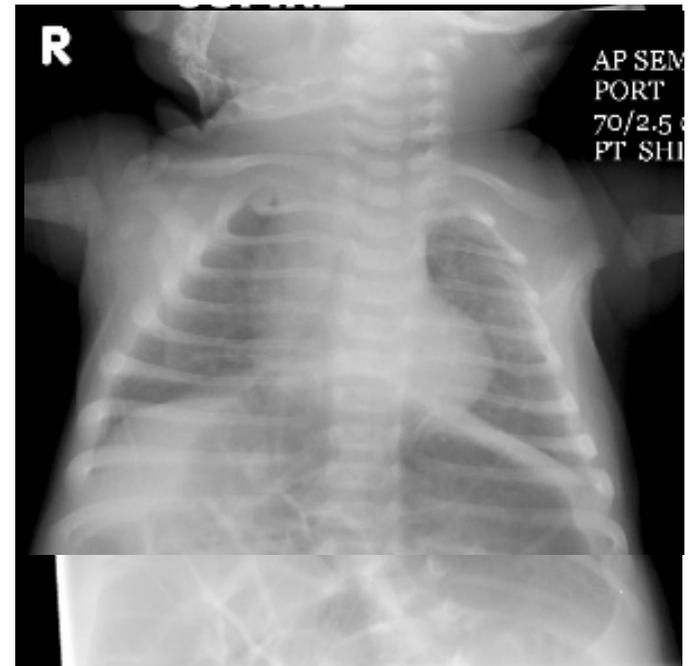
Tele-PICU Illustrative Cases

Transports averted

- The “Faux Pneumothorax”
- Mild meningococccemia

Care changed

- Asthmatic not intubated
- The Remote Code



Acceptance by Referring MD's

THE JOURNAL OF **RURAL HEALTH**



. Hospitals

Emergency Department Coverage by Primary Care Physicians in a Rural Practice-Based Research Network: Incentives, Confidence, and Training

Edward Lew, BS;¹ Lyle J. Fagnan, MD;² Nora Mattek, MPH;³ Jo Mahler, MS;² and Robert A. Lowe, MD, MPH⁴

- Primary Care Doctors who cover rural Oregon ED's
- Reported lower levels of confidence in managing Pediatric Emergencies
- Expressed need for additional training in Pediatric Emergencies as their top priority



