Collaboration, Productivity, and Training
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"Dynamic collaboration gets results"

Update Report 2024

Healthcare Telemedicine Telehealth Report

This 2024 report is an update.
In 2017, I created a report (50 pages, pre-pandemic).

Developed by

Henry E. Liebling

Consultant, Training, Coaching

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July 10, 2024

Original Report - October 9, 2017

Welcome

This Update 2024 Report contains more than 100 links to articles and YouTube videos.

I wrote this report because I want to accelerate telehealth, telemedicine, virtual care, and Hospital at Home. My 2017 Healthcare Telemedicine Telehealth Report (50 pages, pre-pandemic) provides examples of how organizations were using telemedicine and telehealth. If you would like a copy of the 2017 Report, please let me know.

How to use this report: As a self-paced reference guide and/or in group discussions.

Ideal for: CEOs, Healthcare Professionals and Organizations, Performance Management, People Responsible for Designing and Implementing Virtual Care, Training, Marketing, Sales, Operations, Product Development, New Hires, and many others.

Topics:

- Telehealth and Remote Patient Monitoring – market data, adoption, utilization, hurdles, patient characteristics, patient experience, statistics, trends, research, resource centers, workplace virtual care, vendors
- KPIs, Performance, and Financial
- Telehealth Examples - Heart Care and Heart Failure
- Telehealth Examples – Diabetes, Cancer, Mental Health, Physical Therapy, Pharmacies, Dental, and Veterinary Medicine
- Medicare and Medicaid
- Hospitals, At Home Care, Physician Use, Hospital at Home
- Health Equity and Rural Care
- Asynchronous Care and Holograms
- Silo Thinking in Healthcare

Sincerely,

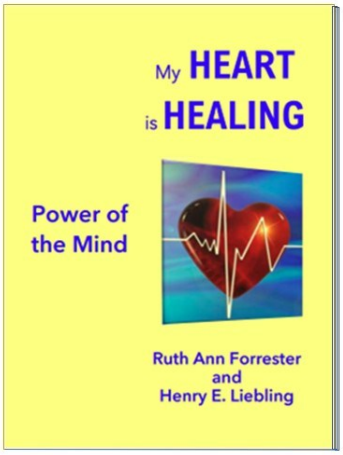
Henry E. Liebling
henry@morevirtual.com

Henry E. Liebling

- I began using real-time software for virtual meetings and virtual teaching and learning in the 1990s. Author of 5 books.
- In the 90s, I proposed a real-time virtual solution for a radiology practice (the physician said the technology was not ready) and real-time virtual care for rural diabetes patients (program manager said it was too new.)
- 35 years experience with multiple industries – virtual collaboration, corporate training, sales training, business process analysis, and documentation.

I am a heart patient who uses telehealth and remote patient monitoring.

I co-authored with my wife (caregiver) ***"My Heart is Healing: Power of the Mind,"*** which describes our journey. I have been successful at changing habits and not exceeding 1,500 mg of sodium (daily), which my heart doctor recommended. We were encouraged by our cardiac care to write the book.



A leading heart care professional society refers to the book as a **"Groundbreaking New Book."**

Click website and interview.

Table of Contents

Introduction

to Virtual Care, Telehealth, Telemedicine, Remote Patient Monitoring (RPM), and Patient Characteristics and Considerations

Telehealth and Remote Patient Monitoring (RPM)

https://telehealth.hhs.gov/providers/preparing-patients-for-telehealth/telehealth-and-remote-patient-monitoring

This HHS Telehealth web site has information about telehealth and remote patient monitoring and three sections: (1) How to use remote patient monitoring and telehealth, (2) How to help patients use at-home health monitors, and (3) Billing and payment for remote physiologic monitoring.

Patient Characteristics and Telemedicine Use in the US (2024)

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2816685 (Journal of the American Medical Association)

This article from, originally published in 2022, contains solid information and is a good read.

Telehealth Resource Centers (TRCs)

National Consortium of Telehealth Resource Centers | Home

Telehealth Resource Centers (TRCs) have been established to provide assistance, education, and information to organizations and individuals who are actively providing or interested in providing health care at a distance.

Telehealth, Telemedicine, Telecare (FCC explanations)

https://www.fcc.gov/general/telehealth-telemedicine-and-telecare-whats-what

This short article is a good read.

Virtual Care vs Telehealth: Understanding the Distinctions (2023)

https://www.elationhealth.com/resources/blogs/virtual-care-vs-telehealth-understanding-the-distinctions

The writer of this very interesting piece starts out with this: "While these terms are sometimes used interchangeably, they actually have distinct meanings and implications. Understanding the difference between virtual care and telehealth is crucial for both healthcare providers and patients who want to get the most out of this form of care today."

Topics include types of virtual care services; benefits of virtual care; examples of virtual care technology; definitions; types of telehealth services; virtual care vs. telehealth differences; benefits of telehealth; examples of telehealth technologies; and choosing between virtual care and telehealth for your healthcare needs.

Top 25 telehealth hospitals ranked by visit claims (2021)

https://www.beckershospitalreview.com/rankings-and-ratings/top-25-telehealth-hospitals-ranked-by-visit-claims.html

For its Top 25 Telehealth Hospitals report, the healthcare research firm analyzed hospital outpatient claims in the first quarter of 2021 to determine the hospitals with the most outpatient telehealth visits billed to Medicare. The list is based on claims with the modifier codes of GT or GQ.

Statistics, Trends, and Research

Telehealth Market (2022)

https://www.fortunebusinessinsights.com/industry-reports/telehealth-market-101065

This Forbes Business Insights summary indicates that "The global telehealth market is projected to grow from $142.96 billion in 2023 to $504.24 billion by 2030, at a CAGR of 19.7% during the forecast period."

The report covers Telehealth Market Size, Share, Growth & COVID-19 Impact Analysis. By Type (Products and Services). By Application (Telemedicine, Patient Monitoring, Continuous Medical Education, and Others). By Modality (Real-time (Synchronous), Store-and-forward (Asynchronous), and Remote Patient Monitoring). By End-User (Hospital Facilities, Homecare, and Others), and Regional Forecast, 2023-2030.

Potentially Preventable Hospital Stays

https://www.google.com/search?q=unplanned+patient+readmissions+vs.+potentially+preventable+stays&rlz=1C1CHBF_enUS893US893&oq=unplanned+patient+readmissions+vs.+potentially+preventable+stays&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRiPAjIHCAIQIRiPAtIBCjI1NDM4ajBqMTWoAgiwAgE&sourceid=chrome&ie=UTF-8

Telehealth and virtual care are important tools to help reduce unplanned patient readmissions and to give healthcare leaders an additional capability to target prevention programs for at-risk populations.

Telehealth seems here to stay – so how can it be improved? (2020)

Telehealth seems here to stay – so how can it be improved? | Healthcare IT News

This Healthcare IT News article starts out with: Providers say there are a number of logistical, regulatory, and educational hurdles that must be overcome for telehealth to reach its potential.

Updated National Survey Trends in Telehealth Utilization and Modality (2023)

https://aspe.hhs.gov/sites/default/files/documents/7d6b4989431f4c70144f209622975116/household-pulse-survey-telehealth-covid-ib.pdf (Office of Health Policy (ASPE), HHS

This 19-page paper, which contains graphs and charts, covers 2021—2022 and addresses: (1) Key Points, (2) Background and Methods, (3) Results, (4) Demographic Categories, (5) Predictors of Utilization, (6) Discussion, and (7) References.

Remote Patient Monitoring and Virtual Care: A Paradigm Shift (2020, Healthcare IT News)

https://www.healthcareitnews.com/projects/remote-patient-monitoring-and-virtual-care-paradigm-shift

This regularly updated special collection explores how hospitals and health systems are rolling out RPM initiatives: where they're seeing hurdles, which use cases are most successful, how they're getting help from their vendors, what policy and regulatory imperatives may be shaping the future of virtual care, and much more.

You can click on links for 30 articles.

Primary and Provider Recommendations for Improved Telemedicine User Experience in Primary Care: A Multi-Center Qualitative Study (published online 2023)

Patient and Provider Recommendations for Improved Telemedicine User Experience in Primary Care: A Multi-Center Qualitative Study - PMC (nih.gov)

This article is posted on a National Institutes of Health web site. The purpose of this study was to explore telemedicine use and obtain actionable recommendations to improve telemedicine user experience from a diverse group of patients and providers.

State of Telemedicine Report (2023)

https://press.doximity.com/reports/state-of-telemedicine-report-2023.pdf
This 30-page report (PDF) begins with a provocative introduction, followed by three main parts. Part One – Physician Adoption of Telemedicine; Part Two – Patient Adoption of Telemedicine; and Part Three – Conclusion, Methodology, and Sources.

Telehealth Adoption Trends (2024)

teladoc-health-wp-february-2024.pdf (asccommunications.com)

This 6-page report is titled: Telehealth Adoption Trends: 3 Key Findings From the 7th Annual Becker's – Teladoc Health Benchmark Survey. It offers three insights. Insight 1 – Virtual care is foundational for modern care delivery. Insight 2 – Successful telehealth initiatives overcome barriers related to user adoption, payer alignment, and technology infrastructure. Insight 3 – As virtual care infrastructure expands, hospitals and healthcare systems will do more with it.

American Telemedicine Association (ATA)

https://www.americantelemed.org/

ATA is a membership organization that works to transform health and care, with a focus on virtual care. They offer podcasts, case studies, and opportunities to participate in virtual discussion forums.

Becker's Hospital Review – Becker's Health IT

https://www.beckershospitalreview.com/telehealth.html

This link takes you to a delicious smorgasbord of all things telehealth and virtual care. After you click on the main link, you find headings of other articles you might want to read. Many topics are covered, such as: examples of telehealth and virtual care used by healthcare systems and hospitals; recent rollouts of programs; expansion plans; statistics and workforce changes; new virtual care offers; telehealth education for healthcare professionals; what physicians say; lessons learned; remote monitoring; home care, immersive technology; and much more.

Fact Sheet: Telehealth (American Hospital Association)

https://www.aha.org/factsheet/telehealth#:~:text=Virtual%20care%20technology%20saves%20patients,allowing%20more%20time%20for%20patients

The article addresses: (1) Issues, (2) AHA Position on Telehealth, (3) Why Is This AHA's Position, and Key Facts about Telehealth. Includes charts.

Chronic Care Management and Telehealth (HHS.gov)

https://telehealth.hhs.gov/providers/best-practice-guides/telehealth-for-chronic-conditions/managing-chronic-conditions-through-telehealth

At this page, you will links to: (1) Telehealth video appointments to manage chronic conditions, (2) Provider-to-provider telehealth, (3) Asynchronous telehealth care to reduce patient visits, (4) Remote patient monitoring to keep track of symptoms and vital signs, and (5) Specialist telehealth appointments to improve and manage chronic conditions.

Trends in Telehealth: The Future of Virtual Care (Healthcare Dive)

Trends in telehealth: The future of virtual care | Healthcare Dive

The Aging Population – Healthcare Crisis Right Under Our Nose

https://www.beckershospitalreview.com/hospital-management-administration/michael-dowling-on-the-healthcare-crisis-right-under-our-noses.html?origin=BHRE&utm_source=BHRE&utm_medium=email&utm_content=newsletter&oly_enc_id=7220I4550589D8B

Study: Telehealth's time has come, 2021

https://medicalxpress.com/news/2021-05-doctor-telehealth.html

Survey Study: US Physicians' Perspective on the Sudden Shift to Telehealth, 2021

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8362803/

Study: Telehealth is here to stay, 2021

https://www.mcknights.com/news/telehealth-is-here-to-stay-study-says/

Prioritizing Health in the Workplace with Access to Virtual Care

https://business.kaiserpermanente.org/california/healthy-employees/innovation/virtual-care-healthy-workforce

This Kaiser Permanente article reviews the ease and convenience for employees, expanded access to care, and potential cost savings. It includes good graphics and statistics, such as: (1) Studies show that 3 out of 5 employees say they would be uncomfortable leaving work for a preventive appointment, and (2) nearly 9 out of 10 would reschedule because of workplace pressures.

Telehealth for Hospitals (2022)

https://www.telehealth.com/telehealth-for-hospitals/

Topics include: (1) How Hospitals Use Telehealth, (2) Telehealth for Managing Chronic Disease, (3) Remote Patient Monitoring, (4) Accessing Specialists with Telehealth, and (5) More.

Resources: 11 organizations are listed, along with their hyperlink.

The Telehealth Era Is Just Beginning (2022)

https://hbr.org/2022/05/the-telehealth-era-is-just-beginning

This is a solid read from Harvard Business Review. The authors begin with this statement:

Contrary to what many people think, virtual health care, also known as telemedicine or telehealth, is much more than a cheap digital knockoff of in-person care. When used appropriately, it improves patient health and reduces costs. It also makes care more equitable and accessible to the 89% of U.S. adults and 78% of adults globally who own a smartphone, including those in medically underserved communities.

KPIs, Performance, Financial

How to Plan For and Profitably Operate Telehealth Services (2020)

How to plan for and profitably operate telehealth services (hfma.org)

This Healthcare Financial Management Association article offers important insights.

6 Telehealth KPIs Every CIO Should Know and Track in 2022

https://mend.com/resource/6-telehealth-kpis-every-cio-should-know-and-track-in-2022/

Six key indicators are described: (1) No-show/Drop rates, (2) Virtual patient wait times, (3) Patient satisfaction, (4) Successful encounters, (5) Connection quality, and (6) Provider Adoption.

KPIs for Remote Patient Monitoring (2024)

https://finmodelslab.com/blogs/kpi-metrics/remote-patient-monitoring-kpi-metrics

This article addresses these topics: (1) Patient enrollment rate, (2) Average length of time between patient enrollment and activation, (3) Percentage of patients who consistently use the remote monitoring devices, (4) Average number of devices per patient, (5) Percentage of patients who achieve their health goals, (6) Average response time to patient alerts or notifications, and (7) Percentage of patients who require hospital readmissions.

9 Major Startup Costs for a Remote Patient Monitoring Service

https://finmodelslab.com/blogs/operating-costs/remote-patient-monitoring-service-operating-costs

Welcome to our blog post on remote patient monitoring services, a rapidly growing industry that is revolutionizing healthcare. According to the latest statistics, the global remote patient monitoring market is projected to reach a value of $1.8 billion by 2027, with a compound annual growth rate of 19.2%. This remarkable growth is driven by the increasing adoption of IoT devices and the need for continuous monitoring of patients' health conditions. In this blog post, we will explore the business model behind remote patient monitoring services, focusing on the value-add service offered by healthcare providers. We will delve into the various operating expenses that healthcare providers incur to provide this essential service to patients.

Patient Experience in 2024

Patient experience in 2024 (pressganey.com)

You can download a PDF or read it online. You may need to register.

In today's competitive healthcare landscape, patient experience (PX) is more important than ever. It's the key to building trust and loyalty. And it's more than just good bedside manner—the true patient experience extends beyond the "four walls," encompassing everything from provider research to appointment booking to follow-up communications and more.

After a few rocky years, PX scores are finally on the mend—even reaching five-year highs in certain settings. Our "Patient experience in 2024" report, based on data from 6.5 million patient encounters across the U.S., digs into key insights into the care journey to help you elevate your PX strategy.

Medicare and Medicaid

Telehealth Medicare Billing – Read the Latest Guidance (2023)

https://telehealth.hhs.gov/providers/billing-and-reimbursement/billing-and-coding-medicare-fee-for-service-claims

The page article provides information on: (1) Telehealth Codes covered by Medicare, (2) Common telehealth billing mistakes, (3) Fee for Service (FFS), (4) Rural Health Clinics (RHCs), and (5) Federally Qualified Health Centers (FQHCs).

Telehealth Insurance Coverage (Medicare)

https://www.medicare.gov/coverage/telehealth

This page contains (1) your cost in Original Medicare, (2) What it is, (3) Things to know, and (4) After Dec. 31, 2024.

List of Telehealth Services (CMS)

https://www.cms.gov/medicare/coverage/telehealth/list-services

At this page, you can download a zip file: List of Telehealth Services payable under the Medicare Physician Fee Schedule for Calendar Year 2024. (Updated Nov. 2023)

Medicare and Medicaid Policies – (CMS)

https://www.cms.gov/medicare/coverage/telehealth

This page provides links to: (1) Telemedicine, (2) HRSA's Medicare Telehealth Payment Eligibility Analyzer, (3) Medicare Program – General Information, (4) Physician Fee Schedule, and (5) Telehealth (HHS) site.

Medicaid and Telehealth - (Medicaid.gov)

https://www.medicaid.gov/medicaid/benefits/telehealth/index.html

This page provides information on: (1) Telehealth, (2) State Telehealth Flexibilities, and (3) CMS Approach to Reviewing Telehealth SPA's (State Plan Amendments).

Telehealth Examples – Heart Care and Heart Failure

Effectiveness of Telemedicine Visits in Reducing 30-Day Readmissions Among Patients with Heart Failure During the COVID-19 Pandemic (2022)

https://www.ahajournals.org/doi/10.1161/JAHA.121.023935

Telehealth and Health Equity in Older Americans With Heart Failure: A Scientific Statement From the American Heart Association (2023)

https://www.ahajournals.org/doi/10.1161/HCQ.0000000000000123

The Future of Telemedicine in the Management of Heart Failure Patients (2021)

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8201465/

In this review, the authors write that Telemedicine (TM) is potentially a way of escalating heart failure (HF) multidisciplinary integrated care. The authors analyze telemedicine trends in the management of heart failure patients and foresee its future challenges within the scope of heart failure multidisciplinary integrated care. The expansion of telemedicine will most probably be part of the reshaping of the present care delivery systems to improve their efficacy and extend their scope. Topics: remote patient management, telemonitoring, agile communications, shared electronic patient records and teleconferencing, teleconsultation, and artificial intelligence. They include a chart that addresses (1) Drivers for TM Implementation, (2) Current TM Solutions, (3) Barriers to TM Implementation.

