



Dialing in a solution to help dial back health costs — the rise of telemedicine

Changing the health care conversation

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Waiting is a big obstacle in health care

You wait at the emergency room. You wait all weekend for your doctor's office to open on Monday morning. You wait when your doctor is on vacation or booked for the week — or the month. Waiting is inevitable, but waiting too long can make a health issue worse, wear on an employee's nerves and decrease employee productivity.

Telemedicine puts health care a phone call or video conference away 24/7

Telemedicine is not new, but it's gaining popularity in an increasingly digital world. Fifteen million people used telemedicine in 2015. That's up 50 percent from 2013, according to the American Telemedicine Association.¹

Imagine reaching a doctor, nurse practitioner or physician assistant by phone or video. Telemedicine offers easier access to health care when seeing a doctor in person is not necessary or convenient.

¹Gumpert, Kylie. Telehealth services becoming popular with US consumers and insurers. Reuters. December 23, 2015. Available at <http://www.reuters.com/article/usa-healthcare-telemedicine-idUSL1N14B20B20151223>. Accessed July 14, 2016.

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Telemedicine can lower costs and save time

Many employers offer telemedicine with their employee health plan. A survey by the National Business Group on Health found that 70 percent of large employers offered telemedicine in 2016, and 90 percent plan to offer it in 2017.² Telemedicine can save employers money and help employees spend less time away from work.

Telemedicine offers:

Lower costs

Visits to an emergency room or doctor's office can be unnecessary and expensive. With telemedicine, a health care provider can evaluate and treat many issues by phone or webcam. That can save a business thousands or millions of dollars across its workforce.

Less time

Employees can contact a telemedicine provider and have a prescription in hand in far less time than missing work to travel to a doctor's office and sit in a waiting area for the doctor. This saves time for employees and avoids lost productivity.

Lower workers' compensation risk

Employers can use telemedicine to triage work-related injuries. For example, a telemedicine nurse or doctor can determine if a burn needs an antibiotic to prevent infection. Telemedicine to triage work injuries helps avoid unnecessary employee absence for evaluation at an emergency room and can reduce unnecessary reporting of injuries to the United States Occupational Safety and Health Administration.

Telemedicine can save companies more than
\$6 billion
 a year in health care costs.⁴

The most common diagnoses treated via telemedicine³

Sinus infection..... **20 percent**
 Cold, flu, whooping cough **12 percent**
 Bladder infection, urinary tract infection **6 percent**

Respiratory condition **5 percent**
 Eye infection, pink eye, sty..... **3 percent**
 Skin inflammation, rash, shingles..... **3 percent**

Telemedicine calls cost \$40 to \$50, according to a study by Red Quill Consulting. That's far less than the estimated cost for other health care services: \$1,595 for the emergency room, \$116 for an urgent care clinic and \$98 for a physician's office. Red Quill's study also reports that the resolution rate for telemedicine is 83 percent, meaning that less than one in five patients requires follow-up care.³

Telemedicine can save companies more than \$6 billion a year in health care, according to Willis Towers Watson, a professional services consulting company. "While this analysis highlights a maximum potential savings, even a significantly lower level of use could generate hundreds of millions of dollars in savings," said Dr. Allan Khoury, a senior consultant at Willis Towers Watson.⁴

Employees often go to the emergency room for non-urgent health issues. A survey by the Centers for Disease Control and Prevention found that 79 percent of adults visited the emergency room due to lack of access to other providers. Visiting the emergency room because the doctor's office was closed accounted for 48 percent of emergency room visits.⁵

²Large Employers' 2017 Health Plan Design Survey. National Business Group on Health. August 2016.

³Yamamoto, Dale H. Assessment of the feasibility and cost of replacing in-person care with acute care telehealth services. Red Quill Consulting, Inc. December 2014. <http://www.connectwithcare.org/wp-content/uploads/2014/12/Medicare-Acute-Care-Telehealth-Feasibility.pdf>. Accessed May 26, 2016.

⁴Current telemedicine technology could mean big savings. Willis Towers Watson. August 11, 2014.

Available at <https://www.towerswatson.com/en/Press/2014/08/current-telemedicine-technology-could-mean-big-savings>. Accessed May 31, 2016.

