

# Telemedicine/Telehealth

## Technology Tools for Enhanced Clinical Support

Once upon a very different time, doctors arrived at one's doorstep carrying a black bag packed with a thermometer, a stethoscope, and other tools — but that hasn't been standard operating procedure for recent generations. Today, millennials and others who have never had a health care provider in their living room are benefiting from virtual house calls, which can help increase access to clinicians, facilitate appropriate care and support better outcomes. Marrying clinical support and technology can have many benefits, and it is time to apply them to workers' compensation.

### What is telemedicine?

In essence, telemedicine is the use of electronic communication technologies to improve the patient's health status by connecting him or her with a health care provider who need not be in the same location. The information exchange might take place via phone calls, video chats or email, on tablets, smart phones, or other wireless tools. Definitions may vary slightly from one organization to another as the field advances in technology and adapts to the changing health needs of various populations. Some distinguish between telemedicine — a service delivered by a physician — and telehealth, which may involve a nurse, pharmacist, or any health professional. In addition, some talk about mHealth, or mobile health, specifically referring to wireless devices and cell phone technology as a medium for practicing telemedicine, which makes it possible to deliver clinical care through consumer-grade hardware, allowing for greater patient and provider mobility.

### How are telemedicine and telehealth trending?

Telemedicine and telehealth aren't completely new. Remote cardiac monitors have been in use for years. But the emergence of wireless technology and the need to improve access while controlling health care costs combine to form a perfect storm of opportunity for these tele-services. What's more, many of those who have grown up with computers and cell phones often prefer electronic communications over physical encounters that require driving and long wait times. The technologies continue to advance and expand the envelope of what is possible.

Many hospitals and health plans offer some type of telemedicine services. According to the American Telemedicine Association, the United States currently has about 200

telemedicine networks, with 3,500 service sites across the United States. In 2011, the Veterans Administration delivered more than 300,000 telemedicine consultations.<sup>1</sup> What's more, employers are embracing telemedicine. According to a Towers Watson survey, 71 percent of employers with 1,000 or more employees expect to offer telemedicine consultations by 2017, potentially saving employers \$6 billion a year.<sup>2</sup>

The legislative landscape is still evolving. Each state has different telemedicine policies, and the types of services covered, provider requirements, and reimbursements differ for each, as does medical licensure.<sup>3</sup> Some states require physicians to have a special telemedicine license.

### What is the status of telemedicine in workers' compensation?

Telemedicine and telehealth services could offer benefits in workers' compensation. Already, the Official Disability Guidelines (ODG) recognizes their use for treating pain, diabetes, back pain, and mental health disorders. As of this writing, Nebraska, Delaware, and Nevada had enacted workers' compensation regulations allowing telemedicine video consultations with a physician, and New York has a regulation pending. The availability of video consultations with a board-certified physician in workers' compensation offers injured employees, employers and payors a number of benefits, including:

- Rapid access when treatment is needed — with 24/7/365 availability
- Cost savings by reducing unnecessary emergency room and clinic visits
- Less time away from work, decreased absenteeism, improved productivity
- Greater employee satisfaction