Telehealth Protocol to Prevent Readmission Among High-Risk Patients With Congestive Heart Failure (2017)

https://pubmed.ncbi.nlm.nih.gov/28756266/

You will also find links to similar articles. (scroll down)

An Overview of Telehealth in the Management of Cardiovascular Disease: A Scientific Statement From the American Heart Association (2023)

https://pubmed.ncbi.nlm.nih.gov/36373541/

This scientific statement reviews definitions pertinent to telehealth discussions, summarizes the effect of telehealth utilization on cardiovascular and peripheral vascular disease care, and identifies obstacles to the adoption of telehealth that need to be addressed to improve health care accessibility and equity.

You will also find links to similar articles.

American Heart Association - Telehealth

https://www.heart.org/en/professional/telehealth

This link takes you to an interesting web page. AHA also has a Center for Telehealth, and they offer telehealth eLearning courses and certificates.

UPMC Children's Hospital of Pittsburgh - Telemedicine

https://www.chp.edu/our-services/heart/telemedicine

This resource relates how telemedicine visits allow families to meet with specialists from the Heart Institute at UPMC Children's Hospital of Pittsburgh in the comfort of their own homes. Many follow-up appointments don't require travel to the hospital.

This means many families already seeing a pediatric heart specialist can take advantage of online visits.

The article has these topics: (1) About the Heart Institute, (2) Remote follow-up for lipid disorders, (3) Benefits of Telemedicine Services, (4) Who Can Use Telemedicine Services, and (5) What To Expect During Your Video Visit.

Heartbeat Health

https://www.heartbeathealth.com/

This company offers Virtual-First Cardiology.

Cardiovascular Institute Virtual Visits

https://www.bidmc.org/centers-and-departments/cardiovascular-institute/cvi-virtual-visits

Beth Israel Lahey Health (Beth Israel Deaconess Medical Center) offers telehealth appointments for Heart Patients. They offer their BIDMC Virtual Visit, using a comprehensive platform.

7 Heart Conditions That Can Be Treated in a Telehealth Visit

7 Heart Conditions That Can Be Treated in a Telehealth Visit (healthgrades.com)

This article by Jennifer LW Fink, RN, BSN identifies the following heart conditions that can be treated in a telehealth visit: (1) Congenital Heart Disease, (2) Hypertension, (3) Heart Failure, (4) Heart Surgery Recovery, (5) Atrial Fibrillation, (6) Pacemaker and ICD Monitoring, and (7) Heart Attack Recovery.

Healthgrades is an online resource to help consumers search, evaluate, compare, and connect with physicians and hospitals.

CHF Management and Effectiveness of Telehealth Solutions

https://www.healthrecoverysolutions.com/blog/chf-management-and-the-effectiveness-of-telehealth-solutions

This Health Recovery Solutions article covers these topics: (1) CHF Management Best Practices, (2) How Telehealth Supports CHF Management: A Study, (3) The Results: Reduced Hospital Admissions, (4) More Proof of the Effectiveness of Telehealth, and (5) The Future of CHF Management.

New Telehealth Command Center Redefines Hospital Care (2022)

https://innovationdistrict.childrensnational.org/new-telehealth-command-center-redefines-hospital-care/

This article is about Children's National Hospital's new telehealth command center.

Combined telemonitoring and telecoaching for heart failure improves outcomes (2023)

https://www.nature.com/articles/s41746-023-00942-4

Nature Portfolio is here to serve the research community by publishing its most significant discoveries—findings that advance knowledge and address some of the greatest challenges that we face as a society today. Our journals publish not only primary research but also reviews, critical comment, news and analysis.

Study population: 6065 HF patients at high risk for re-hospitalisation and participating in a telehealth programme (telehealth intervention group, TH) were retrospectively compared to an equally sized propensity score matched usual care group (usual care control group, UC).

Contains charts and citations.

Additional Resources for Heart Care

Heart Failure Society of America

https://hfsa.org/

HFSA provides a platform to improve and expand heart failure care through collaboration, education, innovation, research, and advocacy. They also offer a Patient Hub, webinars, and news.

Download HF Stats: https://hfsa.org/sites/default/files/2023-10/HFSTATS%202023%20Figures%20%26%20Tables%20103.pdf

Journal of Cardiac Failure: https://hfsa.org/journal-cardiac-failure

Understand Heart Failure – and Know Your Risk – a powerful one page infographic: https://hfsa.org/sites/default/files/2022-02/FACES_Patient_Infographic.pdf

Digital Health Technology in the Prevention of Heart Failure and Coronary Artery Disease (2022)

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9795268/

Leveraging Technology to Cut Heart Attack Risks

https://www.aha.org/aha-transformation-talks/s2-ep7-leveraging-technology-heart-attack
video – 7 minutes (American Hospital Association)

Preventing Heart Disease with Machine Learning and Smartphone Technology (2023)

https://www.youtube.com/watch?v=UtcNLsJ0SxY
video – 1 hour (Scripps Research)

Roadmap for Digital Health in Cardiology

https://world-heart-federation.org/cvd-roadmaps/whf-global-roadmaps/digital-health-in-cardiology/

In 2014, the World Heart Federation (WHF, Switzerland) launched an initiative to develop a series of Global Roadmaps, with the aim of identifying potential roadblocks on the pathway to effective prevention, detection and management of CVD, along with evidence-based solutions to overcome them.

The CVD (Cardiovascular Disease) roadmaps have become the cornerstone of WHF activities as resources for implementation to guide initiatives to support heart health globally, translating science into policy and influencing agencies, governments and policymakers alike.

Telehealth Examples

Mental Health

Mental Health Care and Telehealth

https://www.nimh.nih.gov/health/publications/what-is-telemental-health

This NIH – National Institute of Mental Health web page provides information about (1) what is telemental health, (2) potential benefits, (3) potential drawbacks, (4) finding a telemental health service provider, and (5) more resources.

Global Telehealth Mental Health Market (2023)

https://www.databridgemarketresearch.com/reports/global-telemental-health-market#:~:text=Telemental%20Health%20Market%20Analysis%20and%20Size&text=Data%20Bridge%20Market%20Research%20analyses,the%20forecast%20period%202023%2D2030.

This Data Bridge Market Research Report (Extract) has information about (1) Market Analysis and Size, (2) Market Definition, (3) Market Drivers, Opportunities, and Restraints/Challenges, (4) Health Market Scope, and (5) Competitive Landscape.

Cancer Care

Cancer Care and Telehealth

https://telehealth.hhs.gov/providers/best-practice-guides/telehealth-and-cancer-care

This Health Resources and Services Administration web page has information about (1) Introduction, (2) getting started, (3) preparing patients for telehealth cancer care, (4) billing for cancer care via telehealth, (5) telehealth and cancer treatment..

Telehealth Can Save People with Cancer Time, Travel, and Money (2023)

https://www.cancer.gov/news-events/cancer-currents-blog/2023/telehealth-cancer-care-saves-time-money

This NIH National Cancer Institute web page provides information in these areas: (1) Analysis and Findings, (2) Estimating travel costs and lost income from in-person visits, (3) Expanding the use of telehealth for follow-up care, (4) Future studies of telehealth and cancer, (5) Developing evidence to inform decisions about telehealth, and (6) Telehealth and the Digital Divide.

Diabetes

Diabetes Care and Telemedicine (2022)

https://www.aafp.org/pubs/afp/issues/2022/0300/p281.html

At this American Academy of Family Physicians web page, you will find the following information and useful tables on: (1) Introduction and What it is, (2) Role of Telemedicine in Diabetes Care, (3) Considerations for the use of telemedicine for diabetes care (challenges, interventions, evidence), (4) Evidence for Telediabetes Care (glycemic control), (5) Remote Monitoring, and (6) Practical tips for providing telediabetes care.

Physical Therapy

Physical Therapy and Telehealth

https://telehealth.hhs.gov/providers/best-practice-guides/telehealth-for-physical-therapy

This HHS web site offers the following information: (1) Introduction, (2) getting started (in-patient physical therapy, asynchronous physical therapy, how to set up a telehealth physical therapy program), (3) patient preparation, (4) billing for tele-physical therapy, and (5) physical therapy and remote patient monitoring.

Hospital Pharmacies

American Society of Hospital Pharmacies (ASHP)

https://www.ashp.org/pharmacy-practice/resource-centers/telehealth?loginreturnUrl=SSOCheckOnly

American Society of Hospital Pharmacies (ASHP)

https://www.accessmedicinenetwork.com/posts/the-time-is-now-for-telehealth-and-telepharmacy

The Time is Now for Telehealth and Telepharmacy

https://www.accessmedicinenetwork.com/posts/the-time-is-now-for-telehealth-and-telepharmacy

Dentistry

Dentistry and Telehealth

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9408418/

This NIH article (2022) contains valuable information: (1) abstract and introduction, (2) technologies, (3) applications of teledentistry, (4) informed consent, (5) dentist-patient relationships, (6) dentist and patient relationships, benefits, and responsibilities, (6) limitations, and more.

Veterinary Medicine

Animal Health and Welfare – Telehealth - Telemedicine

https://www.avma.org/resources-tools/animal-health-and-welfare/telehealth-telemedicine-veterinary-practice/veterinary-telehealth-basics

This American Veterinary Medical Association article covers the basics of telehealth and has a very good FAQ section.

Additional Telehealth Examples

Telehealth – 10 innovative examples of telehealth in action (Phillips) (2021)

10 innovative examples of telehealth in action | Philips

This article starts out with: "Spurred on by the COVID-19 pandemic, healthcare providers have turned to telehealth to bridge distances in times of physical separation. What will this new era of virtual care look like beyond the pandemic? Here are ten telehealth examples that give a glimpse into the future of healthcare delivery – showing how telehealth can not only deliver a more convenient experience to staff and patients, but also extend the reach of care to those who may have trouble accessing it."

As a reader you will enjoy the service descriptions and helpful images.

Hospitals, At Home Care, Physician Use, and Hospital at Home

10 Best Practices for Implementing Telemedicine in Hospitals (2012)

10 Best Practices for Implementing Telemedicine in Hospitals (beckershospitalreview.com)

This Beckers Health IT article was written in 2012, which means you might find it interesting to reflect on what was written over 10 years ago.

Back To The Future: Providing Acute Hospital-Level Care at Home

https://www.youtube.com/watch?v=uOK-SPjM-Gw

The YouTube video is 54 minutes. Michigan Medicine, University of Michigan.

Home Hospital Offers Important Care at Home: One Patient's View

https://www.youtube.com/watch?v=qrDzXMea4fM

The YouTube video is 4 minutes. Mass General Brigham Hospital.

'Hospital at Home' Eases Overcrowding

https://www.youtube.com/watch?v=zq0u4TgOr5s

The YouTube video is 3 minutes. NBC News Report.

Virtual Acute Care Program Makes Patients Feel Right At Home (2024)

https://www.ama-assn.org/practice-management/digital/virtual-acute-care-program-makes-patients-feel-right-home

This American Medical Association article is about a Kaiser Permanente Advanced Care at Home program that combines home visits, telehealth encounters and remote patient monitoring connected to specialized command centers that coordinate services to help achieve a 30-day readmission rate that is lower than the national average. And importantly, the program also keeps patients connected to their homes and everything inside them that is conducive to their healing.

Providers Betting Big on Future of Hospital at Home

https://www.aha.org/aha-center-health-innovation-market-scan/2024-04-09-providers-betting-big-future-hospital-home

This article from American Hospital Association addresses: (1) The Rise of Hospital at Home, (2) Positive Outcomes, Cost Savings Fuel Growth, and (3) What's Next?

Hospital At Home Users Group

https://www.hahusersgroup.org/

Fostering Innovation in Hospital at Home: A dynamic collaborative of North American Hospital at Home programs working to further the field. Is very useful and includes: (1) Description of Users Group, (2) Members, (3) Technical Assistance Center, and (4) Events.

Challenges of Training Older Adults in a Home Health Context

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6608587/

Article, National Library of Medicine, NIH.

Hospital at Home: Success Factors & Challenges (2022)

https://www.accc-cancer.org/acccbuzz/blog-post-template/accc-buzz/2022/06/07/hospital-at-home-success-factors-challenges

Article, Association of Cancer Care Centers.

'Hospital At Home' Trend Means Family Members Must Be Caregivers – Ready or Not (2023)

https://www.npr.org/sections/health-shots/2023/07/18/1188058399/hospital-at-home-caregivers-family-stress

Article, National Public Radio.

'Hospital At Home' Family Caregiver Considerations for the Future (2022)

https://www.aarp.org/pri/topics/ltss/family-caregiving/family-caregiver-considerations-for-the-future.html

Article, AARP.

Family Caregivers: The Unrecognized Strength Behind Hospital At Home

https://www.healthaffairs.org/content/forefront/family-caregivers-unrecognized-strength-behind-hospital-home

Article, HealthAffairs.org.

Hospital at Home (UMass)

Why UMass invested millions in 'hospital at home' (beckershospitalreview.com)

Nurse Resiliency

Nurse resilience in 2024 (pressganey.com)

You can read this article online or download a PDF. You may need to sign in first.

"Nurse resilience in 2024" analyzes data from over 345,000 clinical RN voices to better understand the nursing workforce today. It explores how to build resilience among nurses by introducing decompression huddles, to ensure all work gets finished, so nurses can disconnect with peace of mind.

Inside the big variations in telehealth use among physicians (2022)

Inside the big variations in telehealth use among physicians | American Medical Association (ama-assn.org)

"The survey of 2,232 physicians conducted online in late 2021 found that telehealth use has dropped off somewhat since adoption skyrocketed at the start of the COVID-19 pandemic, but interest in maintaining virtual visits remains high. Telehealth is being used by 85% of survey respondents, with 56% of respondents reporting that they are personally motivated to increase their use of telehealth, and 70% saying that their organization's leadership is interested in continuing to offer telehealth. Only 5% said they were still in the implementation phase, while most others were focused on sustaining telehealth integration efforts, improving existing operations or expanding telehealth offerings into other services and locations to provide more comprehensive virtual care."

7 Ways Telehealth Can Help Your Practice (2024)

https://www.physicianspractice.com/view/7-ways-telehealth-can-help-your-practice

This article describes factors that contribute to the underutilization of telehealth.

The article begins with this: "Despite its revolutionizing impact on patient access and streamlining practice operations, telehealth remains underused in primary care. In fact, according to a 2021 HealthIT.gov study, over half of office-based physicians provided care via telemedicine for fewer than 25% of patient visits, and less than 20% of physicians used telemedicine for more than 50% of patient visits. That lack of adoption means many outpatient primary care doctors are missing out on the demonstrated benefits of telehealth, such as reducing the need for in-office visits, easing the burden on the administrative staff, and providing unrivalled convenience for patients."

Build a Sustainable Telehealth Practice (2023)

https://telehealth.hhs.gov/providers/planning-your-telehealth-workflow/telehealth-sustainability

When building a telehealth practice, there are several factors to keep in mind. This article addresses: (1) Staff roles and preparation, (2) Reviewing legal and licensing requirements, (3) Evaluating telehealth technology, (4) Redesigning your workflow, (5) Working with your patients, and (6) Evaluating and making changes.

Academic Medicine: Sustaining Telehealth Success (2021)

https://www.aamc.org/media/55696/download

You can download this very stimulating article. One point it makes is that Academic Medical Centers (AMCs) that emerge as national leaders will be characterized by the following attributes: (1 Having the proven ability to design innovative and high impact virtual care models. (2) Having a close alignment between telehealth operations and research to test new models, publish findings on their effectiveness, and improve them over time. (3) Able to scale models regionally and nationally (a historical challenge for many AMCs). (4) Able to be a purposeful and coherent telehealth organization that works in an integrated fashion across service lines and disciplines to operationalize telehealth services at scale.

Health Equity and Rural Care

Improving Access to Telehealth

https://telehealth.hhs.gov/providers/health-equity-in-telehealth/improving-access-to-telehealth

This Health and Human Services article has information on: (1) Telehealth for patients with limited access to internet and devices, (2) Telehealth for People with Disabilities, (3) Telehealth for Patients with Limited English Proficiency, (4) Telehealth for Older Patients, and (5) Telehealth for Patients with Low Digital Literacy.

How to Make Telemedicine More Equitable (2021)

https://hbr.org/2021/10/how-to-make-telemedicine-more-equitable

This Harvard Business Review article starts out with this summary: "One of the risks of telemedicine is that it can reduce disadvantaged populations' access to health care. But as Harris Health System, which serves metropolitan Houston, found, it also can be a means for expanding such access. Its model entails training clinicians, taking steps to anticipate patients' needs, picking the most effective types of providers, and creating a backup plan."

Providing Safer, Higher-Quality, and More Equitable Telehealth (2023)

An Infrastructure to Provide Safer, Higher-Quality, and More Equitable Telehealth - PMC (nih.gov)

This is a good read from National Institutes of Health and is co-written by Nursing Professors.

Rural Healthcare Information - Telehealth

Resources Needed for Implementing Telehealth Programs - RHIhub Toolkit (ruralhealthinfo.org)

This hub of information is all about rural telehealth. It is a treasure trove of resources.

Vendors

Heart Care - Top 10 Companies Leading the Global Virtual Cardiology Market (2023)

https://www.emergenresearch.com/blog/top-10-companies-leading-the-global-virtual-cardiology-market

The article provides information on the factors driving global virtual cardiology market growth; revolutionizing cardiovascular disease management; and lists the world's leading companies offering virtual cardiology services and solutions (top 10 by revenue).

A Comprehensive Guide to Telehealth Vendors (2020, Healthcare IT News)

https://www.healthcareitnews.com/news/comprehensive-guide-telehealth-vendors

This edition of Healthcare IT News offers this listing of telemedicine companies that can help hospitals and other provider organizations deliver quality virtual care. More than 50 companies are listed along with a short description for each.

Becker's Hospital Review – Becker's Health IT

https://www.beckershospitalreview.com/telehealth.html

This link takes you to a delicious smorgasbord of all things telehealth and virtual care. After you click on the main link, you find headings of other articles you might want to read. Many topics are covered, such as: examples of telehealth and virtual care used by healthcare systems and hospitals; recent rollouts of programs; expansion plans; statistics and workforce changes; new virtual care offers; telehealth education for healthcare professionals; what physicians say; lessons learned; remote monitoring; home care, immersive technology; and much more.