⁵Gindi, Renee M., PhD; Cohen, Robin A., PhD; Kirzinger, Whitney K., MPH. Emergency room use among adults aged 18–64: Early release of estimates from the National Health Interview Survey, January–June 2011. National Center for Health Statistics, part of the Centers for Disease Control and Prevention. May 2012. Available at http://www.cdc.gov/nchs/data/nhis/earlyrelease/emergency_room_use_january-june_2011.pdf. Accessed May 31, 2016



More convenient and efficient service, more productive employees

This example shows how telemedicine increases productivity:

Karen* works in a warehouse packaging goods for online purchases. At optimum health, she completes 10 orders per hour, for a total of about 70 orders per day. How many orders she completes per hour is significant to her job performance. Somehow she developed a persistent cough. Constant coughing and chest soreness disrupts her work and has decreased her order completion rate per hour from 10 to 7 for a total of about 49 orders per day. That's 21 orders per day that are not filled. If the cough persists for five days with no treatment, the loss of orders reaches 105. Karen's employer has to spend resources, such as overtime pay to other employees, reallocating work or putting other projects on hold, to compensate for Karen's lost productivity.

Karen calls her doctor for an appointment, but the doctor is booked for the next four days. She cannot wait that long. The next closest doctor is booked for the next three days, but that is still too long to wait, and the doctor's office is 50 minutes away. Driving there, waiting in the office and driving back requires at least half a day absence from work. Karen already used her sick days for the year when she had the flu. She has two children, and the thought of missing work without pay makes her even more stressed. Her company also would have to find someone else to fill 35 orders while she is out for half a day. She could go to the emergency room, but her cough is annoying, not an emergency, and she might sit in the waiting room for hours. The closest urgent care clinic is more than an hour away.

Instead, Karen contacts the telemedicine vendor offered by her health insurer while she is on her lunch break. Through a detailed patient history and virtual assessment done via webcam, a doctor evaluates Karen's cough, diagnoses the problem and prescribes medication. The telemedicine doctor sends a prescription electronically to Karen's pharmacy. She picks up the prescription on her way home at the end of the day, misses no time from work and her productivity does not go lower than 7 orders per hour and will soon be back at the optimal number of 10.

Karen's employer has to spend resources, such as overtime pay to other employees, reallocating work or putting other projects on hold, to compensate for Karen's lost productivity.

*For illustrative purposes only. Karen is representative of a typical caller.



Lower costs, higher productivity

By offering telemedicine, one national furniture and electronics retailer saved more than \$777,000 over 16 months in visits to emergency rooms, primary care doctors, urgent care centers and specialists, as well as in productivity that would have been lost, according to the publication *Workforce*.⁶

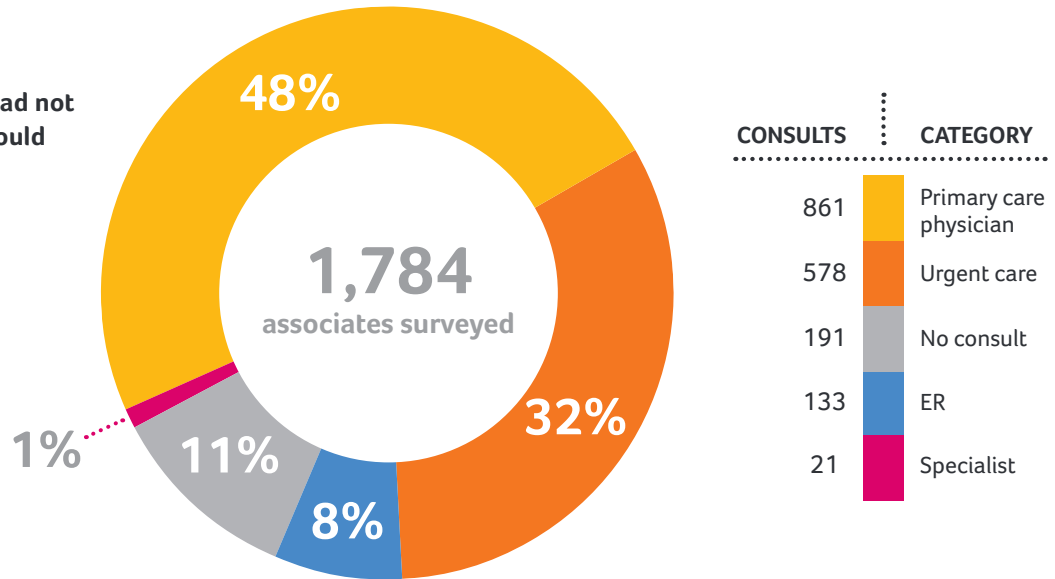
Penske, a transportation services company, saved approximately \$335,000 in health care costs and \$109,000 in productivity costs from 1,784 telemedicine consults over 12 months provided by Teladoc®.⁷