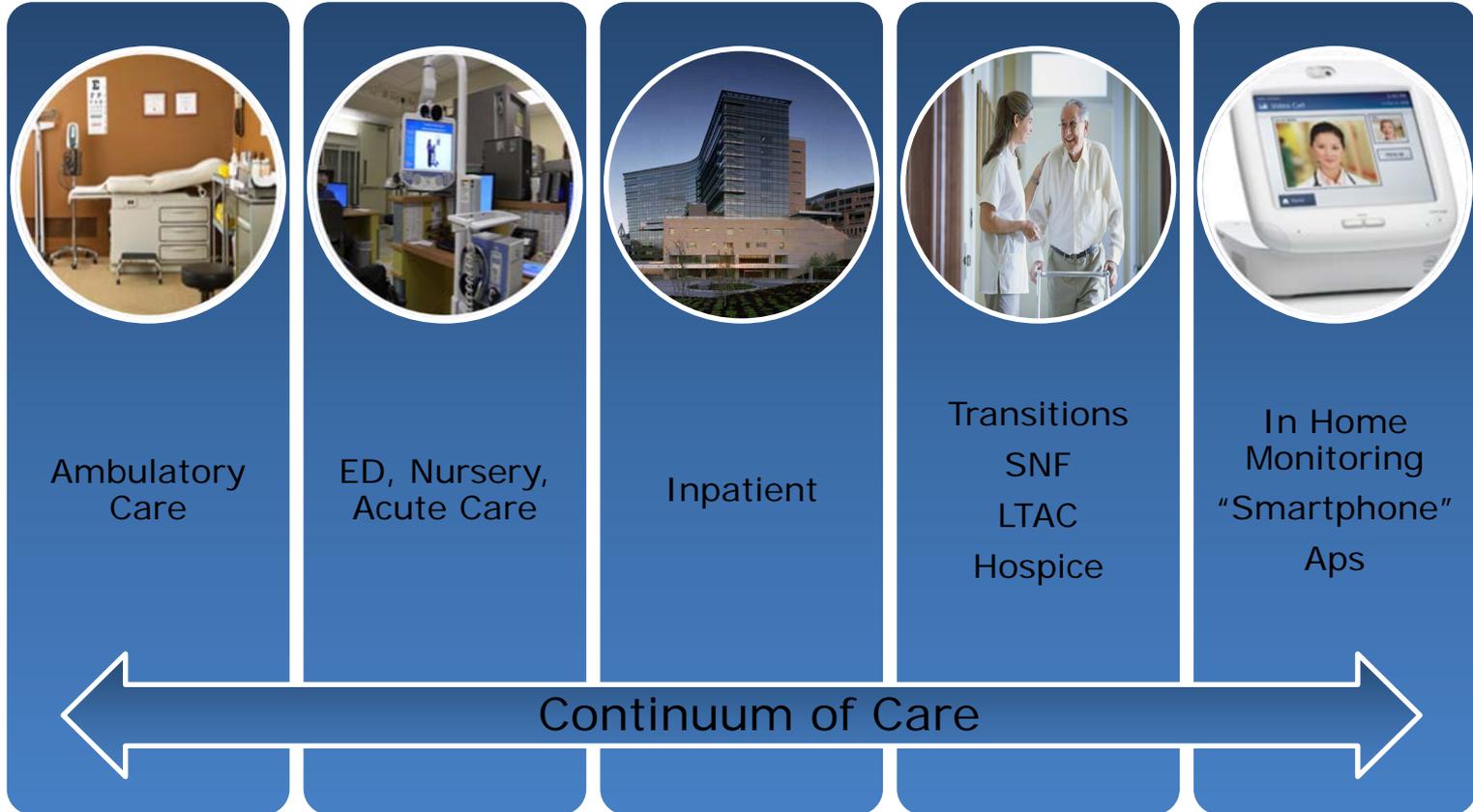
Testimonial from Eugene Pediatrician

"I can't imagine managing a meningococemia pt w/o at the very least a phone consult to intensivists. Alan was "virtually" there.

He was very supportive of what we were doing & did a fabulous job of putting parental anxiety at rest. The need for transfer also was put to rest...

I very much appreciated the way he did the consult - in a collegial way, sensitive to the possibility that specialists can potentially undermine confidence that parents may have in their local hospital and docs."

TeleHealth – Across the Continuum of Care



Ambulatory TeleHealth

- Delivering Value to Patients and Payers
 - Access to appropriate follow-up care improves compliance & outcomes
 - Cost containment
- Multiple applications
 - Post-op checks
 - Chronic disease mgmt
 - Less mobile populations
 - including prisons



OHSU ↔ Pt home

DOUBTHER
CHILDREN'S
HOSPITAL
Oregon Health & Science University

SNF/Rehab Discharges TeleHealth

- Readmissions can be reduced by more effective discharge transitions
 - 240 readmissions from SNF/LTACH in FY 11
- Linked to strategically important continuum sites
 - Vibra - Prestige - Avamere - RIO
- “Warm” Video-enabled nurse-to-nurse Handoffs
- Educational “Brown Bags”



In-Home Monitoring

- FY 11 – 887 30-day related adult readmissions to OHSU of pts discharged home (5.1% of total admissions)
- Looming CMS penalties for readmissions for CHF, MI & pneumonia
- Piloting in-home monitoring for select CHF patients
 - coordination between Care Management and Cardiac Service Line
 - Bosch Health Buddy system