Best Telemedicine Companies Of 2024 (Forbes Health)

https://www.forbes.com/health/wellness/best-telemedicine-companies/

Forbes Health identified five companies, based on their analysis and criteria. In addition, you can learn about the benefits of telemedicine, statistics, what to look for in a telemedicine company, and more.

A Comprehensive Guide to Telehealth Vendors – Healthcare IT News.com (2020)

https://www.healthcareitnews.com/news/comprehensive-guide-telehealth-vendors

Healthcare IT News offers a comprehensive listing of more than 50 telehealth vendors, along with a brief description of their services and solutions.

Mobi Health News (2022)

https://www.mobihealthnews.com/news/virtual-psychiatry-company-iris-telehealth-scores-40m

This Mobi Health News story describes Iris Telehealth, which works with providers like health systems and community health centers to offer telepsychiatry services and triage their patients to the right level of care.

Additional Resources

Online Health Communities

https://en.wikipedia.org/wiki/Online_health_communities

The information at this link is a good introduction to online health communities (social networks). When you scroll down, you will find names of example communities and links to their Wikipedia page.

Topics: History, Beneficial Outcomes, Complications, Participation, and Features.

You will also find links to similar articles. (scroll down)

Asynchronous Care Guide: Creating Efficiency While Solving Healthcare's Biggest Challenges (2024)

florence-wp-february-2024.pdf (asccommunications.com)

Many of us are familiar with synchronous care (real time, simultaneous, concurrent, think of a telephone or video call). This report (PDF, 29 pages) focuses on asynchronous care (not simultaneous or concurrent, not at the same time).

The 29-page report is organized into these sections: What is Asynchronous Care; COVID Case Study; Efficiency and Cost; Patient Acquisitions and Revenue; Telehealth Equity, and Conclusion and Citations.

Case Study on Asynchronous Telemedicine (2024)

Asynchronous Telemedicine Guide + the Largest Async Case Study | Fabric Guides (fabrichealth.com)

Download a PDF (29 pages). (1) Introduction to Async. – What is Asynchronous Care, (2) COVID Case Study, (3) Efficiency and Cost, (4) Patient Acquisition and Cost, (5) Telehealth Equity, (6) Conclusions, and (7) Citation.

Holograms: How a wearable is optimizing patient monitoring (2024)

How a wearable is optimizing patient monitoring at Houston Methodist (beckershospitalreview.com)

Holograms: Connect physicians to patients (2024)

Texas hospital 1st to use hologram tech to connect physicians to patients (Beckershospitalreview.com)

According to the article, the hospital has installed its first hologram display and video studio, which enables physicians to "teleport as a life-size 3D hologram and connect with patients in real-time," according to a May 29 2024 news release. Crescent Regional plans to integrate mini versions of the displays at several locations within the hospital and associated clinics.

3D Displays

https://hypervsn.com

This company offers 3D displays transforming hospitals and medical practices.
They offer a demo that you can interact with. https://hypervsn.com/3d-studio-demo

Silo Thinking in Healthcare

Quality Improvement – Eliminating the Silo Effect in Healthcare Organizations

https://hitconsultant.net/2022/07/05/quality-improvement-silo-effect-healthcare/

The writer discusses "the importance of driving collaboration across the organization is likely only to increase over the next 10 years."

Why the rapid rise of telehealth demands new solutions for new silos in care (2021)

https://www.holonsolutions.com/why-the-rapid-rise-of-telehealth-demands-new-solutions-for-new-silos-in-care/

This article has interesting sections, including: (1) Introduction, (2) The growing pains of a telehealth ecosystem breaking out of its shell, (3) Do telehealth workflows really work for providers and patients, and (4) Devising new solutions for a new era in telehealth.

Silos Mentality Services (2018)

https://www.researchgate.net/publication/327838475_SILOS_MENTALITY_IN_HEALTHCARE_SERVICES#:~:text=A%20silo%20mentality%20in%20the,(Meneses%20and%20Caseiro%202018)%20.

This is a short, well-written abstract of a conferencing paper. The writers describe silo thinking and the negative consequences, to the health organization, employees, and clients.

XXXXX

Collaboration, Productivity, and Training
morevirtual.com
"Dynamic collaboration gets results"

Healthcare Telemedicine Telehealth Report

Introduction to Market Data and Examples of Organizations Using Telemedicine and Telehealth

Compiled by

Henry E. Liebling

Consultant, Training, Coaching

For more information, please contact: hliebling@morevirtual.com

October 9, 2017

https://lessdriving.org https://myheartishealing.com

Introduction

This Healthcare Telemedicine Telehealth Report covers statistics, market data, and has examples of how more than 50 organizations are using telemedicine and telehealth solutions.

Names of telemedicine and telehealth organizations and companies (many of which are mentioned in this report) are on pages 48-50.

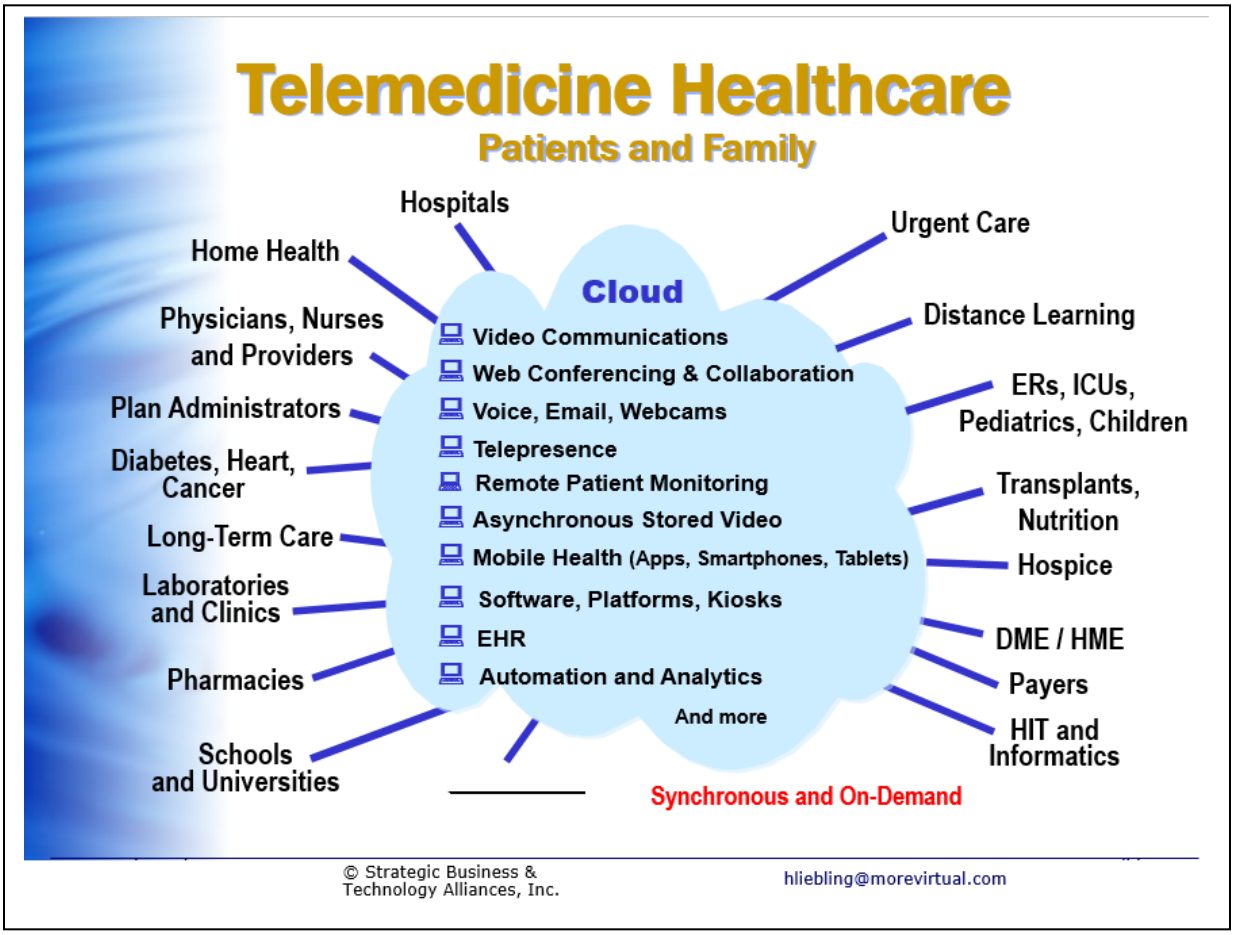
This report is based on information found on the web. You will find, in most cases, a reference to the source information, which you may find to be quite valuable.

The Healthcare Telemedicine Telehealth Report is deliberately concise; it is not meant to be "all inclusive" of all the examples, all the statistics, and all of the organizations and companies.

Sincerely,

Henry E. Liebling

Telemedicine and Telehealth



Telemedicine Telehealth Uses

Telemedicine, telehealth, and related technology and processes are used in many ways, including:

- Assessment
- Business Process Automation
- Consultations
- Diagnosis
- Disseminate Information
- Education
- Examinations
- Evaluation
- Patient Monitoring
- Screening
- Training and Coaching
- Treatment

 Presented by Henry E. Liebling hliebling@morevirtual.com

Terminology: Telehealth & Telemedicine

Telemedicine technically refers only to clinical applications of technology, so it excludes applications like patient and physician education.

- Some sources may use the two terms – telemedicine and telehealth – interchangeably.

Telehealth is the use of technology to deliver health care, health information or health education at a distance.

Common applications include: tele-radiology, in which test results are forwarded to another facility for diagnosis; continuing professional education, including presentations by specialists to general practitioners; and home monitoring, a supplement to home visits from nursing professionals.

The boundaries of telehealth, though, are limited only by the technology available - new applications are being invented and tested every day.

Telehealth can be divided into two general types of applications: real-time communication, and store-and-forward.

- **Real-time communication** may be a patient and a nurse practitioner consulting with a specialist via a live audio/video link, or a physician and a patient in an exam room communicating through an interpreter who is connected by phone or webcam. Another example might be a cardiologist holding a teleconference with internists about new best practices in treating angina.

- **Store-and-forward** refers to the transmission of digital images, as in radiology or dermatology, for a diagnosis.

All telehealth applications require health information technology (IT), but not every use of health IT can be called telehealth.

Stand-alone systems like Electronic Health Records (EHRs) or Computerized Decision Support (CDS) are types of health IT that are not typically thought of as telehealth applications.

> In general, telehealth can be thought of as a way of increasing the contact between a patient and the medical system.
>
> It can bring additional expertise to consult on a case, reach out to patients when they're at home or save travel time and expense for both practitioners and patients.

Telehealth shows great potential for advancing preventative medicine and the treatment of chronic conditions.

Sources:
http://www.hrsa.gov/healthit/toolbox/RuralHealthITtoolbox/Telehealth/whatistelehealth.html
http://www.hrsa.gov/healthit/toolbox/RuralHealthITtoolbox/Telehealth/howdoestelehealthdiffer.html

 Presented by Henry E. Liebling hliebling@morevirtual.com

Telemedicine Telehealth Statistics

Report: Virtual Care Communication Revenues Will Reach $13.7B in 2018

Twenty eight percent of US broadband households have used some type of virtual care communication tool and nearly 20 percent of smartphone and tablet owners use an app to track or manage their fitness activities, according to a survey from **Parks Associates**.

The research firm also predicts this figure will increase to 65 percent by 2018 and virtual care doctor-patient video consultation revenues will grow to $13.7 billion.

Parks Associates identified three factors that are driving the connected health market growth.

- The first, as the aging population increases, so does the need to manage chronic conditions.
- The second factor is that healthcare reforms such as accountable care organizations also encourage the development of connected health technologies.
- Last factor is the relationship between broadband expansion and the adoption of smartphones, tablets and health apps.

Last year, a survey conducted by Parks Associates found that about 5 percent of households with broadband internet have at least one digital fitness device — like a Fitbit, Jawbone UP, or BodyMedia FIT Armband.

Reference:
http://mobihealthnews.com/30012/study-virtual-care-communication-revenues-will-reach-13-7b-in-2018/

Global Telehealth Market Growing at 24% CAGR to 2020

Worldwide telehealth market is forecast to be worth $6.5 billion by 2020 with an estimated CAGR of 24.2% from a value of $2.2 billion in 2015 with healthcare industry undergoing a fundamental transformation of value based business from volume based business.

The major factors driving the growth of telehealth market across the globe are rise in the aging and chronically ill population, the shortage of physicians in the U.S., uneven physician distribution worldwide, improvement in telecommunication infrastructure, technological advancements, rising healthcare costs, and awareness on the benefits of tele-health. However, certain barriers, such as limited reimbursement in the U.S. and legality, privacy, and security concerns worldwide, are restraining the growth of this market.

In 2015, the North American telehealth market is expected to command the largest share of the global market, followed by Europe and Asia-Pacific. Asia-Pacific is the fastest-growing region in this market. The rapidly growing healthcare industry in India, increasing number of HCIT programs, the rising prevalence of chronic diseases in Australia, and increasing funding for telehealth in Australia will drive the growth of this market in Asia. Based on component, the services segment is expected to be the largest (in 2015).

Reference:
http://finance.yahoo.com/news/global-telehealth-market-growing-24-103000919.html;_ylt=AwrC1zHNadxVfwkAHMnQtDMD;_ylu=X3oDMTByNXQ0NThjBGNvbG8DYmYxBHBvcwM1BHZ0aWQDBHNlYwNzcg--

Another Unstoppable Year for Telehealth, 2015

Offering telehealth to employees or health plan beneficiaries used to be a differentiator in benefits – an added perk for employees or health care consumers increasingly demanding convenience and accessibility. Today, it is rapidly becoming a necessary addition to benefit packages. Not only do employees and prospective health plan enrollees want it, but it's also good for containing health care costs.

> Given that the definition of telehealth is often confusing, telehealth in this context is real-time communication that allows patients and providers to interact directly through a communication device such as a telephone or videoconferencing.
>
> While store-and-forward and remote patient monitoring technologies are increasing in popularity and can greatly contribute to patient care and lowering costs, this article references telehealth.

Reference:
http://theihcc.com/en/communities/health_access_alternatives/2015-another-unstoppable-year-for-telehealth_i7gjbohl.html

- Telemedicine could save more than $6 billion a year in healthcare costs, according to an analysis by Arlington, VA based analytics firm, **Towers Watson**.
- Report from **Deloitte.** Electronic visit (eVisit) market will explode as more healthcare providers use telemedicine services to virtually care for their patients.
- Venture capital funding in the healthcare IT sector in 2014 more than doubled last year's total, coming in at $4.7 billion.
- Various market research organizations peg the telehealth market growth rate between 18-30 percent per year.
- According to **Ken Research**, in 2013 the market for telehealth generated annual revenue of $9.6 billion, which is 60 percent growth from 2012 when overall revenue was $6 billion. Their research shows that the telehealth market is expected to grow to $38.5 billion in revenue by 2018, a compound annual growth rate of 32 percent from 2013-2018.
- In the employer market, according to Towers Watson, a global benefits advisor, 37 percent of employers surveyed in 2014 said that by this benefit year (2015) they expect to offer their employees a telemedicine benefit "as a low-cost alternative to emergency room or physician office visits for nonemergency health issues." That is a 68 percent increase from 2014 when 22 percent of employers offered the benefit. Another 34 percent are considering offering telemedicine for 2016 or 2017."[3]
- Telehealth is showing real results for employers' resource utilization and medical spending.
- Besides cost savings, patient satisfaction is another driver of employer and health plan interest in offering telehealth. According to a recent Intel survey, 72 percent of consumers said they're willing to see a doctor via telehealth video conferencing for non-urgent appointments.

- U.S. patient monitoring market is projected to grow to more than $5 billion by 2020, mostly due to telehealth expansion.

- Venture funding for digital health companies surpasses $4.1 billion in 2014, good for a 125 percent year-over-year growth.

- **Teladoc** lands $50M in venture funding. Teladoc, a telehealth provider, has secured a $50 million round of equity funding led by **Jafco Ventures**, a California technology venture capital firm. The Dallas-based company provides 24/7 access to medical care for adults and children experiencing non-emergency medical issues via phone, secure online video, mobile app or a private, walk-in kiosk. Full story: http://www.healthcare-informatics.com/article/teladoc-lands-50m-venture-funding

- **Veterans Administration Healthcare** – more than 2 million telehealth visits in 2014.

- Study: 57 percent of physicians are willing to conduct video visits with their patients. 12 percent of physicians were unwilling to see a patient over video. 31 percent were uncertain. (**American Well** and **QuantiaMD**)

- 41 percent of consumers have never heard of telemedicine.

- Clinical IT market is expected to reach $19.7 billion in 2019. (Electronic health records / EHRs – 61.5 percent, Telemedicine – 23 percent, Picture archiving and communication systems / PACS – 7.8 percent.)

- Medicare reimbursed nearly $14 M for Telemedicine. 2014.

- More than 10 million consumers directly benefitted from using telemedicine last year. 2014.

- The global healthcare IT market is projected to reach $66 billion by 2020, driven streamlining clinical workflow processes. (Global Industry Analysts – Report: "Healthcare IT: A Global Strategic Business Report.") Projection is driven by strong emphasis on improving profitability of healthcare institutions, increased demand for quality healthcare services, and growing acceptance of **mHealth** and **eHealth** practices.

- 82 percent of young-adults age 18 – 34 who have a doctor say having a consultation with their physician via a mobile device is the best option for them. (**MDLINE**)

- Researchers estimate that by 2018, the virtual doctor consultation industry will have revenues of $13.7 billion. (Connected care market. Parks Associates). Virtual Care.

There are many companies offering telehealth consulting, services, and solutions, including: **Zoom Video Communications**, **Cisco**, **Lifesize**, **Vidyo**, **AT&T, IBM**, **Verizon**, **Tandberg**, **Polycom**, **Onstream Meetings**, **InterCall, Premier Global Services** (PGi), and many more.