⁶Ladika, Susan. Hello, doc? With telemedicine, medical help is just a phone call away. *Workforce*. August 9, 2012. Available at <http://www.workforce.com/2012/08/09/hello-doc-with-telemedicine-medical-help-is-just-a-phone-call-away/>. Accessed May 31, 2016.

⁷Feifer, Richard, MD, MPH, Aetna; O'Neill, Joe, vice president of compensation and benefits, Penske Truck Leasing; June, Ryan, director of healthcare analytics, Teladoc. Leveraging telemedicine to improve access to care, reducing absence, and controlling costs. Presented at Integrated Benefits Institutes Annual Forum in San Francisco. March 17, 2015. Data analysis performed by Aetna informatics and Teladoc on source data from Aetna and Penske's Aetna self-insured health plan members.

Savings analysis: Penske⁸

If Penske associates had not used Teladoc, what would they have done?



What would it have cost per consult?

	Specialist	ER	No consult	Urgent care	Primary care physician
COST	\$1,064	\$145	\$121	\$96	\$40
SAVINGS	\$136,192	\$2,205	\$46,818	\$48,216	\$40

\$40
TELADOC visits

How much did Penske save by using Teladoc?

\$127

Average savings per consult with Teladoc

\$109,535

Increased productivity savings

\$335,326

Total 12-month savings*

*Represents gross savings and does not consider the administrative fees associated with the service.

⁸Feifer, Richard, MD, MPH, Aetna; O'Neill, Joe, vice president of compensation and benefits, Penske Truck Leasing; June, Ryan, director of healthcare analytics, Teladoc. Leveraging telemedicine to improve access to care, reducing absence, and controlling costs. Presented at Integrated Benefits Institutes Annual Forum in San Francisco, March 17, 2015. Data analysis performed by Aetna informatics and Teladoc on source data from Aetna and Penske's Aetna self-insured health plan members.

Telemedicine for your mind

Telemedicine is not just for physical ailments. AbleTo, for example, offers licensed behavioral health therapists by phone or video to treat depression, anxiety and stress, which can all stem from medical conditions, such as chronic pain and diabetes.

Telemedicine therapy for depression is on par with in-person treatment. A study in *The Lancet Psychiatry* found no significant difference in treatment for depression when comparing 121 veterans treated in person with 120 veterans treated by telemedicine. Both groups received eight therapy sessions. The United States Department of Veterans Affairs funded the study.⁹

Depression hits the economy hard. The value of work days missed (called absenteeism) and reduced productivity while at work (called presenteeism) because of people suffering from depression reached \$102 billion (inflation adjusted dollars) in 2010, according to a study in *The Journal of Clinical Psychiatry*.¹⁰

Telemedicine for behavioral health is ideal for people who prefer not to seek counseling in person, because they worry about the stigma of behavioral health. Telemedicine via phone or video from one's home might encourage people to seek help when they otherwise would not.