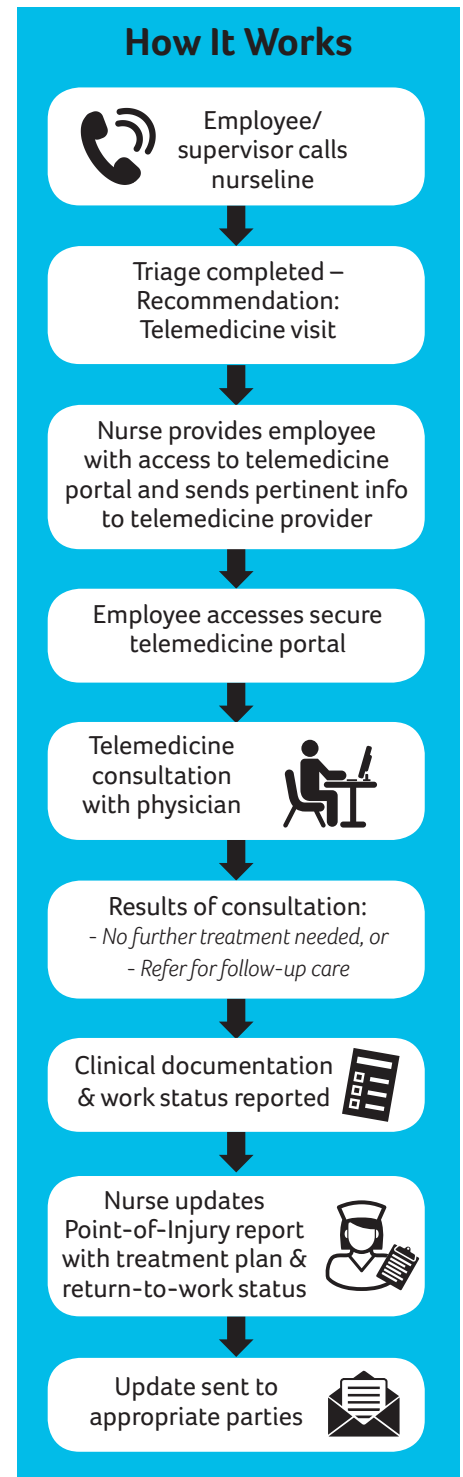
## How would telemedicine work in workers' comp?

One option for integrating telemedicine into workers' comp is to make it available during the nurse triage process. It could be particularly useful for employees with minor injuries or those who are ambivalent about self-care vs. seeking treatment, or vice versa. For example, a telemedicine video consult could be especially useful for confirming whether a wound required stitches or assessing the level of care needed for a minor burn. The nurse can walk the employee through a series of questions to ensure that a video consultation is appropriate. If the employee agrees, the telemedicine consult can take place via computer, cell phone, or tablet.

Consider Telemedicine as an option when an employee, such as a driver, is at a remote location and a clinic might not be immediately available, or when an injury occurs on an overnight shift and the only other option is to visit the emergency room for evaluation. Looking beyond the initial injury, telemedicine also has the potential to provide follow-up care, including post-operative visits or even second surgical opinions.

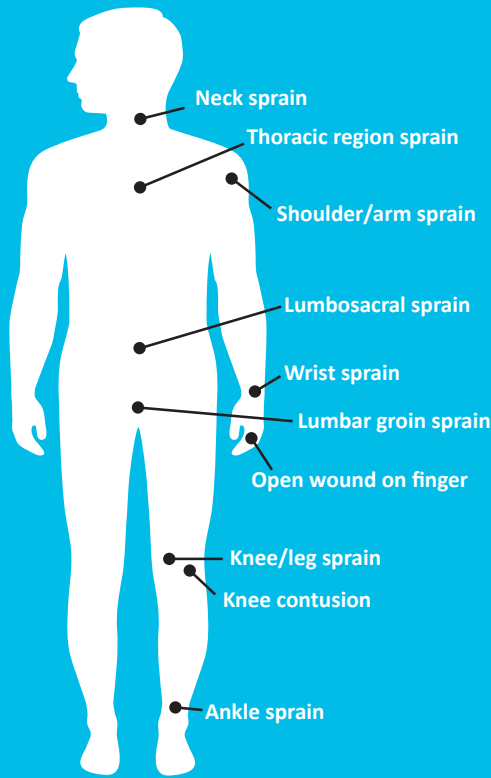
## What about other telehealth applications?

Telemedicine — remote consultations with a physician — is just one possibility. Workers' compensation could also benefit from other telehealth applications, such as remote patient monitoring (RPM). RPM allows a patient and/or caregivers to use mobile medical devices to perform routine tests and transmit the test data to a health care professional in real time using digital technology.



**Nurse triage/telemedicine process:** at the time of injury, the employer or employee calls nurse triage. If the nurse recommends a telemedicine video consultation and the employee agrees, the nurse will forward the Point-of-Injury report to telemedicine provider. The telemedicine visit will be initiated within 15 minutes or less. The physician's report will be forwarded to nurse triage and the Point-of-Injury report is then updated and distributed to the required parties.