Telemedicine Telehealth Examples

Project Echo

Project ECHO: A Revolution in Medical Education and Care Delivery. Project ECHO is a lifelong learning and guided practice model that revolutionizes medical education and exponentially increases workforce capacity to provide best-practice specialty care and reduce health disparities. The heart of the ECHO model™ is its hub-and-spoke knowledge-sharing networks, led by expert teams who use multi-point videoconferencing to conduct virtual clinics with community providers. In this way, primary care doctors, nurses, and other clinicians learn to provide excellent specialty care to patients in their own communities. Project ECHO uses Zoom Video Communications.

References:
https://echo.unm.edu

GE Foundation Intensifies Push to Transform Access to Healthcare in Local Communities; Awards $14 Million Grant to Project ECHO®

Project ECHO empowers front-line primary care providers to treat more patients with common complex conditions.

As part of its goal to ensure that everyone can get quality healthcare regardless of where they live, the **GE Foundation** today announced a three-year, $14 million grant to support Project ECHO (Extension for Community Healthcare Outcomes), and its game-changing care delivery model that exponentially increases treatment capacity for common, complex conditions in medically underserved areas.

The Foundation's funding will help dramatically increase the number of **U.S. federally qualified health centers** (FQHCs) participating in Project ECHO nationwide. Through ECHO, community-based primary care providers train in a select specialty area, such as HIV/AIDS or behavioral health, so that patients can get the specialty care they need in their own communities.

"The ECHO model is transformative," Dr. Barash said. "Instead of making patients travel to where care is available, as the current system does, ECHO makes care available to patients where they live. It empowers front-line primary care clinicians and creates new treatment capacity in rural and underserved communities. As a result, patients get the right care, at the right time, in the right place."

For millions of Americans, access to specialty care for common, complex health conditions like rheumatoid arthritis or chronic pain is extremely challenging. Many patients must travel hours in order to see a specialist, while others forgo the specialty care they need.

Project ECHO creates new capacity to treat chronic complex conditions in local communities by expanding the skill sets of the providers who are already there.

- It links community providers with specialist care teams at academic medical centers to manage patients who require complex specialty care.
- Using basic videoconferencing technology, they participate in weekly **teleECHO™ clinics**, where primary care providers from multiple sites present patient cases and work with a **multi- disciplinary team of experts to determine treatment**.
- The team mentors community providers to treat conditions that previously were outside their expertise.

Project ECHO uses **Zoom Video Conferencing**.

Unlike telemedicine, which facilitates one-to-one connections in order to provide patient care, **Project ECHO creates one-to-many connections among providers to exponentially increase treatment capacity**.

Reference:
http://www.businesswire.com/news/home/20150720005391/en/GE-Foundation-Intensifies-Push-Transform-Access-Healthcare#.Vdh8Nf9RFdh

Zoom Video Communications. Inc.

HIPAA compliant. Zoom provides applications in these areas: (i) consultation with physician, specialist, and patient; (ii) virtual counseling for behavioral and mental health; (iii) healthcare education, (iv) remote patient diagnostics; (v) hospital administrative meetings; (vi) home healthcare, and (vii) triage and disaster response. Project ECHO uses Zoom.

References:
https://zoom.us/healthcare
https://blog.zoom.us/wordpress/2017/02/14/webinar-recording-project-echo-and-zoom/

REACH Health deploys Vidyo Platform to offer Video Communications to Medical Practitioners

Vidyo (video collaboration platform) announced its association with **REACH Health**, a provider of interactive physician-to-patient access to integrate Vidyo technology into its software platform. REACH Health's software platform offers multidiscipline acute care telemedicine capabilities such as workflow, enhanced diagnostic assistance and automated documentation capabilities, in addition to video.

"We needed to enable multi-party synchronized audio/video within our platform and Vidyo was able to meet critical requirements — exceptional quality of video, reliability of connection, cost and ability to integrate via APIs with the other applications in our platform." "Since REACH Health services many environments that have limited network bandwidth and communications capabilities, they needed to integrate a video communication solution that would connect with smaller, rural facilities with limited connection capabilities. Only Vidyo was able to meet this requirement," said Amnon Gavish, Vidyo's Senior VP, Vertical Solutions.

Reference:
http://www.telecomlead.com/video-conferencing/reach-health-deploys-vidyo-platform-to-offer-video-communications-to-medical-practitioners-6983

Lifesize – Nurse Managed Health Center

University of Delaware, Nurse Managed Health Center (NMHC) uses Lifesize video communications to connect patients with the most appropriate healthcare providers, regardless of their location. Video conferencing removes the burden of distance. It also enhances the expertise within our team by giving us—and our patients—direct access to specialists wherever they happen to be.

Reference:
https://lifesize.com
https://www.lifesize.com/~/media/Documents/Case%20Studies/Companies%20M%20through%20Z/University%20of%20Delaware%20NMHC%20Case%20Study.ashx

HCA Declares Cisco WebEx a "Home Run" for Training and Outreach

Hospital Corporation of America, the world's largest private health care facility operator with 199,000 employees and staffing 163 hospitals in 20 states, has reported high satisfaction with HCA's recent implementation of **Cisco Webex**, especially Meeting Center and Training Center.

"The HCA population is diverse, they do different types of jobs, and we have 40,000 affiliated physicians. "You can see the challenge when you try to reach out and deliver training or education to a population that big." HCA staff must be regularly trained to use new systems; "success or failure may depend on training and collaboration."

"We wanted easy implementation and rapid scaling with minimal disruption to our existing practices. HCA's usage goal for the old system was 380,000 meeting minutes per month; Webex doubled that usage rate in its first full month of use and hit 1.3 million minutes in March 2012.

HCA is also finding innovative Meeting Center applications that win plaudits from patients and drive higher satisfaction ratings – such as allowing parents of premature babies to check in remotely with their newborns in the neonatal ward, or delivering expert diabetes coaching to remote areas using a virtual coaching model that leverages video and VOIP.

There is power and value of video in a conferencing solution, particularly for healthcare settings.
"Video adds that personal element, so it's a lot easier to participate in "two-way street" conversations."

Reference:
http://blogs.cisco.com/healthcare/hca-declares-cisco-webex-a-home-run-for-training-and-outreach

Virtual House Calls Improve Medical Care in Developing World

Baltimore-based medical team uses Cisco WebEx web conferencing with video to provide speech therapy to cleft palate patients in Nicaragua. (Work remotely with the children.) "We needed a powerful communication tool with excellent-quality video and audio that could share visual references from a variety of media," says Dr. Glazer. "It was also important that we be able to connect people from multiple locations, and that the tool be easy to learn and use. Cisco WebEx® technology met all of these requirements."

The team launched a pilot project to determine the feasibility of using online collaboration tools to facilitate remote diagnosis and speech therapy after surgical treatment.

Dr. Patrick Byrne directs the Division of Facial Plastic and Reconstructive Surgery in the Department of Otolaryngology – Head and Neck Surgery at **Johns Hopkins University School of Medicine**. He also co-directs the **Greater Baltimore Cleft Lip and Palate Team**. For the past 14 years, Dr. Byrne has been making annual trips to countries in the developing world, volunteering his services to correct

Reference:
http://www.cisco.com/assets/prod/webex/cases/GBMC_CS_D2.pdf

Emory University Researchers use iPhone 4 for Remote Assessment of Stroke

Using two-way video on the **iPhone 4** could help doctors assess the severity of a patient's stroke symptoms, according to an Emory University study recently published in the **Journal of Stroke and Cerebrovascular Diseases**.

"This is the first study to demonstrate reliable stroke assessment using the iPhone 4," says principal investigator Eric R. Anderson MD, PhD, a third-year neurology resident at Emory University School of Medicine.

Anderson and his colleagues came up with the idea to use **Apple's innovative FaceTime software** as a quick and economical solution to diagnose stroke from a distance.

The study included 20 patients - nine men and 11 women - who were admitted to Grady Memorial Hospital for acute stroke. All of the patients underwent evaluation by a physician at the bedside, who was being directed remotely by another physician via the iPhone 4. Each physician calculated a score using the National Institutes of Health Stroke Scale and found there was excellent agreement in total scores between them on ten items included in the scale.
"A person who is experiencing stroke symptoms and seeks care at a medical facility that does not offer acute stroke care should be able to be connected via the iPhone 4 with stroke specialists at another location who can see them with FaceTime video and assess their condition," says Anderson.

Reference:
http://www.metroatlantachamber.com/news/bioscience-health-it/2011/12/09/emory-researchers-use-iphone-4-for-remote-assessment-of-stroke

Emory Healthcare – Telemedicine

The **Emory Transplant Center** introduced a telemedicine program in January 2009. Patients are able to see and talk with an Emory transplant specialist and receive personalized care through the latest in telehealth technology — without incurring the time and expense of traveling to one of the Emory Clinics near and around metro Atlanta. A telehealth consultation uses live video and simulates an in-office consultation between a patient and specialist using Web based computer cameras and screens outfitted with specialized tools that send and receive live video and real-time medical information.

Emory Transplant Center provides telemedicine services in these areas:

- Heart Transplant
- Kidney Transplant
- Lung Transplant
- Pancreas Transplant
- Islet Transplant
- Liver Transplant

Reference:
http://www.emoryhealthcare.org/transplant-center/telemedicine.html

Emory Health and Vascular Center also uses telemedicine.

Reference: http://www.emoryhealthcare.org/telehealth/index.html

ReelDx Rolls Out Asynchronous Video Telemedicine with medvid.io Platform

ReelDX, a leading secure video management company, announced the launch of the **medvid.io platform**, HIPAA-compliant video management APIs that can be added to any existing healthcare software.

"Stored video is a powerful tool for improving provider-patient communication and health outcomes." "Allowing the patient or doctor to capture video and share it securely with family, caregiver network, or others is an amazing breakthrough." With video telemedicine gaining popularity, the potential of stored video telemedicine is tremendous--studies have shown that the vast majority of patients find it helpful to review clinical visits on a recorded video.

medvid.io allows users to upload, encode, transcode, play and stream video content directly into the host software. It integrates seamlessly into medical workflows and the HIPAA-compliant APIs is available free to any developer.

Reference:
http://www.healthcare-informatics.com/news-item/reeldx-rolls-out-asynchronous-video-telemedicine-medvidio-platform

What is Home Telehealth and Remote Patient Monitoring?

For Veterans who have a health problem like diabetes, chronic heart failure, chronic obstructive pulmonary disease (COPD), depression or post-traumatic stress disorder, getting treatment can be complex and inconvenient. For some, especially older Veterans, conditions like these can make it difficult for them to remain living independently in their own home and make it necessary for them to go into a nursing home where their symptoms and vital signs (pulse, weight, temperature etc) can be checked frequently. Having this information means providers and nurses can change medications or other treatments and prevent serious health problems from developing. Now there are new technologies that make it possible to check on symptoms and measure vital signs in the home. Special devices (**home Telehealth technologies**) can do this and are easy to use. Home Telehealth can connect a Veteran to a VA hospital from home using regular telephone lines, cellular modem (these act as doors for transmission of information) and cell phones (using an interactive voice response system). VA has found that not every patient is suitable for this kind of care. But, for those that are, Home Telehealth can help them to remain at home and live independently.

If you or a loved one is a Veteran and has been assessed for Home Telehealth and deemed appropriate for Home Telehealth, then VA will provide a home telehealth technology that best meets your needs.

The most common home telehealth devices VA uses are ones that make it possible to connect a Veteran patient to VA hospital using messaging devices that collect information about symptoms and vital signs from the comfort of a Veteran's own home. A care coordinator (usually a nurse or social worker) is the point of contact for a patient using a home telehealth device with a **VA hospital**. Care coordinators are able to link with the Providers to arrange treatment changes, set-up clinic appointments or arrange hospital admissions. Training is provided on how to use the home telehealth device and this training usually takes place in the Veterans home, local VA clinic or over the phone.

Reference:
http://www.telehealth.va.gov/ccht/

Other Reference: (Telehealth and Remote Patient Monitoring)
http://www.leadingage.org/uploadedFiles/Content/About/CAST/Resources/2013_CAST_Telehealth_and_Remote_Patient_Monitoring_(RPM)_Case_Studies.pdf

Home Health Care: mHealth, iPad Mini Tablet, and Video Conferencing

Health professionals from the **University of Kansas Medical Center (KUMC) School of Nursing and Center for Telemedicine and Telehealth are** conducting an NIH-supported project (National Institutes of Health) for the use of mobile technologies for patient care in their home settings.

Patient participants have chronic conditions that require an invasive IV catheter for a 12-hour infusion of nutrition, also called **Home Parenteral Nutrition** (**HPN**).

Millions of dollars are spent annually on poor health associated with complex home-caregiving and HPN patients are among the most complex to treat, particularly because of IV sepsis, the most costly but preventable complication and a top 25 NIH research priority.

iPad Mini tablets with interactive, encrypted video conferencing and secure data exchange are used for real-time intervention for HPN patients by health professionals from the medical center. Project goals include health professionals' viewing of patients IV catheters and catheter site wounds, engaging families in skilled home caregiving and healthy behaviors, and reducing patient healthcare visit costs associated with the condition.

Patients also complete perception surveys about mHealth usability and its role in their self-management of complex health conditions.

The mobile device functions as a complex tool for **synchronous, asynchronous and informatics interventions**; **video interactions** are supported through a secure videoconferencing "app" and **interprofessional consultations with the patient occur using a multi-point control unit, or "bridge."** The tablets also give patients access to evidence-based interventions, including step-by-step home-caregiving algorithms, video scenes illustrating complex home-care IV procedures and infection control procedures.

The video sessions often include 3-4 patients from different locations around the U.S., along with 2-3 of the health professionals from KUMC.

To date, patients have reported that the video sessions are very convenient and robust, with no difficulty seeing or hearing health professionals or peers during the multipoint sessions. They believe that receiving medical care via the iPad Minis is a 'good idea' and they are able to talk privately and openly.

In a few cases, patients took pictures of their catheter sites with the iPad Minis and sent them to their physicians for identification of infection, which was caught early enough to treat with medication.

Because this is an NIH funded project, more information and results will be available at a future time. The project is supported by the National Institute Of Biomedical Imaging & Bioengineering of the National Institutes of Health under Award Number R01EB015911. C. Smith, PhD RN, Principal Investigator. The content is solely the responsibility of the author and does not necessarily represent the official views of the National Institutes of Health." Clinical Trials.gov Registration # NCT0190028.

Reference:
http://www.americantelemed.org/home

1	Click on About Telemedicine
2	Click on Telemedicine Case Studies
3	Scroll to: "Kansas iCare: mHealth Clinic Appointments Using iPad Minis between Multiple Professionals and Complex Patients in their Homes

Technology and Hospice Care

As America's population ages demand for high quality hospice care is growing. As a result, innovative providers are searching for new services that add to the well-being, comfort, and peace of mind of patients and families.

The **Hospice of the Western Reserve**, a non-profit hospice organization is providing care and support throughout Northern Ohio by using **telyHD™ video calling devices** installed in 42 patient rooms at their residential care facility called the **Ames Family Hospice House**. The video calling system developed by Tely Labs (www.tely.com) is an all-in-one device that includes an HD camera, four noise-cancelling microphones, and processing technology to ensure a stable and secure video connection.

"It's easy to install and set up. We just plug them in (video calling system) and enter the patient's Skype contact." The telyHD's friendly on-screen interface and the seven-button remote allows patients to connect simply and easily. Because telyHD is Skype certified, friends and families on the other end of the call can connect using any Skype enabled device, including laptops, smartphones, or tablets.

"Nothing replaces being at the bedside but when relatives live out of state or in some cases overseas, that is not always possible." "One of our patients used it to connect with his daughter in Abu Dhabi who was unable to travel the long distance quickly enough to be with her father when his health declined.

At another facility, the **Hospice Southeastern Connecticut** (Hospice SE CT) is using technology to advance patient care and improve efficiency. "We have become virtually paperless and fully automated with payroll. One big difference is that schedulers used to spend 3 to 4 hours a day managing the aides in the field." Now, we use a cloud-based software program running on GPS enabled Blackberry smartphones; we are now able to manage aides in the field in only one hour a day which is a 75 percent decrease.

Reference:

http://federaltelemedicine.com/?p=398

VNA Care Network & Hospice's Telehealth Technology

…is improving the quality of life for patients who have congestive heart failure, chronic obstructive pulmonary disease, diabetes, and other chronic conditions as well as patients at risk for re-hospitalization.

Telehealth is a way for **VNA Care Network & Hospice's health care professionals** to know how patients are doing between in-person visits. The small, easy-to-use **telehealth unit** connects to a blood pressure cuff, scale, and other devices that take measurements important to patients' health. The display uses large text, graphics, and audio to walk patients through the measurements. The telehealth unit can also be customized to ask people questions about their health, provide education about their illness, and give helpful reminders such as when to take medications.

The information is sent over a toll-free telephone line where it is reviewed by a VNA Care Network & Hospice nurse. Patients' doctors may also review the data via e-mail, fax, or Internet. The equipment does not interfere with incoming and outgoing telephone calls.

Telehealth is included in some patients' home health or hospice care at no cost to the patient. The service is also available for a monthly fee to patients who did not receive a telehealth unit as part of their care or to those who are not currently patients.

Reference:
http://www.vnacarenetwork.org/news/news/telehealth

Telemedicine Program in Pittsburgh Connects Patients (at Home) to EDs Via iPads

The Pittsburgh-based **Allegheny Health Network** has launched a pre-hospital telemedicine program for use in the emergency medical services community, becoming the first in the state to do so, its officials say.

The Lower Kiski and A-K Pulser emergency medical services crew connected its first patient from her home to an emergency room physician at Allegheny Valley Hospital. The year-long pilot program, in which patients in their homes can speak directly to an emergency room physician via an iPad connection, offers new opportunities for EMS providers and patients who don't want, or don't need, to go to the emergency room.

