Redefining On-Demand Care in Senior Living and Home Health

September 2016
Although the tsunami of aging baby boomers hasn’t yet crested, it is already striking the shores and having a potent effect on healthcare delivery and costs. A January 2015 report from the Kaiser Family Foundation titled The Rising Cost of Living Longer summarized the issue like this, “As adults live into their 80s and beyond, they are more likely to live with multiple chronic conditions and functional limitations, and this combination (compared to having chronic conditions only) is associated with a greater likelihood of emergency department visits and inpatient hospitalizations as well as higher Medicare spending for inpatient hospital, skilled nursing facility, and home health services.”²

In fact, a June 2015 article in USA TODAY, reported that of Medicare beneficiaries older than 65,

“More than 4 million — about 15 percent — have at least six long-term ailments. Those sickest seniors account for more than 41 percent of the $324 billion spent on traditional Medicare.”³

Along with the rise in the aging population, there is a coinciding boom in senior living communities and home health agencies. According to a Small Business Market Research Report on Assisted Living Facilities, “Roughly one million Americans reside in senior care facilities.⁴ This number is expected to almost double by 2030.”⁵

Home health agencies are also growing. The Bureau of Labor Statistics estimates 1.3 million jobs will be added to home healthcare by 2024 — representing a 38 percent growth rate in the field.⁶
Whenever a resident suffers from an acute medical condition that may not warrant a trip to the ED; a bout with an infectious disease — a urinary tract infection (UTI), vomiting, influenza; a change of mental status due to their dementia or dehydration, or a myriad of other health issues during these off-hours, non-medical care staff are trained to call 911, “When in doubt, call 911.” In addition to the need for after-hours care for acute medical needs, seniors may be seeking care in the ED for the same reasons as the general population: a lack of appointment availability with their primary care provider (PCP), the pure convenience, or they may have been directed to the ED by a doctor.

Tim Rogers, Executive Director, Someren Glen Retirement Community (part of Christian Living Communities) serving the south Denver-metro area said,

“Our biggest challenge was whenever we had to call 911 for a non life-threatening emergency, almost invariably they would recommend to transport to the ED — which was confusing for our residents, costly and often unnecessary.”

The Centers of Medicare & Medicaid Services (CMS) research supports Rogers’ statement. “Medicare-Medicaid enrollees in long-term care (LTC) facilities found that approximately 45 percent of hospital admissions among individuals receiving Medicare skilled nursing facility services or Medicaid nursing facility services could have been avoided, accounting for 314,000 potentially avoidable hospitalizations and $2.6 billion in Medicare expenditures in 2005.”

In the description of its Initiative to Reduce Avoidable Hospitalizations Among Nursing Facility Residents, the CMS stated, “These potentially avoidable inpatient hospitalizations are expensive, disruptive, and disorienting for seniors...” The chaotic and unfamiliar environment of the ED often causes senior patients to become incredibly confused and distressed — sometimes so much so that additional medications are needed to calm them down once they return home.
The CMS description also said, “LTC facility residents are especially vulnerable to the risks that accompany hospital stays and transitions between LTC facilities and hospitals, including medication errors and hospital acquired infections.” This means that upon returning home, lack of medication management, social support, and environmental factors all contribute to higher readmission rates among the aging population. Plus, seniors may also return with hospital-acquired infections requiring additional care and/or medication. Unfortunately it’s not uncommon for them to also return in a worse condition requiring a move to an expensive, higher-level of resident care.

On top of all that, an ED visit is not within a patient’s normal continuum of care. Most times, senior patients are without an advocate and are unable to accurately recall or relay information on the procedures that took place, the medications prescribed, the instructions for aftercare, etc. So when a patient is treated in the ED, often no report is delivered to the patient’s PCP, senior living community or home health staff to inform follow-up care. This knowledge gap can lead to noncompliance with discharge instructions and again, an increased propensity to “bounce back” to the ED and be readmitted for the same conditions.

In 2013, the Annals of Emergency Medicine reported that nearly one-quarter of all patients discharged from the hospital end up returning as an emergency patients, yet are not counted as hospital readmissions unless they are subsequently admitted as inpatients.

Limiting avoidable hospitalizations, unnecessary ED visits, and bounce backs in the senior population could not only achieve billions of dollars of medical cost savings, but more importantly, a vast improvement in senior health. To that end, what if care could be administered in the comfort of the patient’s home where mobile medical professionals could treat the person, talk with their family, witness their living conditions, and provide better patient education and follow-up?
DispatchHealth to the Rescue

Founded in 2013, DispatchHealth provides mobile healthcare to create an integrated, convenient, high-touch triage and care delivery solution that extends the capabilities of a patient’s care team and offers quality medical treatment in a person’s home — all while decreasing costs.