## Common Occupational Injuries



Telemedicine video visits can effectively manage many non-emergent diagnoses, including the most common occupational injury diagnoses.

## Fundamentals of Remote Care Monitoring (RPM)

Physiological monitoring

Adherence to treatment plan

Behavior change

Transition to self management

## RPM Can Monitor:

### Vital signs

temperature, pulse, respiration



### Blood pressure



### Heart rate



### Weight



### Insulin levels



### Oxygen saturation (SpO2)



Wireless thermometers, insulin meters, scales and other similarly enabled devices capture the information and then sync with a smart device, such as a tablet or smartphone, which transmits the data to the health care professional, who might be a nurse or other clinician. RPM applications can also track self-reported pain levels, medication adherence, physical activities, and activities of daily living. In addition, many also provide reminders and educational material to help the patient with compliance, behavior change, and transition to self-management. RPM may also allow for video consultation between the patient and health care professional.

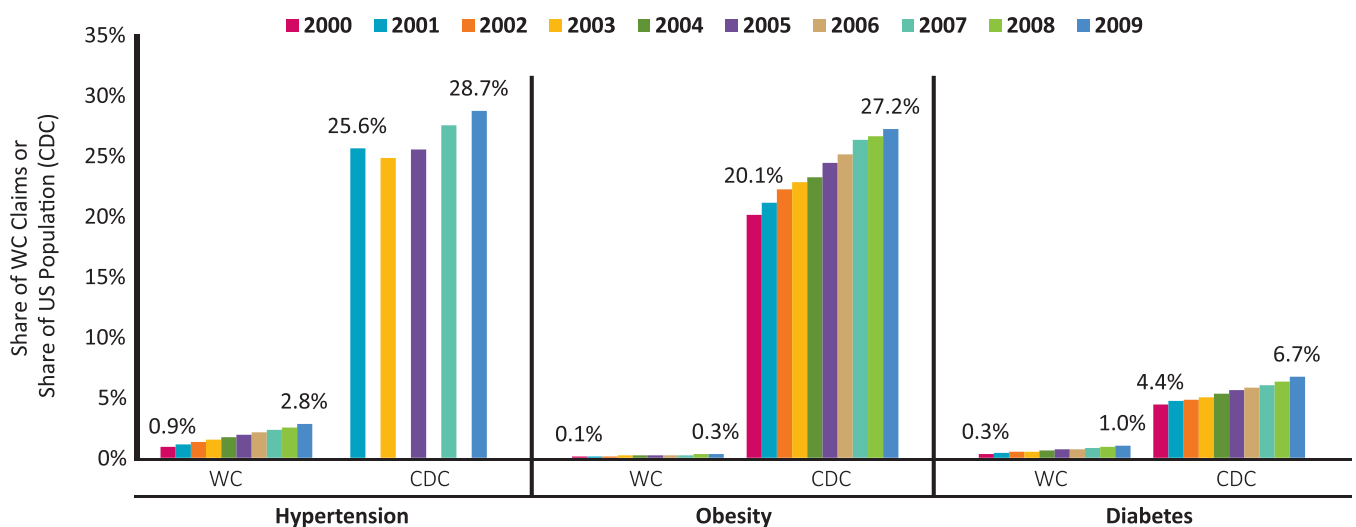
Interestingly enough, RPM has already begun demonstrating a positive impact. Between July 2003 and December 2007, the Veterans Health Administration (VHA) introduced a national home telehealth program designed to coordinate care of patients with chronic conditions and avoid unnecessary admission to long-term institutional care. The VHA saw a 25-percent reduction in bed days of care, a 19-percent reduction in hospital admissions, and a mean satisfaction rating of 86 percent from patients enrolled in the program.<sup>4</sup>

## Why telehealth matters in workers' compensation

To date, telehealth has primarily been used to improve management of chronic health problems — the kinds of conditions that can jeopardize recovery and return-to-work following an injury, or that could lead to injury, particularly in an older workforce. Both chronic conditions and age can have a significant impact on outcomes and costs.