On the first telemedicine consult, **A-K Pulser and Lower Kiski EMS** responded to a call from 59-year-old Barbara Verdu of Leechburg, Pa., who was experiencing anxiety, sweating and shakiness related to her diabetes. To Verdu's amazement, they connected her via an **iPad** with Allegheny Valley Hospital emergency medicine physician Andrea Fisk, M.D., who had the chance to actually look at the patient while asking her questions, and cleared her to stay home and out of the hospital.

An emergency physician might also refer a patient seen via telemedicine to an urgent care center, or advise the patient to call his or her primary care physician for an appointment. Patients must be conscious and alert, and must give spoken approval, to be treated via telemedicine.

Reference:
http://ihealthtran.com/wordpress/2014/08/telemedicine-program-in-pittsburgh-connects-patients-to-eds-via-ipads/

Videoconferencing in Healthcare Lowers Stress for Pediatric Patients

One medical facility that uses secure videoconferencing for patients and families is **UC Davis Children's Hospital**. This pediatric clinic has been focused on technology-enabled healthcare for years: telemedicine, telehealth services, using on-demand video for convenient distance learning and adopting use of electronic health records are some examples.

Yet, a new study of their **Family-Link program** finds how videoconferencing with friends and family actually lowers stress for pediatric patients. (Significantly reduced pediatric patients stress.)

A **Medical Xpress** post on Monday suggested the Family-Link program enhances quality of life during long hospital stays. UC Davis professor James Marcin released data from a study on 367 children who were hospitalized for at least four days and had access to Family-Link, which provides patients with laptops, webcams and secure internet connections to communicate with family and friends using applications like **Skype** and **FaceTime.**

Reference:
http://conferencing.tmcnet.com/topics/conferencing/articles/382731-study-finds-videoconferencing-healthcare-lowers-stress-pediatric-patients.htm

Skype with Patients: Helpful or Harmful?

Misuse Story

In case you didn't hear, out in far eastern Oklahoma, Thomas T., M.D., was disciplined earlier this month for prescribing violations and using Skype—a service that allows users to communicate with peers by voice, using a microphone, video by using a webcam, and instant messaging over the internet—to treat patients under his care. T., of Park Hill, Okla., was using the online service to treat patients with mental health issues. The doctor claimed he thought Skype was a suitable communication system for the practice of telemedicine, according to NewsOK. However, medical board documents showed that Skype is not approved as a telemedicine communication system, *NewsOK* reported.

Although there are exceptions, most state health laws require an initial in-person visit to establish a patient-physician relationship before a doctor can treat a patient over video conference. This includes prescribing drugs, rendering diagnoses, and performing other medical services during a virtual visit.

At the time he drew the attention of board investigators, T. worked for Hartsell Psychological Services, which provides mental health services to residents of rural communities in southern Oklahoma and northern Texas. As reported by NewsOK, "He said his (registered nurse) traveled to the various satellite clinics and presented the patients to him via Skype," a board investigator wrote in the complaint against T. "He stated that he did not think he had to see patients in person since they were psychiatric patients." Apparently, T. did not visit patients himself due to his own failing health.

After board members reviewed his case, T. was placed on probation for two years and ordered to complete a course on prescribing practices, according to the news report.

It is clear to me that T. deserved this probation, at the very minimum. If he prescribed his patients medications without ever having physically meeting with them himself—regardless of whether they were psychiatric patients or not—that is simply unacceptable.

So the obvious question that gets raised from this story is, "Should doctors be allowed to use Skype to treat their patients?"
The answer isn't clear-cut.

Positive Story

On the positive side, the **Sioux Falls, S.D.-based Avera Health Network** is supporting doctors to care for emergency room (ER) patients by attending to them virtually, via Skype.

According to a story from The Atlantic, Avera is the only long distance ER care center in the U.S., and their "telemedical" services use high definition video conferencing software from Skype to connect their critical care experts with the doctors on the ground in rural locations.

The fact is that some small-town hospitals in the Midwest might only have 25 beds, at most. In South Dakota, there are people who live in small, geographically-isolated communities who often make the trek to Sioux Falls, the state's largest city, for hospital services. But during emergencies, the up-to 200 miles to Sioux Falls becomes even further away.

And as the rural population ages—the proportion of people over the age of 65 is about 72 percent higher in South Dakota than the rest of the U.S., and is expected to double by 2020—the need for easy access to high-quality care will only increase.

Avera has experts available 24/7 in locations throughout South Dakota, North Dakota, Minnesota, Iowa, Wyoming, and Nebraska. Their four main services—**eConsult**, **eICU Care**, **eEmergency**, and **ePharm**—are set up to provide resources and support to the 10 percent of America's doctors currently serving the 25 percent of the country's population that resides in rural areas.

And as of last October, they reported an 18 percent decrease in ambulance and helicopter transfers to major hospitals, equating to $6.6 million saved.

Summary

Those are the kinds of telehealth initiatives that give you confidence in the promise of technology. Then there are stories like T.'s that make you think twice about how these video virtual visits are really being used. And gray areas will only continue to emerge—it's not unreasonable, for instance, to argue that for mental health patients, it could be stressful and perhaps even unnecessary to constantly travel to the doctor's office.

So is using Skype suitable for some forms of healthcare delivery, but not others?

It's also necessary to consider the privacy risks associated with software such as Skype. Under its privacy policy, Skype says:

> *Skype will take appropriate organizational and technical measures to protect the personal data and traffic data provided to it or collected by it with due observance of the applicable obligations and exceptions under the relevant legislation. Your personal and traffic data can only be accessed by authorized employees of Microsoft or its affiliates, subsidiaries or service providers who need to have access to this data in order to be able to fulfill their given duties.*

To me, that sounds broad and general with potential loopholes scattered throughout, and I'm sure the lack of privacy features in terms of clinical workflow remains a concern to many telehealth practitioners. It is also unclear whether or not Skype is completely HIPAA-compliant; HIPAA says that protected health information must be encrypted if it is sent over the internet, and Skype does use 256 bit AES encryption (whatever that means). But seemingly, there is more to it, and the logistics of the debate can get quite granular. I'd put it this way—if I were a provider, I'd do my homework before using Skype to treat patients.

So while there are certainly fair arguments on each side of the coin, at the end of the day, common sense and medical ethics should prevail. If a doctor is simply providing routine follow-up visits after seeing the patient in person, then the use of software such as Skype seems to be warranted in certain circumstances.

However, Skype should not be used if we're talking about making serious clinical judgments and prescribing medicine to patients you have never seen before. I do believe in the promise of telemedicine, and hope that a few bad seeds (assuming the T. allegations are valid) won't ruin something that can truly change the way healthcare is delivered for the better.

Reference:
http://www.healthcare-informatics.com/blogs/rajiv-leventhal/skype-patients-helpful-or-harmful?page=3

Optimizing Stroke Care with Telemedicine, REACH Health

Recent statistics say that stroke is the third leading cause of death in the U.S.; more than 140,000 people die from stroke each year in the country. Undoubtedly, it is urgent to seek emergency care at the first sign of a stroke, as early treatment saves many lives and reduces the effects of stroke. Oftentimes, however, patients in rural areas don't have access to this much-needed care. Columbus, Ohio is not one of those rural areas, but that's the home of **OhioHealth**, a 17-hospital health system servicing a 40-county area.

Inside the health system is the Ohio Health Stroke Network, designed to work in the manner of a "hub and spoke" model, which connects several smaller spoke hospitals to one or more hub hospitals via formal agreements to engage in telemedicine consultation. The idea is to maximize efficiency in stroke care, while minimizing the need to transfer a stroke patient elsewhere for specialized care. In this specific network, there are two hospitals or "hubs" in Columbus—**Riverside Methodist Hospital** and **Grant Medical Center**—and **19 partner hospitals or "spokes."**

When a stroke victim is brought to a partner hospital's emergency department, the emergency medical team provides direct treatment on-site, while collaborating with OhioHealth's emergency stroke team, using real-time technology from a mobile cart. The mobile cart, equipped with a two-way camera and audio connection powered by the **Alpharetta, Ga.-based REACH Health** technology, is located in the partner hospital's emergency department and connects to OhioHealth's electronic intensive care unit (eICU).

The advanced technology allows OhioHealth stroke specialists, who are on-call, to actually see the patient. They can evaluate the patient's condition; view test results; confer with the community hospital's physicians; and help determine the correct course of action immediately. After initial evaluations and tests are completed, the OhioHealth stroke team can help determine whether or not the patient should remain at the local hospital or be transferred to an OhioHealth certified stroke center.

REACH's clinical documentation tool was put in place. Then, the vendor's fully-integrated platform with the clinical documentation tool as well as the video conferencing tool was implemented, putting everything in one application.

Reference:
http://www.healthcare-informatics.com/article/ohio-optimizing-stoke-care-telemedicine

Mississippi Hospitals Partner for Telemedicine, REACH Access

King's Daughters Medical Center in Brookhaven, Miss. and **St. Dominic Hospital** in Jackson, Miss. have agreed to a telemedicine partnership which will give patients access to neurology and pulmonology specialists remotely.

Using the **REACH Access platform**, the 122-bed King's Daughters Medical Center can now diagnose and treat stroke and lung diseases without transporting the patient to another facility.

This will result in shorter treatment windows and will frequently save the patient the added expense and stress of being transported to a different hospital, the medical center's officials said.

Like many other parts of the U.S., rural Mississippi is underserved by specialty physicians. The state is plagued by high incidence of stroke, which requires immediate attention from a qualified stroke specialist, typically a neurologist. For some types of strokes, timely administration of a clot-busting drug can mean the difference between a healthy life and one with permanent disability. Mississippi also has a high volume of patients who suffer from lung-related illnesses like chronic obstructive pulmonary disease.

Emergency department patients at King's Daughters are now able to consult with medical specialists without needing to travel or be transported. Emergency department clinicians and consulting physicians use the REACH Access platform to conduct joint examinations and share critical medical data and images. REACH Health was a pioneer in telestroke and now provides one enterprise telemedicine solution for multiple specialties, with pulmonary, psychiatry, cardiology, neurology and ICU applications.

Reference:
http://www.healthcare-informatics.com/news-item/mississippi-hospitals-partner-telemedicine

Mayo Clinic - Kiosks Allow Patients to Connect with a Remote Doctor via Telehealth Equipment

Leaders at the **Mayo Clinic in Albert Lea and Austin, Minn**. have launched **telemedicine kiosks** at each location that are akin to the self-checkout machine at a grocery store.

The kiosks allow patients to connect with a remote doctor via telehealth equipment.

Along with video capabilities, each kiosk (from **HealthSpot**) is equipped with a stethoscope, scale, blood pressure cuff, pulse oximeter, thermometer, otoscope, and dermascope.

The collaboration, called the **Mayo Clinic Health Connection**, will pilot HealthSpot's cloud-based system and walk-in kiosk products with Mayo Clinic employees in Albert Lea and Austin, Minnesota. Patients of Mayo Clinic can access physicians, physician assistants and nurse practitioners inside the kiosk through videoconferencing and interactive digital media, the company said.

The kiosk-based health care providers will see patients for "minor, common health conditions, such as cold, earaches, sore throat, sinus infections, upper respiratory infections, rashes and skin conditions and eye conditions" and no appointment is required, the release said.

Reference:
http://www.kioskmarketplace.com/news/mayo-clinic-pilots-healthspot-telemedicine-kiosks-in-minnesota/

Cleveland Clinic to Launch Telehealth Walk-In Kiosks

Cleveland Clinic has entered into a partnership with the Dublin, Ohio-based health IT firm **HealthSpot** to offer patients alternative options to access healthcare through technology and HealthSpot's virtual walk-in kiosks.

HealthSpot stations—private, 8-by-5-foot enclosures outfitted with touch screens, integrated medical devices, and videoconferencing capabilities—will enable Cleveland Clinic medical providers to see and treat patients in a variety of nontraditional healthcare settings, such as universities, employers and retail locations. An on-site accredited medical assistant also supports each station.

The HealthSpot station's two-way high-definition video screen delivers a unique face-to-face experience between patients and medical providers. An array of digital medical devices embedded in each unit—stethoscope, scale, blood pressure cuff, pulse oximeter, thermometer, otoscope and dermascope—streams medical information to the provider and patient in real time.

Reference:
http://www.healthcare-informatics.com/news-item/cleveland-clinic-launch-telehealth-walk-kiosks

University of Michigan Children's Hospital Targets Obesity with Telemedicine, Wearables

The **CS Mott Children's Hospital at the University of Michigan** is launching a new telemedicine program to help reduce childhood obesity. The hospital will work with **Fruit Street**, a recently-formed digital wellness and telemedicine platform, to provide a program for patients that integrates video visits with monitoring via wearable devices.

Providers at CS Mott, including physicians, dietitians, psychologists, social workers, exercise physiologists and physician assistants, will use Fruit Street's Virtual Lifestyle Medicine Clinic offering to conduct **HIPAA-compliant video** visits with young patients.

In-between visits, they'll be able to measure patients progress via uploads from devices like **Fitbit**, **Withings**, **Jawbone UP**, **iHealth Labs**, and even the **Apple Watch**, as well as connected scales. Patients can choose to share sleep, exercise, diet, weight, blood pressure, and blood glucose data with their clinicians. They can also keep a mobile food diary and share that data with providers as well.

Fruit Street offers a telemedicine service to providers that allows them to monitor patients via wearables, mobile apps, and virtual visits. The clinician can pull up the patient's aggregated data on a **virtual whiteboard** during the teleconference and discuss it with them.

Reference:
http://mobihealthnews.com/42543/university-of-michigan-childrens-hospital-targets-obesity-with-telemedicine-wearables/

Children's Specialized Hospital uses Telepresence VGo Robot to Communicate with Patients

Children's Specialized Hospital (New Brunswick, NJ) is the first pediatric rehabilitation hospital in the country using **VGo**, a robot that allows physicians to interact with their patients at any hour of the day without physically being in the hospital. Children's Specialized Hospital is pioneering the use of VGo, an innovative technology termed a "**telepresence**" healthcare solution. This new technology has endless opportunities to help children with special needs and complex medical conditions that are treated at Children's Specialized Hospital, the nation's leader in pediatric rehabilitation.

With VGo, a secure wireless connected device that enables a distant person to be "present" through two- way video, audio and motor driven action. **VGo is 100% controlled by a person using a PC, Mac or iPad**. With its integrated camera, microphones, and video display - all on a light-weight, robot style platform - VGo can run for up to 12 hours between battery charges.

Doctors are using VGo to extend their reach to monitor and consult with medically fragile patients and their families at any hour of the day in the hospital. Patient satisfaction and the standard of care are increased, while reducing the overall cost of care and hospital re-admissions.

Children's Specialized Hospital, the largest pediatric rehabilitation hospital in the country, treats children affected by brain injury, spinal cord injury, premature birth, autism, developmental delays, and life-changing illnesses at twelve sites throughout New Jersey.

Children's Specialized Hospital is an **affiliate member of the Robert Wood Johnson Health System** and a proud member of the **Children's Miracle Network Hospitals**.

Full article:
http://www.vgocom.com/first-pediatric-rehabilitation-hospital-use-telemedicine-childrens-specialized-hospital-uses-vgo-rob

Cruise Line offers Pediatric Telemedicine

Italian cruise line **MSC Cruises** will offer guests a 24/7 **multilingual pediatric telemedicine** service on board. In partnership with **Giannina Gaslina Institute** (pediatric hospital in Genoa Italy). Ship-to-shore care of children. The telemedicine technology is managed by **CareStreams** (**Rochester NY**).

Reference:
http://www.msccruisesusa.com/us_en/About-MSC-Cruises/News/MSC-Partnership-With-Giannina-Gaslini-Institute.aspx

FruitStreet.com Announces Partnership with VSee.com, World's Largest Telemedicine Platform

FruitStreet.com has entered into a de facto joint venture agreement with **VSee.com**, the world's largest telemedicine video engine with more than 3 million users. Fruit Street and VSee have been working together under this agreement for more than one year to build a telemedicine product that helps healthcare providers conduct **HIPAA compliant video** calls and monitor the diet and lifestyle of their patients using wearable devices and mobile applications.

Reference:
http://blog.fruitstreet.com/2015/07/31/fruitstreet-com-announces-partnership-with-vsee-com-worlds-largest-telemedicine-platform/

UnitedHealthcare Covers Virtual Care Physician Visits, Coverage Options for Telehealth Visits

UnitedHealthcare is expanding coverage options for virtual physician visits, giving people enrolled in self-funded employer health plans secure, online access to a physician via mobile phone, tablet or computer 24 hours a day.

A new network of care providers offering video-based virtual visits enables UnitedHealthcare plan participants across the country to choose from in-network virtual care provider groups, then see and speak with a doctor using real-time audio and video technology to obtain a diagnosis and any necessary prescriptions for minor medical needs including allergies, sinus and bladder infections, bronchitis and other conditions.

Coverage for virtual care provider visits is now available to self-funded employer customers and will expand to UnitedHealthcare employer-sponsored and individual plan participants in 2016, giving more people expanded in-network care options.

There is a shortage of 45,000 primary care physicians in meeting the needs of patients nationwide, according to the American Association of Medical Colleges. The issue is especially challenging for the 25 percent of the U.S. population that lives in rural areas, where access to health care, particularly subspecialty care, is often lacking.

More than 10 million consumers directly benefited from using telemedicine last year, according to the **American Telemedicine Association**, and a recent **Harris Poll** survey found that more than a quarter of consumers (27 percent) would choose a telehealth visit if the option was available to them. The ability to leverage telehealth technology and enable virtual visits improves access to critical health services.

"Consumers can save time and money choosing among quality physician groups from the convenience of their smartphone, tablet or home computer at any time of the day."

People can access a list of participating virtual-visit care providers through **UnitedHealthcare's Health4Me™ mobile app.**

UnitedHealthcare is partnering with the following organizations to provide video-based virtual visits in 47 states and Washington, D.C.