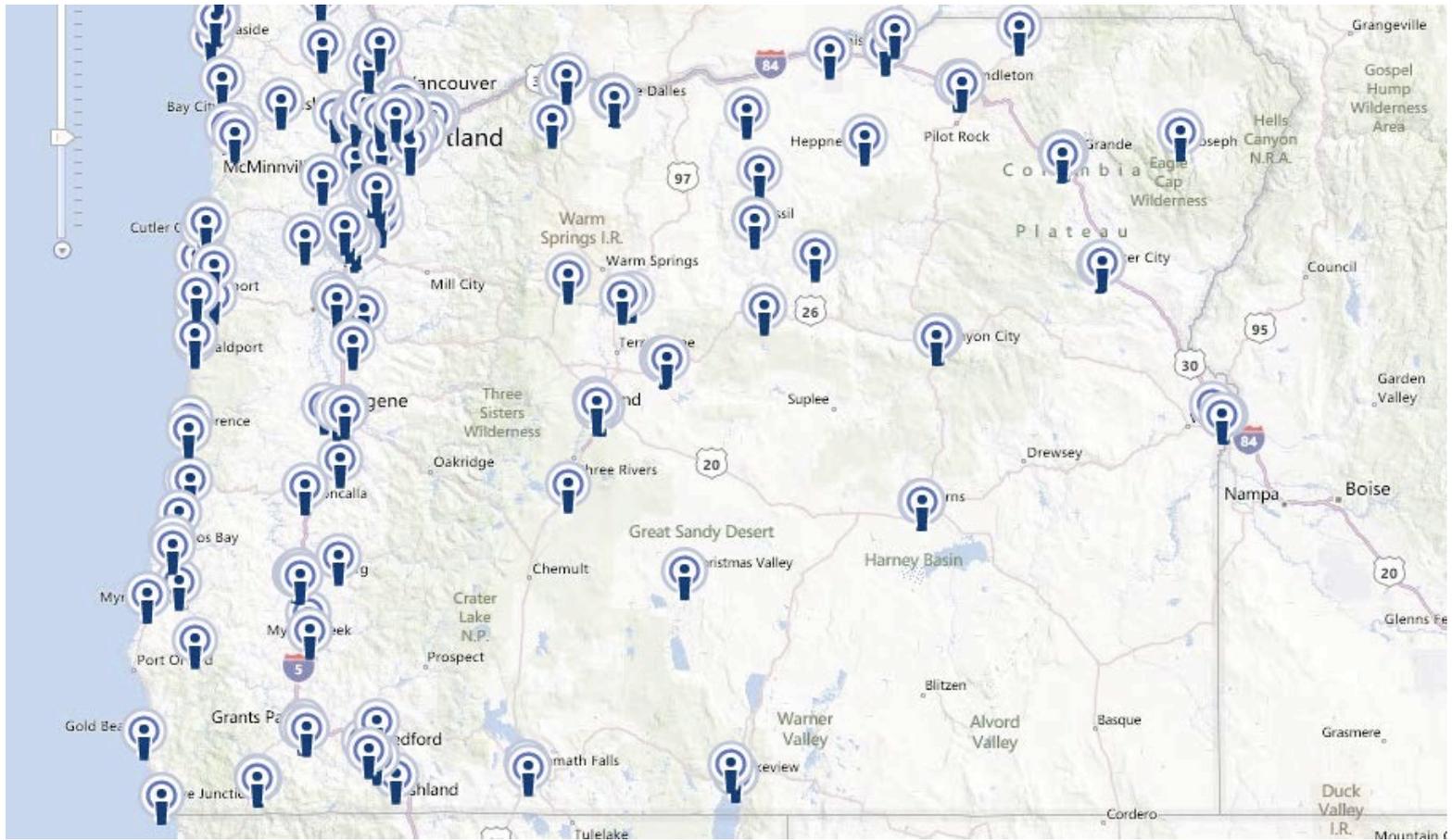


Oregon Health Network

FCC Rural Healthcare Pilot program

\$20+ million over 5 years – 5th largest award of 69 nationally

Reimbursed 85% for constructing network between healthcare facilities



Oregon Telemedicine Sites



On the Telehealth Horizon...



The ZoomCare Skype™ Visit



What's The ZoomCare Skype™ Visit? Not sick enough to come in but need medical help? Try [The ZoomCare Skype™ Visit](#).

What's it good for? Sore throat, bladder infections, urinary tract

infections, rashes, skin infections, sinusitis, pink eye, sprains, swimmer's ear, minor headaches, upper respiratory infections, allergies, bronchitis, minor diarrhea, vaginal yeast infections, acne, cold sores.

What will happen during a Skype™ Visit? You and your Provider will discuss your symptoms and medical history just as if you were in the doctor's office, and your Provider will discuss treatment options, which may include tests and prescriptions.

Price? \$49.

What if my ZoomCare Provider recommends that I come into the clinic for a visit? ZoomCare makes it easy and affordable. If you self-pay for your clinic visit, you'll be charged just \$50. If you're insured, you'll pay just your co-payment or deductible.

Will my insurance company pay? No. But stay tuned.

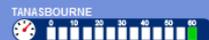
When is it available? Mon-Fri 8am-8pm and Sat-Sun 9am-6pm.

Who will care for me? ZoomCare physicians, physician assistants and nurse practitioners who specialize in illness, injury and preventive care.

Schedule Online

Schedule by Phone
Portland (503) 684-8252
Seattle (206) 971-3728

Next Appointment



1-888-632-2738

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- How it Works
- Group Programs
- Providers
- HealthWatch
- News & Media
- Contact Us



Reduce Costs & Lower Absenteeism

Employees can have access to care 24/7/365 without ever leaving the workplace.

[Learn More](#)

New to Telehealth?

Click here to watch our introduction to MDLiveCare & Telehealth video.

[Watch Video](#)



Working together to answer your questions of health and wellness.

[Learn More](#)

HealthWatch

Cold or flu, what to do?



During cold and flu season, chances are you or someone in your family is going to catch something. But it isn't always' easy to tell the difference...