Telemedicine for your skin

Telemedicine is also promising for dermatology, which often leaves people waiting a long time to see a doctor or forces people in rural areas to travel far for care. The average wait time to see a dermatologist across 15 metropolitan markets in the United States was 28 days in 2013, up from 22 days in 2009, according to a study by Merritt Hawkins, a job placement company for physicians.¹¹ The United States Department of Veterans Affairs developed one of the largest teledermatology programs in the United States to increase access to dermatology care for veterans.¹² A study at the Hospital of the University of Pennsylvania and published in *JAMA Dermatology* concluded that teledermatology is reliable for the initial triage of inpatient dermatology consultations at an academic medical center and may increase efficiency.¹³

Aetna conducted a teledermatology pilot study comparing a group of people who used teledermatology with a group of people who received in-person dermatology care for the same diagnosis. After the first interaction, the teledermatology group used dermatology care almost 2.9 times less over 90 days for additional dermatology services and follow-up visits beyond the initial problem compared to the in-person group. This resulted in fewer procedures and reduced dermatology spending by \$221 per person on average. Also, from the time patients initiated teledermatology care, on average their consultation was completed within 24 hours.¹⁴

Among **546** people who completed an AbleTo behavioral health program:¹⁵

Absenteeism decreased
61%

Presenteeism and impaired activity each decreased
44%

⁹Egede, Leonard E., MD; Acierno, Ron, PhD; Knapp, Rebecca G., PhD; Lejuez, Carl, PhD; Hernandez-Tejada, Melba, DHA; Payne, Elizabeth H., MS; Frueh, B. Christopher, PhD. Psychotherapy for depression in older veterans via telemedicine: a randomised, open-label, non-inferiority trial. *The Lancet Psychiatry*. July 16, 2015. Available at <http://www.thelancet.com/action/showFullTextImages?pii=S2215-0366%2815%2900122-4>. Accessed July 14, 2016.

¹⁰Greenberg, Paul E., MS, MA; Fournier, Andree-Anne, MA; Sisitsky, Tammy, MA; Pike, Crystal T., MBA; Kessler, Ronald C., PhD. The economic burden of adults with major depressive disorder in the United States (2005 and 2010). *Journal of Clinical Psychiatry*. February 2015; Volume 76 (Number 2): 155-162. Available at <http://www.psychiatrist.com/jcp/article/Pages/2015/v76n02/v76n0204.aspx>. Accessed July 14, 2016.

¹¹2014 Survey of Physician Appointment Wait Times and Medicaid and Medicare Acceptance Rates. Merritt Hawkins, an AMN Healthcare company. Available at <http://www.merrithawkins.com/uploadedfiles/merrithawkins/surveys/mha2014waitssurvpdf.pdf>. Accessed October 27, 2016.

¹²Landow, Shoshana M.; Oh, Dennis H.; Weinstock, Martin A. Teledermatology Within the Veterans Health Administration, 2002-2014. *Telemedicine and e-Health*. October 2015; Volume 21 (Number 10): 769-773.

¹³Barbieri, John S.; Nelson, Caroline A.; James, William D., MD; Margolis, David J., MD, MSCE, PhD; Littman-Quinn, Ryan; Kovarik, Carrie L., MD; Rosenbach, Misha, MD. The Reliability of Teledermatology to Triage Inpatient Dermatology Consultations. *JAMA Dermatology*. April 2014; Volume 150 (Number 4): 419-424. Available at <http://jamanetwork.com/journals/jamadermatology/fullarticle/1829638>. Accessed October 27, 2016.

¹⁴Aetna internal study conducted in 2015.