- **Doctor On Demand**
- **Optum's NowClinic**
- **American Well's Amwell**

Reference:
https://careers.unitedhealthgroup.com/why-work-here/news-room/2015/unitedhealthcare-covers-virtual-care-physician-visits-expanding-consumers-access

American Well Corporation

American Well Corporation is a telehealth company that brings healthcare into the homes and workplaces of patients. It offers software, services, and access to clinical services. The company's **mobile and Web telehealth platform** connects doctors with patients for live, on-demand video visits over the Internet, as well as handles the administration, security, and record keeping needs of a healthcare facility. It serves national and regional health plans and systems, delivery networks, government organizations, brokers and consultants, employers, and retail pharmacies in the United States.

Reference:
http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=46103274

AT&T Telehealth Solutions

AT&T connects patients and providers with powerful, networked videoconferencing and remote monitoring solutions. *Highlights include*:

Remote Patient Monitoring: Cloud-based platform (Software as a Service) connects Bluetooth-enabled peripherals to provide biometric data using a patient tablet connected to the caregiver's monitoring portal. Clinicians can perform 24x7 remote monitoring of at-risk patients as well as provide interactive coaching and advanced analytics. It is open platform and secure cloud-based portal. Clinicians can set up automated reminders and ongoing coaching for patients that they receive on a user-friendly tablets. Clinicians can schedule video conference calls with patients as needed or in between office visits. To video-chat with caregivers, patients can initiate a request for a video call via a tablet. The remote monitoring solution enables patient data to be automatically collected from in-home wireless medical peripherals such as scales, monitors, and meters and sent to a cloud-based system in near-real time.

AT&T Connect: This is for conferencing and collaboration. It is a web, audio, and video conferencing solution that offers six streams of video.

AT&T Virtual Care: Delivers a variety of end-to-end telehealth solutions that include the necessary hardware, software, and network infrastructure to facilitate turnkey solutions. The solution enables evaluation, diagnosis, and treatment of patients in remote locations by specialists.

They offer (a) "standard" – videoconferencing and electronic diagnostic tools that come together in a networked mobile cart. (b) "custom" – a broad portfolio of videoconferencing endpoints and medical devices, and (c) "managed" – a turn-key managed offer that includes videoconferencing endpoints (fixed/desktop/mobile), medical peripherals, and either an AT&T hosted cloud solution where the customer pays a monthly fee with no capital outlay, or AT&T can sell the solution to the customer and still provide a turn-key, managed experience.

Mobile Device Management: A variety of services.

Reference:
http://www.corp.att.com/healthcare

InTouch Health

InTouch Health (InTouch Technologies, Inc.) provides a telehealth network and services. Virtual Care.

Reference:
http://www.intouchhealth.com

England: Using Telemedicine for Acute Stroke Assessment

Telestroke service will save 40 lives and £7m a year, says **Northern NHS trusts. (England)**

Telestroke allows consultants to examine stroke patients by focusing remotely on eye movement and facial muscles.

Lancashire and Cumbria cardiac and stroke network expects about 40 stroke victims each year to recover without a significant disability because of fast administration of clot-busting drugs, enabled by the telestroke service set up by local NHS trusts.

The network provides a live out of hours link between stroke consultants and patients in emergency wards equipped with a **Polycom "telecart", or mobile video conferencing unit**, which includes a camera through which consultants can remotely examine patients.

"I can remotely control the camera at the patient's end so that I can zoom in on particular features if I wish to, and particularly to see the movement of the eyes and facial muscles." Taking the virtual consultant to the bed. "So we took the view that the best thing to do was to treat people in their local hospital if we could and virtually take the consultant to the bed, rather than bring the patient to the consultant."

Reference:
http://www.theguardian.com/government-computing-network/2012/may/28/telestroke-lancashire-cumbria-nhs

Video Scanning Technology can Diagnose Cardiac Disease, University of Rochester, NY

A recent study conducted by researchers at the **University of Rochester (NY)** revealed that **web cameras and software algorithms** can help cardiologists diagnose patients with atrial fibrillation, a dangerous heart condition that often goes undetected.

The researchers used a **web camera that scans the face and an algorithm to detect changes in skin color that are imperceptible to the naked eye**. These changes, researchers say, can be used to detect uneven blood flow caused by atrial fibrillation. The cameras used sensors that record three colors: red, green, and blue. When a component of blood reflected green light, it more often than not, meant atrial fibrillation.

"This technology holds the potential to identify and diagnosis cardiac disease using contactless video monitoring," stated Jean-Philippe Couderc, Ph.D., with the University of Rochester's Heart Research Follow-up Program. "This is a very simple concept, but one that could enable more people with atrial fibrillation to get the care the care they need."

The University of Rochester worked with **Xerox** to develop the technology.

Reference:
http://www.healthcare-informatics.com/news-item/study-video-scanning-technology-can-diagnose-cardiac-disease

Oregon Telehealth Projects Target Population Health Improvements

One-year pilots range from behavior health and youth dental to dementia care and HIV services.

The **State of Oregon** has awarded grant funding for five one-year telehealth projects that support the state's healthcare system transformation efforts.

Each project will work to address a unique population and system challenge in areas such as behavior health, youth dental, dementia care, HIV services and connecting paramedics to clinics in rural areas. It demonstrates the ongoing importance of collaboration and innovation."

Here is a brief description of *one* of the pilot projects chosen. It utilizes video.

Oregon Health & Sciences University: Layton Aging and Alzheimer's Disease Center
Currently, 80,000 Oregonians have dementia. One of the main goals of the State Plan for Alzheimer's Disease and Related Dementias in Oregon (SPADO) is to increase access to dementia care. To meet this need, SPADO experts recommend expansion of telemedicine services across the state. The Layton Center's project will create a direct-to-home telemedicine program to: establish the reliability of standard measures of patient and caregiver well-being when used with telemedicine, and establish the feasibility and usability of direct-to-home video dementia care using telemedicine technology.

Reference:
http://www.healthcare-informatics.com/article/oregon-telehealth-projects-target-population-health-improvements

New York State Passes Telemedicine Law (Parity Law)

New York Governor Andrew Cuomo signed into a law that requires insurers to offer the same reimbursement to patients who get services via telehealth and telemedicine as if it were done in person.

The parity law makes New York the 22nd state to enact a **commercial telemedicine statute**. The bill ensures that insurers will not only cover telemedicine and telehealth, but that deductibles, co-insurance or other conditions for coverage of telemedicine will not differ from those conditions applicable to in-person service.

The law distinguishes telemedicine and telehealth. The latter is more focused on remote -monitoring devices and the former is using video conferencing services to make an assessment. This is important, Lackman (a healthcare lawyer) writes, because it's not clear if insurers will be required to cover telehealth services that are not covered under the plan as in-person services. Remote-monitoring doesn't always lead itself to in-person visits, he notes.

Reference:
http://www.healthcare-informatics.com/news-item/new-york-state-passes-telemedicine-law

USDA Grant adds 21 Rural Clinics to Telehealth Network

The **United States Department of Agriculture (USDA) Rural Utilities Services Distance Learning and Telemedicine program** is contributing to the expansion of telemedicine services by awarding a $213,564 grant to **Essentia Health**, an integrated health system serving patients in Minnesota, Wisconsin, North Dakota and Idaho. The telehealth award will grant 21 rural clinics and two hospital sites access to the telehealth network within Minnesota, Wisconsin, and North Dakota.

"This grant will allow us to purchase state-of-the-art videoconferencing carts, cameras, stethoscopes and ear scopes used for Telehealth visits and in exams." "Now our patients will be able to see and speak directly with our specialists anywhere, anytime, no matter how far away they may be from each other."

More than 300,000 patients within Essentia's rural service area will benefit from the grant.

"The goal of telehealth is to prevent hospital readmission, reduce in-office visits, better manage health of individuals with long term conditions and reduce costs for more remote and isolated health care providers."

Reference:
https://ehrintelligence.com/news/usda-grant-adds-21-rural-clinics-to-telehealth-network/

USDA Awards $8.6M for Rural Telehealth Initiatives

The **U.S. Department of Agriculture (USDA) Rural Development** has awarded 31 grants totaling $8.6 million for rural telemedicine efforts across 34 states. The grants were part of the $20 million awarded by the **USDA Rural Development Distance Learning and Telemedicine program**.

Example: The **University of Iowa's eHealth Extension Network** received a grant for almost $500,000. This grant will provide more than 70 rural healthcare facilities in 46 counties in Iowa with telehealth carts equipped with high-quality cameras, as well as video conferencing and cloud-based image sharing software.

Reference:
http://www.healthcare-informatics.com/news-item/usda-awards-86m-rural-telehealth-initiatives

HIPAA-Compliant Video Conferencing (Zoom)

Zoom Video Communications, Inc. (San Jose, CA) offers **HIPAA-Compliant Video Conferencing**, for: (i) consultation with physician, specialist, and patient, (ii) virtual counseling for behavioral and mental health, (iii) health education video Zoom Video Webinar, (iv) population management, (v) remote patient diagnostics, (vi) hospital administrative meetings, (vii) home healthcare, and (viii) triage and disaster response.

Reference:
http://zoom.us

University of Arkansas Provides Maternal Telemedicine in Oklahoma

The **University of Arkansas for Medical Sciences** (UAMS) has announced that it has started providing telemedicine support to high-risk pregnant mothers in Oklahoma.

Physicians at the **Oklahoma State University Center for Health Sciences Department of Obstetrics and Gynecology** will treat the maternal patients from OSU Medical Center in Tulsa.

The **OSU/ UAMS collaboration** will allow consultations in real time between medical specialists, pregnant mothers and their physicians so they can receive needed healthcare near their homes. Medical professionals at OSU will be able to collaborate with UAMS medical specialists to co-manage patient care so they don't have to refer patients to distant hospitals or clinics.

Applying technology in a meaningful way is how we effect positive change in healthcare for everyone, especially pregnant mothers." OSU Medical Center's willingness to collaborate with us in providing that care and in improving access to care demonstrates that they share that forward-thinking vision of progress."

OSU obstetricians and gynecologists for several years have taken part in regular **interactive video teleconferences and webinars** as part of professional **distance learning and collaboration** with UAMS physicians. The additional maternal-fetal medicine support plans to further deepen the existing relationship between the universities, officials said.

Reference:

http://www.healthcare-informatics.com/news-item/university-arkansas-provides-maternal-telemedicine-oklahoma

Emergency Physicians find their Telemedicine Niche

A telemedicine service is expanding its set of technology tools for virtual emergency care.

Given the high cost of a typical emergency room visit, it's a significant fact that most of ED visits are for minor medical conditions that can be diagnosed and treated virtually. That happens to be the business niche of one provider of telemedicine services, **Stat Doctors**, headquartered in Scottsdale, Ariz. The company, which has been existence since 2009, uses the telemedicine services of board-certified emergency physicians.

It has been expanding its technology platform that now includes mobile apps as well as a home-grown electronic medical record.

Instead, its focus is on treating minor medical conditions—sinusitis, allergies, rashes or sports injuries—that do not generally require a visit to the ED or urgent care center.

About a year and a half ago, Stat Doctors started down the path of developing and implementing mobile technology. "Not every computer has a webcam on it, but the majority of smartphones and tablets do have them."

From a physician's perspective, video is an excellent tool for connecting with the patient and providing care. "We said, everybody has smartphones, and they all have webcams. We want to do the majority of our visits via live video, because we think it's a better experience."

Reference:
http://www.healthcare-informatics.com/article/emergency-physicians-find-their-telemedicine-niche

Extending the Reach of Care Through Telehealth

Experts from Manitoba and Minnesota share their perspectives on important new trends in telehealth on both sides of the U.S.-Canadian border.

Telehealth has finally overcome a major hurdle for widespread use with the proliferation of mobile tablets and smartphones and the ability to share high resolution photos and videos via low cost communications services throughout most of North America.

With parity reimbursement laws in place in 19 states, and a bevy of bipartisan supported telemedicine legislation introduced in this session of Congress, including the proposed **Medicare Parity Act of 2014**, the financial obstacles relating to payment for telemedicine services are starting to crumble.

The scope of telehealth includes telemedicine services to patients, healthcare provider-to-healthcare provider specialist consultation, and health-related education. Professionals working in the field of telehealth expect it to proliferate in the next few years. The emphasis by the Affordable Care Act to have healthcare providers organize health care teams, technology, and knowledge around patients' needs to achieve healthcare delivery's full potential will be a stimulus to its expansion.

Examples: (partial list)

- "Interactions are quite sophisticated." "For example, when there is an appointment day with our sleep study specialist, appointments are set up so that they alternate from site to site. Each facility has a 'telemedicine appointment videoconferencing room'. By alternating appointment time slots, after a room at one facility is vacated, there is time to prepare it for another patient without losing any time for the specialist or the network. This is a super-efficient use of resources. Our offices do the central scheduling activities. It is important to make telemedicine as easy as possible for all participants. This is one key to success."

- Barta looks forward to the expansion of patient education beyond the T-1 networks with the increasing availability of mobile devices and the broader bandwidth communications networks that serve them. "Smartphone video will make it possible for us to watch how a patient is getting an injection at home for the first time, or assisting a diabetic patient with food preparation step by step using a mobile tablet. Mobile devices are creating opportunities for patients to feel more engaged in their disease management process as well as creating some visual educational opportunities that they otherwise never would have had," she says with excitement.

(Doris Barta, Director of **Telehealth Services, Partners in Health Telemedicine Network at St. Vincent Healthcare in Billings, Montana**.)

Reference:
http://ihealthtran.com/wordpress/2014/08/extending-the-reach-of-care-through-telehealth/

VA to Provide Rural Vets Access to Specialty Care via Telehealth

Traditionally, Veterans seeking health care traveled to the **VA hospital or medical center**. In order to increase Veterans' access to health care, VA has so far created over 700 hundred of community-based outpatient clinics to bring VA care closer to home for veterans.

However, the nearby clinics may not have all of the specialty services and staff found at the regional medical center. For example, if specialty care is needed from a cardiologist (heart physician), neurologist (nervous diseases specialist), surgeon for follow-up after surgery, or psychiatrist for mental health care, the clinic provider may need to refer the veteran to the VA medical center.

For many Veterans travel to the medical center can be a very complicated and sometimes arduous task, particularly if the Veteran lives in a very remote or rural area, an area with sometimes severe weather, or even an urban area where congestion and traffic makes travel difficult.

Some injuries such as traumatic brain injury or spinal cord injury further complicate travel. Travel time is time away from the Veteran's work or family.

VA is now recognized as one of the world leaders in this new area of health care. **Clinical Video Telehealth** (CVT) uses these telehealth technologies to make diagnoses, manage care, perform check-ups, and actually provide care.

TeleRehabilitation
The delivery of services using virtual linkages like using video teleconferencing to link a speech pathologist located at the urban VA medical center with a post-stroke Veteran patient located at the local VA community-based outpatient clinic, or using home telehealth technologies to connect with Veterans at home to monitor their functional status and equipment needs.

TeleSurgery
The main need via telesurgery is not for operative surgery support but for specialist consultation to remote sites. The diagnosis of surgical conditions, the coordination of care for many surgical conditions and the triage of surgical patients can be favorably influenced by the availability of telesurgical consultation. Additionally, the use of telehealth can provide intra-operative consultation, patient and staff education as well as pre- and post-operative assessment.

Additional Clinical Video Telehealth Specialties
We are continually adding new telehealth specialties as the technology improves, allowing us to integrate telehealth technologies into more areas of Veteran care.

TeleCardiology	TeleGenomics	TeleICU
TeleNeurology	TeleNutrition	TelePrimary Care
TelePulmonology (Sleep Services)	TeleRehabilitation	TeleAmputation Clinics
TeleKinesiology	TeleOccupational Therapy	TeleSpinal Cord Injury/Disorder
TeleMOVE!		

Reference:
http://www.telehealth.va.gov/real-time/index.asp

KentuckyOne Health Launching Telemedicine Program

If you're not familiar with **KentuckyOne Health,** the organization's mission is pretty simple.

- To provide better care to all Kentuckians, leading health providers have come together to form KentuckyOne Health.

To that end, KentuckyOne Health confirmed a new venture in the realm of telemedicine that will better serve residents of the Bluegrass State.

Through the program, Kentuckians will receive care over the phone or by Web cam for a **flat fee** of $35.

According to a local news report, the program – **Kentucky One Anywhere Care** – "will let patients call for care around the clock and be answered within 30 minutes with a phone call or video chat by a doctor or nurse practitioner."

The fee is $35 for each visit and is paid by patients whether they have insurance or not. The service will be available to KentuckyOne Health employees later this month, and to the public on Nov. 1.

Travis Burgett, KentuckyOne's director of strategy, tells the local press that the organization's service is likely to be used for routine conditions such as sinusitis, respiratory infections and urinary-tract infections.

Reference:
http://mhealthwatch.com/kentuckyone-health-launching-telemedicine-program-21699/

Mercy to Create 'Virtual Care Center'

St. Louis-based health system expects more than 3 million telehealth visits in the next five years.

Mercy will break ground on what it calls the first U.S. "virtual care center." The **St. Louis-based Catholic health system** estimates that the center will manage more than 3 million telehealth visits in the next five years.

Located in Chesterfield, Missouri, the four-story, 120,000-square-foot center will open in 2015 and accommodate nearly 300 physicians, nurses, specialists, researchers and support staff.

Care will be delivered 24/7 via audio, video and data connections to locations across Mercy as well as outside of Mercy through partnerships with other providers and large employers, according to a Mercy media release.

"Telemedicine will have a significant impact by letting virtual physicians and nurses be the first point of triage and care for patients in the hospital, emergency room or even at home."

Mercy is the sixth-largest Catholic health care system in the United States and includes 32 acute-care hospitals, four heart hospitals, two children's hospitals, three rehab hospitals, one orthopedic hospital, and 700 outpatient facilities in Arkansas, Kansas, Missouri and Oklahoma.

Reference:
http://www.healthcare-informatics.com/article/mercy-create-virtual-care-center

Mercy Partners with Philips to Increase Telehealth Services

Mercy's eICU command center in St. Louis enables critical care specialists to monitor patients and deliver 24/7 virtual care from hundreds of miles away.