In the senior sector, this new care delivery system has been a welcome and much-needed addition to the care continuum.

Say goodbye to the waiting room

Providing care in a comfortable and convenient setting (like the patient’s home) changes the current paradigm of access to medical care. DispatchHealth provides care on the patient’s time and not the physician’s time which translates to exceptional patient satisfaction scores. The service consistently receives a net promoter score (NPS) over 90, indicating high customer satisfaction and loyalty. In the senior sector, this new care delivery system has filled a gap in the care continuum associated with high costs, low patient satisfaction, and poor outcomes.

“Our care model has proven acute care can be delivered safely in the convenience of the patient’s home or location of need,” DispatchHealth CEO Mark Prather, MD, MBA said. “Whether caring for an elderly parent, an injured or ill child, or facing an acute illness or injury themselves, consumers have a new option to address on-demand healthcare needs without the expense, inconvenience and time so often associated with urgent and emergency care facilities.”

How does it work?

DispatchHealth services are requested via phone, web or a mobile app. In certain areas, DispatchHealth is also offered as an ambulance/ED alternative through 911 first-response systems. When a consumer calls to request medical care, the operator triages the situation using clinical algorithms to determine whether DispatchHealth is an appropriate response or the caller needs an ambulance.

Once a request is triaged and validated as appropriate, a medical team is dispatched to the patient’s home or wherever the patient needs assistance. Each team consists of an emergency medical technician (EMT) and an ED-trained and board-certified nurse practitioner (NP) or physician assistant (PA) on the ground with the patient. These clinicians are always supported by an on-call emergency room physician.
Typically the team arrives on scene within an hour in a car equipped with a CLIA-certified lab for point-of-care lab tests, an advanced formulary of medications, IVs and fluids, and kits for rapid infectious disease testing — all the tools necessary to provide advanced medical care for common injuries and illnesses. Many of these conditions including UTIs, nosebleeds, lacerations, urinary retention, constipation, etc. are prevalent in the senior population. Although they can be safely treated in the patient’s home with DispatchHealth; without that service, these conditions frequently end up as unnecessary and costly visits to the ED.

With DispatchHealth, the patient is treated right there — in the comfort of their home, without need for transport to the hospital. The medical team provides definitive treatment; goes over any ongoing care instructions; and to ensure continuity of care, they provide a detailed report to the living facility, home health agency and/or PCP that requested the care. The report includes an assessment of the patient’s home to determine impediments of care such as fall hazards, nutritional status, and medication compliance. For a care provider, this is a unique glimpse into a patient’s living situation and provides the primary care team with vital information to get the patient the right social resources to improve overall health.

Each patient also receives a follow-up phone call from the DispatchHealth medical team three days after the visit to determine how they are doing. At day 14 and day 30 after the visit, the DispatchHealth team checks with the local health information exchange (HIE) to determine if the patient bounced back to the ED/hospital for the same or a related complaint.

DispatchHealth visits are typically 10x less expensive when compared to a typical ED visit. The medical services rendered in the home are billed by DispatchHealth to the patient’s health insurance company. DispatchHealth has partnered with insurance companies throughout Colorado to cover the services that are rendered in the home. They include Medicare, Medicaid and Tricare providers and DispatchHealth has also contracted with commercial insurance companies including Anthem, United Healthcare, Aetna, Humana, Cigna, Denver Health Medical Plan and Bright Health.
DispatchHealth to the Rescue

What can DispatchHealth treat?

COMMON AILMENTS
- Fever
- Evaluation of weakness
- Falls in the elderly
- Influenza
- Headaches / Migraines
- Urinary tract infection
- Urinary retention
- Dehydration
- Anxiety

EYE
- Periorbital cellulitis
- Corneal abrasion
- Ocular foreign body
- Conjunctivitis

GASTROINTESTINAL
- Nausea / Vomiting
- Diarrhea
- GERD
- Constipation

RESPIRATORY
- Asthma exacerbations
- Bronchitis
- COPD exacerbations
- Post-discharge evaluation of pneumonia, COPD, CHF