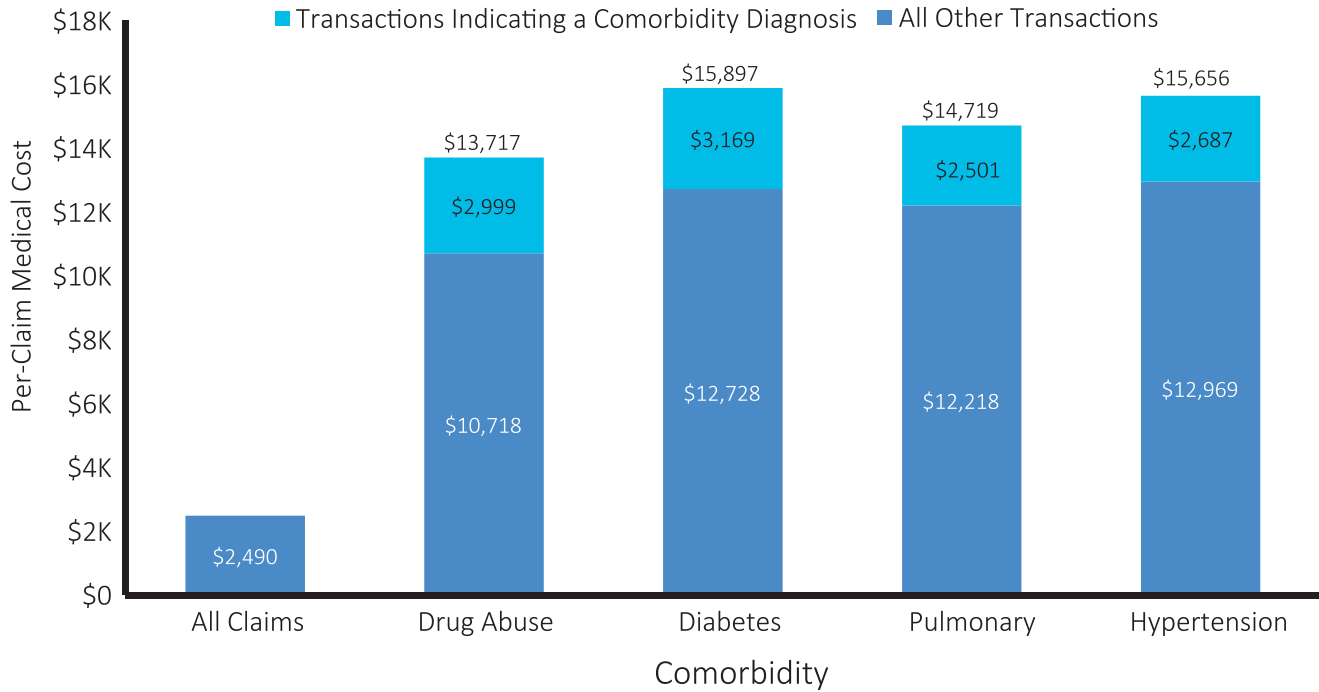
Illness rates in the general population are increasing, and that trend is reflected in workers' compensation. According to the National Council on Compensation Insurance (NCCI), the number of workers' comp claims receiving a comorbid diagnosis in the first 12 months of a claim increased from 2.4 percent in accident year 2000 to 6.6 percent in 2009.<sup>5</sup> Hypertension, drug abuse and diabetes were the most prevalent. Compared to Centers for Disease Control (CDC) data, it would appear that comorbid conditions in workers' comp are highly underreported. What's more, claims with one or more comorbid conditions are more costly than other claims.