[Read More](#)

On-Demand Live Care

MDLiveCare is a revolutionary health care delivery system that provides patients with on-demand access to board certified doctors and licensed therapists. The goal is simple: To connect you with the care you need, whenever you need it. By simulating in-person consultations via real-time video, phone, or secure email, our HIPAA compliant platform allows for the treatment and diagnosis of a wide range of common conditions, regardless of your location. Seeing a doctor has never been easier, and it's never been more affordable.

It's health care on your terms. It's MDLiveCare.

- [Get Started](#)
- [How does it work?](#)



Lessons Learned

- Change takes time!
- Obtain Buy In & Identify “Champions”
 - MD, RN leaders, Administrators
- Identify & Engage Stakeholders
 - Administration
 - Technical Support
 - Contracting
 - Credentialing at originating site
 - Legal, Risk Management
 - EHR integration
 - Billing: Coders and Insurers
- Reimbursement is Necessary

Limitations & Challenges

- Old rules for old delivery models
 - Legislative & Regulatory Reform
 - Reimbursement – Senate Bill 24
 - Credentialing – Senate Bill 569
- Adoption by providers
 - “Old dogs, New tricks”
- Initial Startup Costs
 - Technology & Support
- Infrastructure Costs
 - Administrative
 - Credentialing

Future

- Legislative & Regulatory Reform
- In-place Monitoring (home, SNF, ...)
- A Defining Time for TeleHealth
 - Technology coming of age
 - In the era of a New Care Delivery Paradigm
Affordable Care Act
 - ACOs, CCOs, Readmission Reduction

Telemedicine Benefits



- TM Improves Quality
 - Improves access to care – removes Distance & Time Barrier
 - Improves communication
- TM Improves provider & patient satisfaction
- TM Reduces Cost
 - Avoids risky, expensive, & unnecessary transports

Benefits to Hospitals & Economies

- Supports rural providers
 - Decreases Isolation
 - Access to Simulation Training & Continuing Medical Education
- Economic
 - Healthcare \$'s stay Local
 - Families & their Expenditures stay Local
 - Families have decreased travel & out of pocket expenses, lost work, childcare needs
- Marketing

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'It's like Skype on steroids'

Columbia Memorial and Providence Seaside hospitals explore telemedicine

By KATIE WILSON
The Daily Astorian

In the world of neurology, doctors dealing with stroke victims have a saying: "Time is brain."

When a person has a stroke, the next minutes are crucial. Doctors and nurses need to work fast before the brain is damaged.

Doctors in rural counties like Clatsop County have experience in just about everything, but may not feel confident in making certain calls during a medical emergency. It helps to have a specialist's opinion in the emergency room.

Clatsop County hospitals don't have resident neurologists or very many specialists, but they do have robots.

A mobile telemedicine unit provides two-way video and audio communication. It brings the eyes and ears of a specialist into emergency and exam rooms through what is, at its bare bones, a video conference-type of unit.

"It's like Skype on steroids," said Dr. Miles Ellenby, head of the Oregon Health and Sciences University telemedicine program, who helped recently introduce the technology to Columbia Memorial Hospital in Astoria.

An extra pair of eyes

Phone calls between doctors only go so far.

You have to rely on that doctor's ability to describe a condition, Ellenby said. And how exactly do you describe a facial droop? Or the exact sound an asthmatic child is making? How do you describe a complicated medical procedure over the phone?

With telemedicine, the specialist is basically right there in the room with the local doctors, able to provide an opinion based on what both of them are seeing and hearing, said CMH Pediatrician Katrina McPherson.

"It's an extra pair of eyes," she said.

While the local doctors work, a specialist can watch and keep track of vital levels or even how medication is administered.

In Astoria, and at Providence Seaside Hospital where the technology has been in place for almost a year, the telemedicine units have access to different medical records, providing the advising doctors with even more direct information about the patient.

How it works

Nicholas Okon, a stroke neurologist with Providence Health and Services, takes a look around the emergency room at the Seaside hospital.



Dr. Miles Ellenby, right, the Oregon Health & Sciences University medical director of Telemedicine Program, along with Dr. Katrina McPherson, a pediatrician at Columbia Memorial Hospital, explains the benefits of CMH's new telemedicine equipment Thursday. The machine, pictured in the background, provides two-way video and audio communication between doctors.

ALEX PAJUNAS — The Daily Astorian

See UNIT, Page 12

KGW 8

Resources

- OHSU Telemedicine
ohsu.edu/telemedicine
- Telehealth Alliance of Oregon
ortelehealth.org
- American Telemedicine Association
americantelemed.org
- Center for Telehealth & E-Health Law
ctel.org
- Office for the Advancement of Telehealth (OAT)
telehealth.hrsa.gov

Thank You



OHSU TeleHealth Services
(503) 418-3625

www.ohsu.edu/telemedicine