SKIN
- Hives
- Cellulitis
- Skin abscess
- Lacerations

EAR NOSE & THROAT
- Tonsillitis
- Ear infection or pain
- Sinus infection
- Cerumen impaction
- Foreign body removal (ear/nose)
- Nose bleeds

NEUROLOGIC
- Vertigo evaluation and treatment
- Weakness

MUSCULOSKELETAL
- Joint or back pain
- Strains or sprains
- Minor fractures

PROCEDURES PERFORMED
- IV placement
- 12 lead ECG
- Administer IV fluids, medications, and antibiotics
- Laceration repair (simple to complex)
- I&D of abscesses
- Splint injured extremities
- Advanced blood lab testing - on site
- Rapid infectious disease testing (flu, strep, mono, RSV)
- Foley catheter insertion
- Nasal packing and cautery
- Gastrostomy tube replacement

FUTURE CONSIDERATIONS:
- Bedside ultrasound
- PICC line placement

What's In the Rover?

DispatchHealth vehicles are equipped to handle simple to complex medical cases due to the advanced equipment that is carried in each vehicle. Each vehicle has a CLIA-certified lab to allow for point-of-care lab tests, an expansive formulary of IV and PO medications to deliver on-scene to patients, and is WIFI enabled to support vehicle and patient logistics.

Providers have access to real-time clinical data within the health information exchange (HIE) and are able to transfer patient level data on-scene to promote care continuity.
DispatchHealth to the Rescue

Integrated Care

DispatchHealth is positioned to work as an extension of the existing care team to allow for improved communication, improved clinical data exchange and comprehensive care coordination to improve patient outcomes and decrease total cost of care.

**YOUR MEDICAL TEAM**
You and your family’s team of Healthcare Providers.

- **primary care physician**
- **specialty physicians**
- **pharmacies**
- **behavioral health**
- **home care services**

**DISPATCHHEALTH**
On-Demand acute care in the Home.

**HOSPITAL CARE**
Emergent Care, Hospitalizations, and Life-Threatening issues.

*Clinically Integrated Care*
Senior Living and Home Health: Reaping the Benefits

Access to right-sized care for acute illnesses or injuries is a problem for senior living communities and home health agencies.

Senior living communities (assisted and independent) and home health agencies have embraced the services of DispatchHealth as a solution to re-engineer their growing acute healthcare needs for their residents and patients.
Before DispatchHealth:

- Call the person’s PCP or the on-call physician, if available
- Be directed to the ED, or to call 911
- Wait for the ambulance or other transportation
- $1000+ ambulance ride or reach out to a family member to make the trip
- Wait in the waiting room, possibly for hours
- Spend 15 minutes with a medical practitioner
- $2000+ ED visit
- Fragmented medical data
- Return home by ambulance, or by a caregiver after multiple hours of their time disrupted

After DispatchHealth:

- Contact DispatchHealth by phone, Internet or app
- Patient is triaged over the phone to learn more about the acute illness or injury
- Wait in the comfort of their home for an hour (on average) to be seen
- Spend 45 minutes with a medical professional who gets to know them and works to understand their condition
- $150–$300 home visit
- Receive ongoing care instructions for their condition
- Have a detailed report sent to their PCP, living facility and/or home health staff for continuity of care
- Receive a follow-up phone call to check on their condition

COST & CONVENIENCE

ACCESSIBILITY

CARE INTEGRATION
Implementation Process

DispatchHealth fosters care partner relationships with both senior living communities and home health agencies using a staged approach: awareness, consideration, engagement, and loyalty.

To develop awareness, DispatchHealth works to establish brand recognition by educating staff and residents, integrating collateral into new patient or resident packets, providing magnets for resident refrigerators, as well as talking points and guidelines for clinical staff on when it is appropriate to request care. Established awareness leads to consideration and development of trust among constituents.

DispatchHealth conducts meet-and-greets with the mobile clinical team, and allows for exploration of the vehicles and clinical supplies. This gives partners the opportunity to ask DispatchHealth clinicians about specific cases, as well as understand the full capabilities of illnesses and injuries treated. Once trust has been established, partners begin to engage with DispatchHealth by requesting care — this is the start of successful behavior change. However, to increase loyalty and continue that level of engagement, DispatchHealth schedules an ongoing report review that creates a path for consistent two-way communication, and continuously identifies opportunities to provide more education and collateral.
Clinical Case Review

A sample chart from a typical DispatchHealth patient, highlighting communication and treatment capability.

"Dispatch fills a hole in the current care continuum."