Mercy, one of the earliest providers of telehealth for critical care in the U.S., and **Royal Philips** (NYSE: PHG, AEX: PHIA) today announced that they will collaborate to expand Mercy's telehealth services to include medical and surgical hospital units. Telehealth enables clinicians to remotely monitor and manage patients in any location and is one of the fastest growing care delivery models. Mercy is currently managing 430 intensive care unit beds with the **Philips eICU** program and multiple Emergency Departments with the **Philips Telestroke Program**, and will soon extend these services to medical and surgical hospital units.

As patient acuity in hospitals continues to increase, care of patients on medical and surgical units represents an area of substantial unmet need and consumption of health care resources. By 2017, Mercy is planning to provide the **Philips eAcute program** to 1,500 acute care beds not only within the Mercy system, but across the U.S.

The sixth largest Catholic health care system in the U.S., Mercy operates 32 hospitals and 300 outpatient facilities across Arkansas, Kansas, Missouri and Oklahoma, as well as outreach ministries in Louisiana, Mississippi and Texas. Mercy's eICU and telestroke programs have been supported by Philips technology since 2006. The positive impact of telehealth on length of stay, readmissions and patient safety is a game changer and why Mercy is expanding into acute care.

"We have never been more convinced of the power of telehealth to improve patient access and outcomes and reduce costs," said Lynn Britton, Mercy's president and CEO, who will be participating in the "Telemedicine's Expansive Potential" panel at this week's U.S. News & World Report's Hospital of Tomorrow conference in Washington, DC.

"Adding acute care telehealth services is a natural extension of our successful eICU and telestroke programs and will allow us to support our mission to provide quality care to patients in need, regardless of location."

In addition to bi-directional audio and video access in patient rooms, the program will include several key features that address:

- Readmissions reduction – Recorded discharge instructions, uploaded into a patient engagement portal to reinforce self-care and adherence to therapies at home.
- Increased patient safety – Automated monitoring of vital signs with remote triggers around early warning signs, to avoid complications, including cardio-pulmonary arrest.
- Increased patient satisfaction – Video visitation, enabling patients to easily interact with family members and friends.
- Clinical best practices – Including early detection of sepsis, pressure ulcer management and fall prevention.

Mercy's acute care program is designed to complement its home care technology provided by Philips, all of which will be critical components of the Mercy virtual care center, one of the first freestanding facilities of its kind in the U.S. The center will be staffed by hundreds of health care providers linked electronically to Mercy and other partner hospitals, via telehealth technology.

"With the right leadership, people and processes in place, Mercy has become a model for how to roll out a coordinated telehealth strategy that truly changes the way patients receive care," said Brian Rosenfeld, M.D., Vice President and Chief Medical Officer, Philips Healthcare Hospital to Home. "Our acute care program builds on the success we've had in the ICU, Emergency Department and the home, and we will continue to partner with leading health systems like Mercy to expand telehealth programs across the country."

For more information on Philips **Hospital to Home** coordinated telehealth programs, please visit:
http://www.hospitaltohome.philips.com/

About Royal Philips
A diversified health and well-being company, focused on improving people's lives through meaningful innovation in the areas of Healthcare, Consumer Lifestyle and Lighting. Headquartered in the Netherlands, Philips posted 2012 sales of EUR 24.8 billion and employs approximately 114,000 employees with sales and services in more than 100 countries. The company is a leader in cardiac care, acute care and home healthcare, energy efficient lighting solutions and new lighting applications, as well as male shaving and grooming and oral healthcare.

About Mercy
Mercy, with one of the largest single-hub electronic ICU programs in the nation, launched one of the first comprehensive, integrated electronic health records in the country. In addition, Mercy is the first Epic user in the country to implement EHR-automated care paths, including the development of a virtual sepsis unit that automatically searches for more than 800 warning signs and greatly reduces mortality, length of hospital stay and costs. As part of building a new model of care, Mercy has also developed one of the world's top 10 health care supply chains.

Reference:
https://www.mercy.net/newsroom/2013-11-05/mercy-teams-up-with-philips-to-launch-telehealth-services

Neonatal Telemedicine Program Takes Off at Children's Medical Center, Dallas

As part of its telemedicine initiative, the 595-bed Texas-based **Children's Medical Center Dallas** deployed the **teleNICU (neonatal intensive care unit)** in 2013 in order to meet the demand for access to pediatric subspecialists, which is a problem in the state.

The Children's Medical Center NICU unit is designated as a Level IV NICU—the highest possible rating, which means that Children's is equipped and staffed to care for the most fragile patients with complex medical conditions, Blythe says. "Children's teleNICU program is unique in that it is not just a videoconferencing system between patients and doctors—the program consists of fully dedicated neonatologists that are on call 24/7 for telemedicine consults.

Additionally, the technology and equipment used within the program allows Children's to connect and consult with other hospital NICUs located anywhere within Texas and beyond.

Reference:
http://www.healthcare-informatics.com/article/innovator-semifinalist-team-neonatal-telemedicine-program-takes-children-s-medical-center-da

Mississippi Launches Statewide Telehealth Initiative, focused on Local Diabetes Patients

Mississippi Governor, Phil Bryant announced a new statewide telehealth effort focused on local diabetes patients.

Bryant said the **Mississippi government**, the **University of Mississippi Medical Center**, **GE Healthcare**, **North Sunflower Medical Center**, and **wireless company, C Spire** will team together to use telehealth technology to treat "200 of the most complex diabetes patients in the Mississippi Delta." The initiative is being called the **Mississippi Diabetes Telehealth Initiative.**

According to Bryant, "This coordinated care approach will improve disease management and health outcomes for generations to come."

In a press release from **CareInnovations, which is a GE and Intel company**, stakeholders revealed that the diabetes telehealth network will recruit patients this spring in the Mississippi Delta to participate in the 18-month remote care management program.

The technology, from CareInnovations, will be able to allow patients to share health data, such as weight, blood pressure, and glucose levels, daily with clinicians from the University of Mississippi Medical Center (UMMC).

"We will bring UMMC's specialists, including the pharmacist, the diabetic educator, the nurse, the endocrinologist and the ophthalmologist, to the Mississippi Delta through this technology."

"We will be able to provide interactive video consults, deliver patient education, and engage with the patient daily to meet their needs.

Reference:
http://www.healthcare-informatics.com/news-item/mississippi-governor-launches-statewide-telehealth-initiative

Optimizing ICU Care With Advanced Telemedicine at Baptist Health, Little Rock

Intensive care units (ICUs) cater to patients with the most severe and life-threatening illnesses and injuries that require constant, close monitoring and support. Staffed by highly-trained doctors and critical care nurses who specialize in caring for seriously ill patients, ICUs admit some five million adults every year in the United States.

ICUs are said to account for up to 30 percent of a hospital's costs, and the burden is expected to grow over the next few decades.

Enter **eICU technology**, which can provide care to patients in multiple hospitals, with the goal to optimize clinical expertise and facilitate 24-hour-a-day care by ICU caregivers, whether the caregivers are down the hall from the patient that's being monitored or in another city.

According to statistics, in the U.S., more than 300 hospitals in more than 40 health systems across 34 states take advantage of eICU services. Adoption levels are sometimes lower in rural areas, but that number is expected to rise as rural healthcare customers get access to high-speed Internet service.

In Arkansas, on the sixth floor of the Baptist Health Eye Center building on the Baptist Health Medical Center-Little Rock (BHMC) campus, eICU technology is one of the latest advancements that allows for patient monitoring of critical care units throughout the system.

The **eICU control center acts as an air traffic control center**, giving the ICU staff an extra set of eyes and ears, says Vicki Norman, R.N., director of eICU care at Baptist Health, which includes eight Arkansas medical centers. **Baptist Health** eICU care contracts with 20 hospitals and 223 beds, over two states. Seven of the 20 hospitals are part of the Baptist Health system and 13 are hospitals outside the Baptist Health system, Norman says.

The two-way video and "cockpit-like sensors" of this technology enable the *e*ICU care staff to detect even the slightest change in the patient's condition and communicate more effectively with the bedside team to reduce the time between problem identification and intervention.

At Baptist Health, physicians and nurses are staffed in the eICU control center and act as additional support to monitor critical care patients, and provide faster response times through use of computer technology as well as audio and video components. Norman says there is a staff of 15 critical care physicians and 25 critical care nurses in the control center, of who average 20 to 25 years of experience. With the eICU technology, every critical care room will be equipped with a **camera as well as a microphone and speaker** that enable staff in the control center to communicate with staff and even the patient in the room. If the camera is turned on to monitor the patient, a bell rings and the camera rotates to indicate that it is in use.

The key element to the eICU control center is the software from the **Andover, Mass.-based Philips** that enables the physician and nurse team to monitor every critical care patient at once. The software's **Smart Alert automated monitoring and notification system** continually analyzes data on patients to pick up problems on the front end long before they could be noticed physically. "The patient's information is put into our **electronic medical record (EMR**), and then our software runs screens in the background looking for trends over time, and lab results and vital signs, all specific based on diagnosis, age, pre-existing conditions, etc.," says Norman.

"We get a signal, we put on our headset, and in matter of seconds, we have a caregiver who can be virtually at the patient's bedside," says Norman. Previously, she explains, the staff in the ICU would have to go through a paging or answering service, which could take five minutes, 15 minutes, or an hour or more if the caregiver may not be able to come right away if he or she is in another surgery.

Reference:
http://www.healthcare-informatics.com/article/optimizing-icu-care-advanced-telemedicine-baptist-health

UCLA Telemedicine Program Helps Rebuild Wounded Warrior's Bodies--and Lives

For the last six years, military personnel who have sustained severe facial and other injuries have had access to some of the nation's best plastic and reconstructive surgeons while receiving ongoing care at home through telemedicine. The program, called **Operation Mend**, initially focused on secondary facial reconstruction of severely burned soldiers, who often must undergo dozens of surgeries.

"When we're doing a complicated hand or facial surgery, we keep them for a week and then they go home to San Antonio.

"They are 1,000 or 1,500 miles away from us. If they have issues, they can't easily return for a visit. Instead, they are seen by a nurse practitioner or a surgeon colleague at Brooke who chats with them and gets the story of what's going on."

The program is a partnership between **UCLA Health**, **Brooke Army Medical Center** (AMC), a burn and rehab hospital in **San Antonio** and the **Veterans Administration Greater Los Angeles Healthcare System**. Recently, the partnership expanded to include Fort Irwin in rural California and may soon connect other Army bases to the health system's specialists.

With physicians at both UCLA and Brooke invested in patients' outcomes, the teams initiated monthly video conferences to stay on top of emerging issues in patient recovery. "It's important to keep open the lines of communication. We can communicate directly, which allows us to maintain focus on the goal of delivering quality healthcare and build personal relationships."

Reference:
http://www.fiercehealthit.com/special-reports/ucla-health-operation-mend-telemedicine-program-helps-rebuild-warriors-bodies-and-lives

UCLA Health's Operation Mend, a program that provides military personnel returning with severe facial and other medical injuries access to plastic and reconstructive surgeons, will now have use of a telehealth system, thanks to a **gift from Lockheed Martin**.

The Bethesda, Md.-based company has donated $4 million to UCLA Health for the **telehealth suite**, which will allow for a "new benchmark" for face-to-face telecommunications. The non-profit endeavor has had the benefit of telehealth in the past, but the three 65-inch screens with simultaneous high-definition video streams enhances those capabilities. The system also gives UCLA personnel the ability to edit, manipulate and add to shared content through the use of a high-tech touch panel for optimal collaboration with colleagues and patients.

Reference:
http://www.healthcare-informatics.com/news-item/ucla-health-s-operation-mend-gets-telehealth-boost

Dartmouth-Hitchcock Health Care System and Mayo Clinic Collaborate to offer Telestroke Services

For someone who is having a stroke, minutes can mean the difference between life and death. Studies have shown that prompt access to a vascular neurologist, as well as quick administration of a thrombolytic drug like tPA, can vastly reduce mortality or the long-term disabling effects of a stroke. Yet many hospitals, particularly in rural regions, do not have a stroke specialist or are unable to provide around-the-clock stroke coverage.

To address this problem, **Dartmouth-Hitchcock (D-H)**, in collaboration with the **Mayo Clinic Arizona**, offers a **Telestroke program**. As a partner in the D-H Telestroke program, community hospitals in our region have 24/7 access to attending vascular neurologists who can provide patients with a real-time neurological assessment.
Overview

In telestroke care, specialists at a distance use telehealth video technology to communicate with the emergency room team, examine the patient, interpret the brain images, confirm the diagnosis, and provide recommendations just as if they were at the bedside. This thorough evaluation determines the most immediate and best treatment plan for the patient.

Research has shown that telestroke programs improve outcomes, reduce patient risks, decrease ambulance transport, shorten hospital stays and lower costs through more timely and accurate diagnosis.

Reference:
http://med.dartmouth-hitchcock.org/telehealth/stroke.html

Walgreens Expands Telehealth Platform to Offer Virtual Doctor Visits Through MDLIVE via Walgreens Mobile App

Collaboration Aims to Transform Retail Digital Healthcare Delivery

Walgreens, the nation's largest drugstore chain, and **MDLINE**, the nation's leading provider of telehealth services, today introduced a new telehealth offering that will give Walgreens website users 24/7 access to U.S. board-certified doctors through its mobile application. With today's launch, the service is now available to users in California and Michigan, with plans to rollout to additional states and markets over time.

- Note: The service is now available in California, Michigan, Colorado, Illinois, and Washington.
- $49.00 per visit

Available in both **iOS** and **Android** versions of the **Walgreens mobile app**, the first-of-its-kind platform enables users to consult virtually with MDLIVE physicians for a range of acute conditions.

"Offering mobile and virtual access to board-certified doctors is a natural extension of the robust range of health services that Walgreens already offers," said Dr. Harry Leider, chief medical officer, Walgreens. "We're delighted to work with MDLIVE to provide our patients with a leading telehealth solution that will allow them to conveniently address their health conditions and needs with a medical professional."

Last year, Walgreens launched its **Pharmacy Chat feature**, which allows users to chat live 24/7 with members of its pharmacy staff, as part of its telehealth platform. Today's announcement signifies an evolution and expansion of the platform by adding virtual doctor visits and ultimately, the program allows for adaptation based on varying customer needs and provides increased access to care.

As connected and convenience-driven consumers are turning to telehealth as their choice to access health care services, the availability of MDLIVE via the Walgreens mobile application further strengthens both organizations' aim to bring quality health care that is convenient and affordable to everyone, anytime, anywhere. The initiative demonstrates Walgreens commitment to health care innovation and consumer engagement while introducing virtual health visit technology through MDLIVE and empowers consumers with greater access to immediate care.

"We are thrilled to work with Walgreens to offer consumers more choice for convenient, quality and cost-effective care," said Randy Parker, CEO of MDLIVE. "For the first time, a drugstore's website and mobile app users can share the convenience of accessing a board-certified doctor who can also e-prescribe medication when appropriate, via a secure, online video platform."

About MDLIVE

Founded in 2009, MDLIVE is a leading provider of telehealth services providing telehealth, online and on-demand healthcare that benefits consumers, employers, payers, hospitals, physician practice groups and accountable care organizations. Headquartered in **Sunrise, Florida, MDLIVE** works with Board Certified physicians and therapists, nationwide to provide 24/7 connected care.

The company's cloud-based Virtual Medical Office software platform makes it possible for patients, healthcare professionals and plan administrators to collaborate seamlessly and securely via voice, video, email and mobile devices. Payers and providers can also utilize the HIPAA and PHI-compliant system to collect and share clinical data from patient medical records, lab results and in-home biometric devices for real-time risk assessments, wellness advice, diagnosis and treatment.

About Walgreens

As the nation's largest drugstore chain with fiscal 2014 sales of $76 billion, Walgreens vision is to be America's most loved pharmacy-led health, wellbeing and beauty enterprise. Each day, in communities across America, more than 8 million customers interact with Walgreens using the most convenient, multichannel access to consumer goods and services and trusted, cost-effective pharmacy, health and wellness services and advice.

Walgreens scope of pharmacy services includes retail, specialty, infusion, medical facility and mail service, along with online and mobile services. These services improve health outcomes and lower costs for payers including employers, managed care organizations, health systems, pharmacy benefit managers and the public sector.

The company operates 8,229 drugstores with a presence in all 50 states, the District of Columbia, Puerto Rico and the U.S. Virgin Islands. Walgreens digital business includes Walgreens.com, drugstore.com, Beauty.com, SkinStore.com, and VisionDirect.com. Walgreens also manages more than 400 Healthcare Clinics and provider practice locations around the country.

Reference:
http://news.walgreens.com/press-releases/walgreens-expands-telehealth-platform-to-offer-virtual-doctor-visits-through-mdlive-via-walgreens-mobile-app.htm

How CVS uses Telehealth, EHRs to Improve Patient Care

While telemedicine and electronic health records are helping health providers to improve the quality of care delivered to patients, they also are helping pharmacy retailers stake a legitimate claim in the industry, according to Tobias Barker, vice president of medical operations for **CVS MinuteClinic**. MinuteClinic already boasts 1,000 sites in 32 states, and by 2017, that number will be 1,500. Telemedicine, he said, is a big reason why.

Each clinic, he said, has a virtual waiting room equipped with high-definition video and audio tools. Patients who opt for treatment via telemedicine can then be seen by any other available MinuteClinic provider within the same state. A **licensed vocational nurse acts as a remote physician's hands**.

Reference:
http://www.fiercehealthit.com/story/how-cvs-uses-telehealth-ehrs-improve-patient-care/2015-08-14

CVS and IBM Collaborate to Improve Care Management

Drug store employees to use Watson technology to guide patients

CVS Health and IBM have teamed up to combine **predictive analytics and Watson technology** to improve care management services for patients suffering from chronic disease.

With Watson's cognitive computing capabilities, it can digest vast amounts of information and continuously learn, enabling healthcare practitioners to quickly gain insights from a mix of health information sources such as electronic health records, pharmacy and medical claims information, environmental factors, and personal fitness devices, according to an IBM announcement.