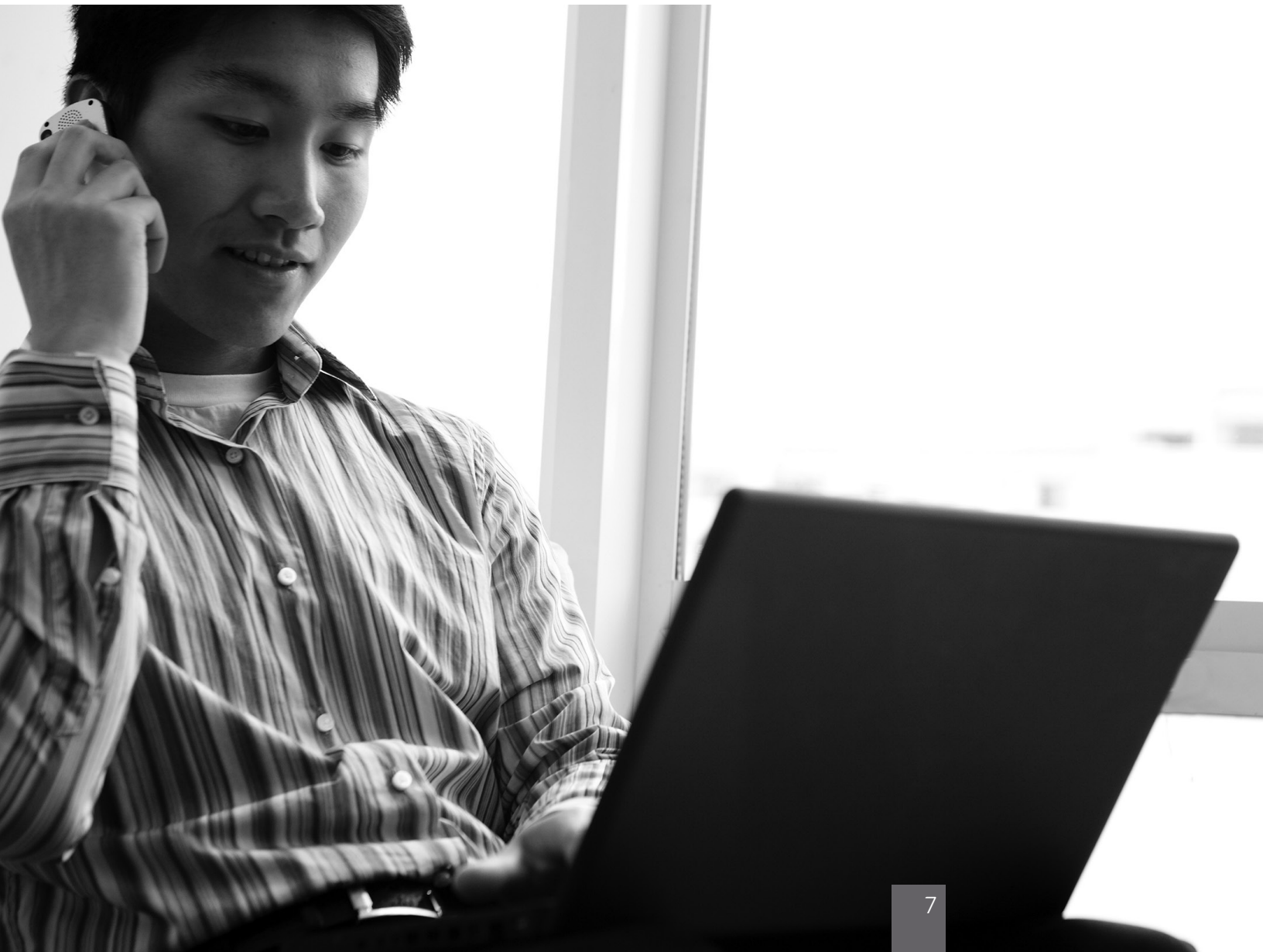
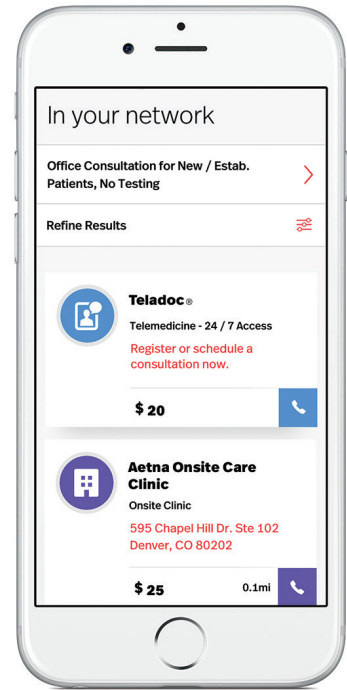
¹⁵Study by AbleTo (2016). Led by Heidi Greenberger, Ph.D., director of clinical research, AbleTo. Data represents mean individual percent change in work productivity and activity impairment scores among a cohort of 546 employed Aetna-AbleTo program graduates with baseline absenteeism (n=124), presenteeism (n=301), and/or activity impairment (n=362).

Technology is a shot in the arm for telemedicine

Doctors and patients can communicate and share information today more easily than ever thanks to robust technology. They can exchange photos of wounds, for example, with pinpoint detail in seconds. They can talk face-to-face in real time high-definition video over a high-speed Internet connection using a cell phone or tablet.