Patient's PCP

HPI: 78 y/o male with a history of diabetes and peripheral vascular disease awoke with acute weakness. He also noticed redness and mild discomfort in his left lower leg.

Social History: Patient lived alone with no family in the area. The patient’s elderly neighbor checked on the patient and noted concerning redness in the leg and that the patient "was not himself."

Visit Details: 911 was activated by neighbor, and the call was triggered as low acuity. The DispatchHealth treatment vehicle was attached to the call. On arrival, the patient was alert and oriented. The left leg was cellulitic. Redness extended from the great toe to the knee. There was a small ulcer on the great toe.

Vital Signs: B/P 108/60 Pulse: 102 RR 22 T37.8

Treatment Protocols: Based on DispatchHealth clinical algorithms, the patient was deemed an appropriate candidate for an on-scene evaluation by the NP. Patient proceeded to consent for treatment.

Differential Diagnosis: Sepsis, DKA, Osteomyelitis

Laboratory Studies: Glucose 242 (No evidence of DKA) Lactate 1.4 (No evidence of Sepsis)

Treatment: IV antibiotics (IV Ceftriaxone and oral Bactrim) and a fluid bolus.

Disposition: Patient remained home feeling much better. The patient’s cellulitis was effectively managed at home, without the need for hospitalization.

Follow-up: Patient’s PCP was contacted and felt comfortable authorizing home health. Home health cared for the patient administering IV antibiotics over the weekend. Transportation and follow-up appointment was facilitated with a podiatrist the next week.
A VISUAL OVERVIEW OF

478 Total Visits

KEY FINDINGS:

$1M
Total cost savings
Dollar amount DispatchHealth has saved by avoiding the 911 system and/or emergency department. Patients that have bounced back to the ED within 30 days for the same complaint are removed.

8%
Total ED care escalation
% of individuals that required a higher level of care and were sent to the the emergency department after further evaluation on-scene.

RESULTS FOR PATIENTS AGE 65+ IN SENIOR LIVING COMMUNITIES AND HOME HEALTH FROM JANUARY THROUGH JUNE 2016

USAGE BY GENDER

BY AGE

AGE 65 - 69: 8%
AGE 70 - 79: 24%
AGE 80 - 89: 41%
AGE 90+: 27%

REQUEST TIMES

Most common days for care requests are Monday and Friday.

Most service requests happen between 11 am and 5 pm.

TOP 3 CONDITIONS TREATED
URINARY TRACT INFECTION • DEHYDRATION • UNSPECIFIED FALL
Senior Living Communities
(Assisted and Independent)

For older adults in senior living communities, the ED presents a host of challenges. Transportation for one — often an expensive ambulance ride is their only choice.

Then, receiving care in an unfamiliar environment from unfamiliar people is confusing — this can actually exacerbate the health issue and is amplified for those living with dementia. Additionally, the ED is disruptive and residents don’t like the fuss and lack of privacy; they tend to get embarrassed when the ambulance arrives.

That’s where DispatchHealth steps in — it offers residents and care staff a trusted alternative to 911.

“Our residents were so hungry for another option. Their experiences with the ED really drove us to look for solutions. It serves a purpose, but it’s just not built for seniors — as some can be fairly frail, they need advocates, and can tend to get confused during an emergency,” said Cindy Hogan, President, Christian Living Communities. “Our staff were relieved. It’s hard to be the intermediary and they enjoy offering an alternative to 911 and having it work out so well.”

Associate Executive Director of Clinical Services Patricia McBride, RN, MSN, echoed Hogan’s concerns,

“The ER is frightening, expensive, time-consuming, and something residents avoid at all costs — and that causes them to delay getting needed care. DispatchHealth makes them more proactive — it’s not as scary and they just love the one-on-one care and the follow-up.”

McBride also spoke about the reporting the care team receives after a visit. “With DispatchHealth our staff is less stressed and can take the initiative. Communication is very efficient, there is improved teamwork, better patient education and follow-up — and ultimately, better outcomes for the resident.”

Obviously DispatchHealth creates cost-savings for the resident, but Jayne Keller, Executive Director, Holly Creek Retirement Community at Christian Living Communities found benefits for the community as well. “Cost-wise Holly Creek doesn’t directly benefit, although we do see cost savings in reducing resident attrition — but that’s just a fringe benefit of their service.”
Senior Living Communities: The Numbers.