The Watson technology will help CVS Health employees provide guidance to patients and work with primary care doctors to treat patients dealing with chronic diseases such as hypertension, heart disease, diabetes and obesity.

Reference:
http://www.fiercehealthit.com/story/cvs-ibm-collaborate-improve-care-management/2015-07-30

Cleveland Clinic Launches 24-Hour Telehealth Visits via Mobile App

Cleveland Clinic is now offering 24-hour telehealth visits that allows Ohio-based patients to receive urgent care consults via **smartphone**, **tablet or computer** for just $49 dollars. The new telemedicine service called **MyCareOnline** is provided through Cleveland Clinic's partnership with telehealth platform provider American Well.

"It's tremendously more convenient, because people can be seen from home or work," said Dr. Peter Rasmussen, the medical director for **distance health** at Cleveland Clinic in an official statement. "For certain conditions, there's no need to drive anywhere."

MyCare Online is designed to treat and diagnose acute symptoms such as cough, abdominal pain, diarrhea, fever and headaches. Depending on the seriousness of the symptoms, the medical provider can even prescribe medications. In comparison to the average urgent care visit which runs about $100, the $49 telehealth visit provides a low-cost solution for patients to quickly connect to medical providers anytime, anywhere.

Additionally, analytics have been pre-built into the platform to track and monitor how patients are accessing the service including the types of service requested, symptoms, length of consults and wait times. Rasmussen stated the analytics will also be utilized to determine the number of providers to make available for the service. The Clinic is in the process of training its own doctors and nurse practitioners on the platform and is expected to be online within the next month or so.

Cleveland Clinic has future plans to offer nutritional and pharmacist consults for medication advice, as well as behavioral health counseling through MyCareOnline.

Reference:
http://hitconsultant.net/2015/06/15/cleveland-clinic-launches-24-hour-telehealth-visits/

Google to Pilot Telehealth Services through 'Hangouts'

Google's next move into the healthcare market is a pilot program that will offer telehealth services to patients on its search engine. When looking for basic health information on certain conditions, an option for "talk with a doctor now" will be provided.

Google is working with **Scripps Health** and **One Medical Group** on the venture, which will initially be free to users through Google Hangouts. The company has not yet revealed how long the pilot will last.

Google's other forays into healthcare include a smart contact lens that monitors the glucose levels of patients with diabetes; a project that tracks the vital signs of health patients to compare with sicker patients; and **Calico**, a startup company with the goal of developing products that fight the physical and mental declines associated with the aging process.

Reference:
http://www.healthcaredive.com/news/google-to-pilot-telehealth-services-through-hangouts/320754/

Children with Type 1 Diabetes can use Social Media to Connect with Each Other for Support Group and Sharing

Gnanagurudasan Prakasam, M.D. a pediatric endocrinologist based in **Sacramento, Calif.**, is dealing with a critical, fragile patient population the same way most people connect with their long lost friend. He is doing it through social media.

As the medical director for the **Pediatric Endocrinology, Diabetes and Healthy Life Style program for children at the Sutter Medical Center** and the founder and president of the **Center of Excellence in Diabetes and Endocrinology** (both based in Sacramento), Prakasam has young patients whose lives are measured by the number of insulin shots they take. As he notes, if they miss one day of doses, the results could be severe.

Prakasam's vast life experiences--he is board certified in three countries: India, Canada, and the U.S.--have allowed him to think in a more nontraditional way. He has developed a social media program which connects his pediatric patients to each other for support.

What are you doing to connect with patients through social media?
I run one of the biggest Type 1 diabetes practices in the country. We have more than 1500 children coming as far as six hours away. Kids ranging from less than one years old up to 21 years of age. They have to live with diabetes. They have to take five shots of insulin per day. They have to check their blood sugar eight to ten times [per day]. That's the population they are. They are intensely monitoring it all the time. They live and breathe diabetes all of the time. If they missed insulin, even for a day, they can go into severe dehydration and up to a coma.

It's a unique patient population, it affects their day-to-day life from sports to school to their day care providers. Having them interconnected and supporting each other creates a better standard of living for them. With that in mind, about 15 years I started a listserv connecting these patients. About seven years ago, I switched over to using **multiple channels. I have YouTube videos, I tweet, I blog.**

The most important thing I do is I **interconnect these patients** so they can talk to each other on a regular basis. They talk about how they deal with this on a daily basis. They are supporting each other. For instance, when the parents are out of town and the kid is staying at the grandparents, they are on the phone supporting the grandparents. I'm the link between all these guys meeting each other on a consistent basis. They have developed relationships. As far I know, this is the only physician-run support group [connecting through social media].

What are the benefits of connecting with patients directly through this kind of platform?
It improves the quality of care significantly. These patients and their parents live under constant stress. Their life is occupied with diabetes. They are under constant pressure about managing their diabetes better. Any kind of support they get from the next family makes their life easy. If you go to the Facebook group, you'll see the kind of interaction we have going on. I have a paper coming out...it reveals that 78 percent of my patients said I take better care of them because of social media. Seventy eight percent. They think a physician takes better care of them because he is available on social media. They don't feel alone. They feel I'm with them all the time.

Why is it ideal for patients with pediatric diabetes?
The management is intense. Type 2 diabetes patients, if they forget to take their medicine, they're not going to land in the hospital. If they don't take care of it over a period of time, their health will deteriorate. Whereas, these patients, if they miss insulin, even for a single day, they can go as far as getting in a coma. It occupies their life. It drags on the family to have to live with that. They have to live and breathe every single day of their life. That's why it's important.

Reference:
http://www.healthcare-informatics.com/article/using-social-media-connect-young-diabetics

Virtual Clinic Solutions for Hospital Systems

June 4, 2015. **Carena, Inc**., a leading telemedicine provider, today announced **Cambia Health Solutions** and **McKesson Ventures** are joining **Catholic Health Initiatives (CHI)** and **Martin Ventures** in funding development of **Carena's Virtual Clinic solutions for hospital systems**. The partnership and funds totaling $13.3 million will accelerate the execution of Carena's strategy of providing telemedicine services to hospital systems.

Telemedicine continues to grow as a means to help health systems deliver care outside the traditional hospital and clinic settings. "Cambia and McKesson share our belief that building partnerships with local healthcare systems is the best way to provide high-quality telemedicine solutions for consumers," said Ralph C. Derrickson, CEO of Carena. "We are innovating from within healthcare systems to expand the brands consumers know and trust."

"Carena has experienced significant growth this year. We are on track to more than double our revenue in 2015 and continue to increase our customer base with valuable health system partnerships," Derrickson said. This new financing round follows Carena's recent announcement that four new health system partnerships launched in 2015: **UW Medicine in Seattle, WA**; **INTEGRIS Health in Oklahoma City, OK**; **Froedtert & the Medical College of Wisconsin in Milwaukee, WI**; and **Hospital Sisters Health System in Springfield, IL**. Additionally, two new health system partners, **University of Iowa Healthcare in Iowa City, IA** and **OSF HealthCare in Peoria, IL**, have launched virtual clinics in the past month.

"By investing in Carena, Cambia is supporting the expansion of Carena's innovative **virtual visit capabilities** to an increasing number of people nationwide," said Cambia Senior Vice President of Strategic Investment and Corporate Development Rob Coppedge. "Cambia is proud to support innovative healthcare solutions designed to provide consumers convenient, cost-effective, and integrated healthcare experiences."

"Carena enables health systems to extend their footprint to offer compelling virtual clinic services in their local markets. We expect this approach to telehealth to prevail by resonating most with patients, and Carena is the clear leader with this approach," said Tom Rodgers, SVP and Managing Director, McKesson Ventures.

Carena's virtual clinics extend health systems' services and build their reputation with top quality virtual care from board-certified clinicians. This model ensures convenience and affordability for the millions of patients who have access to these services. Visits via phone or the Internet typically last 20 minutes. Common conditions treated include cold, pink eye, cold sore, rash, flu, sore throat, and urinary tract infection. When asked, 97 percent of patients reported they would use the service again.

Adoption of telemedicine is gaining support from the investment community and policymakers. Telemedicine funding reached $300 million in aggregate in 2014, a 315 percent increase compared to the previous year, according to **Rock Health**.

In addition, with the passage of new legislation, 27 states and the District of Columbia now have laws in place designed to reimburse telemedicine in the same manner as in-person visits.

Reference:
http://www.businesswire.com/news/home/20150604005333/en/Carena-Secures-Backing-Cambia-Health-McKesson-Ventures#.VfV_xYfluM8

Telepharmacy Solution

July 7 2015. Medication management platform provider **PipelineRx** has completed a $9.1 million round of funding. The funding found was led by **Mitsui & Co**., and included **McKesson Ventures** and **AMN Healthcare**. PipelineRx plans to use the capital to bolster its offerings, including further support for **telepharmacy services for integrated delivery networks**. "Now more than ever, **IDN**s need tools that drive greater efficiencies and ensure pharmacists are appropriately focused on clinical performance and outcomes," said Tom Rodgers, senior vice president and managing director at McKesson Ventures, in a statement.

Reference:
http://www.beckershospitalreview.com/healthcare-information-technology/pipelinerx-raises-9m-for-telepharmacy-solution.html

Telemedicine in Pharmacy

… We view this increased online patient contact with healthcare professionals as a huge opportunity for pharmacists to expand their scope of supportive care via telemedicine. The **American Telemedicine Association** defines… telemedicine as:

> *"The use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smartphones, wireless tools and other forms of telecommunications technology."*

With the development of new technologies for home testing with remote monitoring, pharmacists can extend clinical services to patients remotely.

VitalPoint HOME in-home monitoring — monitors blood pressure, blood oxygen saturation, pulse rate, weight, glucose level, prothrombin time and ratios, temperature, fluid status, and electrocardiogram data, which are then available to clinicians in real time via laptop or cell phone.

Some of these vital signs are not necessarily something that a pharmacist can act on, but the availability of this data could certainly make it easier for the pharmacist to help care for the patient.

Avaya telehealth and home-care delivery — provides voice and video conference functionality for patients to interact with healthcare professionals. Patients using these products could benefit from interaction with a pharmacist.

A study funded by the **National Heart, Lung, and Blood Institute** is looking at **pharmacist telemonitoring** of patients' blood pressure compared to usual care by primary-care providers. Six months into the study the researchers found that "home blood pressure telemonitoring with pharmacist case management was effective at improving blood pressure control and at lowering blood pressure over six months."

Reference:
http://phsirx.com/wp-content/uploads/2013/05/Viewpoints_MarchApril_2013.pdf

Telemedicine: Pharmacy's Role

September 01, 2013. Telemedicine is based on three main distinctions: store-and-forward, remote monitoring, and real-time interactive services.

(1) Store-and-forward, or asynchronous, telemedicine can be equated to shared electronic health records that are safely transmitted between different members of the health care team as needed. With major transitions to electronic health records in physician practices and health centers already under way across the country, this exchange of patient information is quickly becoming a well-accepted and "normal" way to provide health care.

(2) Remote monitoring telemedicine (distant or hub site) involves one or more health professionals who use technological devices to continuously monitor a patient from a distance. A recent study in **JAMA** described the impact of using a home blood pressure monitoring device connected to a cloud in the treatment of patients with uncontrolled hypertension. Real-time data were transmitted to a pharmacist remotely, who would provide feedback to patients based on their blood pressure readings. Patients using the **telemonitoring** device were 90% more likely to have controlled blood pressure at the 6- and 12-month intervals, and these results persisted even after the 12-month mark. Although the intervention was expensive (averaging $1,350/patient), it has the potential to be cost-effective in the long run, bringing better control and preventing expensive hospitalizations and billions of dollars in direct medical expenses.

(3) Real-time interactive services provide patient interaction with health care providers in actual time, using either online video technology, online communication, or phone calls. Generally, both audio and video components are essential to qualify as a real-time interactive service eligible for reimbursement from payers such as Medicaid. Using such technology to provide patient consults may be cost-effective as face-to-face office visits prove to be more expensive and eventually may be a fading trade.

Future of telemedicine

> **Pharmacy has a role in the future of telemedicine. Medication therapy management, patient counseling, prior authorizations and refill authorizations, as well as the actual checking and dispensing of prescription medications, can all be done remotely by a pharmacist. These services can be more convenient for patients, especially in areas where pharmacy access is limited.**

Daniel Kraft, a physician, scientist, and inventor, hinted as much in a recent TED talk on the future of medicine. The use of robotics and communication technology may be used on an advanced scale well beyond what we currently imagine. Specialized surgeons may soon become available without patients needing to travel further than their local hospitals. In addition to delving into new, innovative technologies, we can also get creative in leveraging the use of existing technology.

Reference:
http://www.pharmacist.com/telemedicine-new-technologies-new-normal

Telemedicine Telehealth Companies and Organizations

(many have been mentioned in this report)

3CO Telemedicine
Advanced Monitored Caregiving (NYC-based)
Agnesium Health Care
Air Strip (acquired assets of Sense4Baby), wireless maternal / fetal monitoring system
Alliances for Connected Care – Washington, DC

AltruistaHealth (Reston, VA)
AT&T – Solutions for Healthcare, AT&T Connect
American Journal of Health-System Pharmacy – www.ajhp.org
American Telemedicine Association (ATA) – Washington, DC
American Well (Boston-based telehealth service provider)
Banner Health (Phoenix, Arizona)

BCC Research
Bosch Healthcare
CareAnywhere, Inc. (now part of Brightree, LLC)
Care Innovations (a GE – Intel company)
CareMore (a Medicare health payer) is centered on a model that provides proactive, risk-based care management plans to high-risk elderly population. Company has invested in several remote monitoring technologies as well as telemedicine to care for patients at home.

Carestream Health (Rochester, NY) – a platform to enable requests for distance consultation to be made easily from the remote test locations
CellTrak
Cerner's iOS 8 HealtheLife – Apple Watch app. Cerner Millenium electronic health record. Cerner Corporation
Cisco – Healthcare Solutions, Cisco WebEx
Cleveland Clinic (Ohio)
CVS

Doctor On Demand
Emergency Medical Physicians (Ohio based)
Emory University Hospital (Georgia), Emory University School of Medicine
Essentia Health
Fitbit
Fruit Street Health
Fuqua Center (Clinical Services for Older Adults), Atlanta, GA

GE Foundation
Geisinger Health Plan Telemonitoring program. Pennsylvania.
Google
Greater Baltimore Medical Center

HCA (Hospital Corporation of America – 163 hospitals in 20 states) using Cisco Webex (Meeting Center, Training Center, Event Center, Support Center)

Health Spot's virtual walk-in kiosks
Highmark (a health insurer) will cover teledermatology visits. Dermatology On Call. Iagnosis web-based platform
IBM (Watson)
iHealth Labs
InTouch Health (InTouch Technologies) (Virtual Care network)
InterCall
iPhone – for transmitting audio-visual information
Jawbone UP

Kaiser Permanente Northern California – virtual visits
Kentucky OneHealth to connect Psychiatric Patients with telemedicine Program (Saint Mary and Elizabeth Hospital Emergency Department) – provides a level of care assessment using a secure videoconferencing system.

Lancashire and Cumbria Cardiac and Stroke Networks, England
Lifesize
Massachusetts General Hospital
Mayo Clinic Health Connection and Health Spot platform (cloud based software and kiosk)
McKesson

MDLive
MedBridge (U-Sleep mobile app)
Mednax buys Virtual Radiologic
Medtronic
Michigan Pediatric Outpatient Weight Evaluation and Reduction CONNECT program

Mount Sinai Hospital (New York City)
Nuance Communications (which bought Accelarad)
Online Care Group – telehealth. Boston based
Onsteam Meetings
Optum's Now Clinic
Partners Healthcare (integrated healthcare system founded by Brigham and Women's Hospital and Massachusetts General Hospital in Boston) and Samsung Electronics – to develop new personalized digital and mobile health and wellness applications – remote monitoring and personal tracking applications

Philips (imaging specialist)
Polycom
Practice Fusion, a provider of cloud electronic health record (EHR) platform has acquired Ringadoc (mobile app that triages phone calls to doctor's office).
Premier, Inc. (Charlotte, NC)
Premier Global Services (PGi)
Qualcom Life, Inc. FDA listed 2net Platform and Hub

REACH Health
ReelDx (asynchronous video telemedicine), with medvid.io Platform
Royal Phillips (Netherlands-based)
Rush University Medical Center (Chicago)
Saint Luke's Health System (Kansas City) – 10 hospitals
Samsung Electronics

Specialists on Call
St. Christopher's Hospital for Children (Philadelphia)

Stanford Health Care's Cancer Center (California) and Samaritan Health Services (Corvallis Oregon) program
Stat Doctors – board certified emergency physicians (live video), virtual emergency care
State of Oregon

Sutter Medical Center (Sacramento, CA)
Tandberg

Teladoc (Dallas-based telehealth co.)
TeleHealth Robotics
Telemedicine Technology
TouchCare – telehealth app. Mobile video platform. Durham NC based

UCLA Health
United Healthcare
University of Arkansas provides telemedicine support to high-risk pregnant mothers in Oklahoma. University of Arkansas Center for Distance Health.
University of California – Davis Health System

University of Illinois at Chicago (mHealth research) "Effects of Home Telemonitoring Intervention on Patients with Chronic Heart Failure")

University of Michigan's C.S. Mott Children's Hospital
University of Mississippi Diabetes Telehealth Network.
University of New Mexico Health Sciences Center (TeleECHO clinics), ECHO = Extension for Community Healthcare Outcomes) – Project ECHO
University of Utah's Obstetrics & Gynecology
USDA's Rural Utilities Services Distance Learning and Telemedicine Program

vGo (telepresence)
Video Conferencing
Vinfen (Health Buddy Telehealth System) - http://www.healthcare-informatics.com/blogs/rajiv-leventhal/spreading-holiday-cheer-telehealth-buddy-system
VSee.com (telemedicine video engine)
Walgreens

Welch Allyn iExaminer, works with iPhone 4 and 4S, Retinal PhotoApp for iPhone (FDA approval) – smartphone-based system
Westchester NY Medical Center Health Network
Withings
Zoom Video Communications