Aetna's online tools help people determine when telemedicine is appropriate for a health care issue and compares prices for health services provided by telemedicine, a local doctor's office or a local clinic. This way people can make informed decisions about their health care and spending.

Aetna's online tools help people determine when telemedicine is appropriate



Telemedicine for the future

Telemedicine addresses three health care pain points: access, time and cost. Office visits to primary care physicians is projected to increase from 462 million in 2008 to 565 million in 2025, according to an article in the *Annals of Family Medicine*.¹⁶ Employers can decrease health care costs significantly by turning in-person visits into telemedicine visits when possible and appropriate.

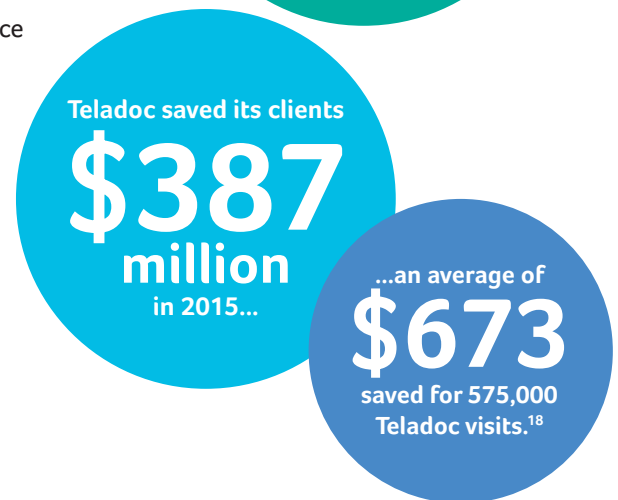
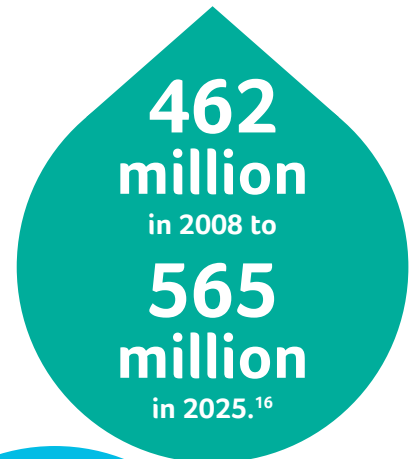
The American Medical Association (AMA) adopted new telemedicine ethical guidelines in 2016 to help physicians understand how their fundamental responsibilities may play out differently when patient interaction is through telemedicine, compared to traditional patient interaction at an office or hospital.¹⁷

“The new AMA ethical guidance notes that while new technologies and new models of care will continue to emerge, physicians’ fundamental ethical responsibilities do not change,” said Jack Resneck, MD, of the AMA board of trustees.¹⁷

Teladoc reached one million calls from 2010 to 2015 and had no malpractice claims during its first one million calls.¹⁸

Telemedicine is growing, because it’s more accessible, faster and a less expensive option that provides necessary care to keep employees at work performing their best.

Office visits to primary care physicians is projected to increase from



¹⁶Petterson, Stephen M., PhD; Liaw, Winston R., MD, MPH; Phillips, Robert L. Jr., MD, MSPH; Rabin, David L., MD, MPH; Meyers, David S., MD; Bazemore, Andrew W., MD, MPH. Projecting US primary care physician workforce needs: 2010-2025. *Annals of Family Medicine*. November/December 2012; Volume 10 (Number 6): 503-509. Available at <http://www.annfammed.org/content/10/6/503.full.pdf+html>. Accessed May 31, 2016.

¹⁷AMA adopts new guidance for ethical practice in telemedicine. American Medical Association. June 13, 2016.

Available at <http://www.ama-assn.org/ama/pub/news/news/2016/2016-06-13-new-ethical-guidance-telemedicine.page>. Accessed July 18, 2016.

¹⁸DePhillips, Henry, MD, FAAFP, chief medical officer, Teladoc; Roga, Alan, MD, FACEP, senior vice president and general manager of the provider market, Teladoc. Telehealth: 1 million e-visits—and 10 lessons learned. Webinar presented February 24, 2016.

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