## Comorbidities in Workers' Compensation



**Illness Rates — General population and workers' comp: A claim is considered a comorbidity claim if its first comorbidity diagnosis occurs within 12 months after injury.<sup>5</sup>**

## Claims With a Comorbidity Diagnosis Are Generally More Costly Than Other Claims



Comorbidity and Claim Costs: Costs for workers' comp claims with one or more comorbidity diagnoses can be six times higher than all claims (with or without a comorbidity diagnosis). The share of costs per claim associated with comorbidity ranges from 17 percent to 22 percent.<sup>5</sup>

Indemnity costs for workers ages 45 to 65 are 50 percent higher than those for workers ages 20 to 34.<sup>6</sup> This is understandable, considering that older workers are more likely to have one or more comorbid conditions.

Coventry reviewed medical data for a large payor population to determine the percentage of claims with hospital readmission within 30 days of initial stay, excluding rehab. The most prevalent diagnoses for readmissions were post-operative infection and lumbar surgery.

### Non-rehab claims with hospital readmission within 30 days of initial stay

Average claimant age

46

Average initial stay

7 days

Average days to readmission

13 days

Average readmission stay

7 days

Average total medical costs from date of injury to study

\$136,891

### How can telehealth help?

Remote patient monitoring can play a key role in managing high-risk claims in workers' compensation. The VHA study demonstrates that RPM can reduce re-admission rates. Consider the work comp patient who has insulin-dependent diabetes and an open wound after surgery. Monitoring insulin levels is critical to proper healing and preventing infection. With RPM, the patient can check his or her insulin levels and transmit the information to the case manager. The case manager can then advise the employee to contact the primary care provider if necessary for additional treatment.

Consider another example: a 50-year-old male with a non-surgical back injury. The recommended course of treatment may be physical therapy. However, the treating provider is reluctant to prescribe PT because the injured employee is obese and has uncontrolled high blood pressure. The case manager is in an excellent position to recommend RPM to help the employee improve his overall health. RPM would allow the case manager to monitor the employee's blood pressure and

weight, while supporting him with behavioral coaching. The goal is to educate the employee on all conditions and risks that affect recovery and, in this case, coach him to seek care from a primary care provider to address the uncontrolled high blood pressure. The sooner the blood pressure is under control, the sooner the injured employee can resume active treatment for the work-related injury. The case manager can also provide behavioral coaching and education for weight loss, helping to facilitate recovery and reduce the risk of further injury.

## When does RPM make most sense?

The first step is identifying the right candidates for remote patient monitoring: those at higher risk for complications and prolonged recoveries. In light of NCCI's report that comorbid conditions are underreported in workers' comp, it makes sense to gather information from case managers and other professionals involved in the claim in addition to analyzing data. Key questions to ask include:

- Are comorbid conditions delaying or preventing the injured employee from receiving the recommended care and prolonging recovery?
- Do the conditions pose a higher risk of readmission post surgery?
- Are there other risk factors, such as functional limitations, lack of caregiver, poor living conditions, low health literacy, narcotic use for more than 30 days, or other psycho-social issues?

As a best practice, case managers should complete a transition-of-care checklist before an injured worker is hospitalized. This form can help the case manager identify potential risks and plan accordingly before discharge.

Remote patient monitoring is only applicable to a small population of high-risk workers' compensation claims. However, paired with case management to monitor, educate, and coach the individual, it could make a powerful impact. This combination of technology and clinical service could help reduce medical spend on high-dollar claims.

## Summary

Both telemedicine, defined as video consultation with a board-certified physician, and telehealth (specifically remote patient monitoring) can be of value in workers' compensation. Offering telemedicine as an option at the time of injury allows for quick and convenient access to a physician around-the-clock, every day of the year. It is particularly appealing to the members of younger generations, who are wired to technology. These "virtual housecalls" can go a long way toward reducing or eliminating unnecessary absences from the workplace, lowering medical costs, improving productivity, and increasing employee satisfaction. Remote patient monitoring, reserved for injured employees with complex, high-risk conditions that need monitoring to prevent delays in treatment, complications and re-hospitalization, can take cost management and improved outcomes a step further. Opportunities to combine clinical support and technology to deliver "virtual care" in a meaningful way are upon us. Between now and 2020, the possibilities for workers' comp are exciting.



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