343 TOTAL VISITS
Results for patients age 65+ in Senior Living Communities from January through June 2016

CLINICAL
TOP 10 CONDITIONS TREATED:
- Urinary tract infection (UTI)
- Fall or injury
- Diarrhea
- Dehydration
- Dizziness and giddiness
- Cough
- Nausea with vomiting
- Flu
- Fever
- Constipation

CARE ESCALATION: 7.6%
ED AVOIDANCE: 81%

OPERATIONAL
AVERAGE TIME ON SCENE: 53 MIN
AVERAGE TRAVEL TIME: 32 MIN
AVERAGE QUEUE TIME: 49 MIN
TOTAL COST SAVINGS: $716K

A VISUAL OVERVIEW OF

AGE 65 - 69: 5%
AGE 70 - 79: 19%
AGE 80 - 89: 45%
AGE 90+: 31%

USAGE BY AGE

RESULTS BY GENDER

MIN MIN MIN
53 32 49

Usage by Age
Usage by Gender

Senior Living Communities: The Numbers.
Historically when home health agency staff face acute, urgent medical problems based on the underlying conditions of their patients, they consult the patient’s PCP first. Most times, because the physician can’t assess the patient themselves, the PCP directs staff to refer the patient to the ED which can diminish the agency’s CMS star ratings. The star-rating is based on the quality of care a home health agency provides to their patient population.

The ratings summarizes each agency’s performance, on average, across nine quality measures. Agencies receive more stars, or higher ratings, when they follow recommended care guidelines and when more of their patients show improvement. One of the quality measures is preventing unplanned hospital or ED care. On the star-rating scale ranging from one to five, with five being the best, the national average for more than 9,000 home health agencies is three according to CMS.11

However, with DispatchHealth, home health agencies now have access to qualified medical staff and mobile care in patient’s homes to prevent an unplanned trip to the hospital or emergency department. “When people are over 65 and homebound — it takes a village to get them out of the house and to the services they need,” said Jean Chicken, RN, Chief Corporate Compliance/ Clinical Officer/Managing Partner, Team Select Home Care. “Normally we have very limited access to the physician especially after-hours and during the weekend. Without DispatchHealth, we would have to use a completely unknown, outside provider.”

Home Health

Home health care provides a wide range of rehabilitation services for homebound patients that are recovering from an illness or injury under the care of a primary care practice or specialty group. Services may range from skilled nursing care, physical therapy, occupational therapy, wound care and more. Recently the CMS has instituted data transparency tools to drive improved clinical outcomes with its Home Health Star Ratings.

Home health agencies have begun to use DispatchHealth to help drive improved clinical outcomes through decreased ED utilization and decreased hospital re-admissions for acute medical needs.
She also spoke to the impact DispatchHealth has had on Team Select Home Care’s CMS star ratings,

“DispatchHealth has been instrumental in decreasing our re-hospitalization rate which helps to increase our CMS star rating. They address significant symptoms before the patient gets too sick to stay at home, so not only do they assist in decreasing re-hospitalizations, but they also help decrease hospitalizations in the first place.”

Melissa Dionne, RN, Director of Nursing, Team Select Home Care spoke to the value DispatchHealth clinicians add to the care process. “We absolutely love the personalities of the NPs. They’re refreshing, receptive, and always willing to share their knowledge — we appreciate them a lot,” she said.

Colorado Regional Sales Manager for Team Select Home Care, Liz Simpson, corroborated Dionne’s statement referring to the report the agency receives after DispatchHealth sees one of their patients. “Our clinicians hate walking in blind, DispatchHealth paints a very thorough, clear picture of the patient and the visit. Our staff really appreciates all of the details they provide,” she said. “The service just fits a perfect niche for frail, fragile seniors.”
Home Health: The Numbers

A VISUAL OVERVIEW OF

135
TOTAL VISITS

Demographics for patients age 65+ in Home Health from January through June 2016

CLINICAL

TOP 10 CONDITIONS TREATED:
- Dehydration
- Urinary tract infection (UTI)
- Diarrhea
- Fall or injury
- Nausea with vomiting
- Adult failure to thrive

CARE ESCALATION:
9%

ED AVOIDANCE:
76%

DEMGRAPHIC

USAGE BY AGE

AGE 65 - 69: 10%
AGE 70 - 79: 34%
AGE 80 - 89: 29%
AGE 90+: 27%

USAGE BY GENDER

61%
39%

OPERATIONAL

AVERAGE TIME ON SCENE:
55 MIN

AVERAGE TRAVEL TIME:
33 MIN

AVERAGE QUEUE TIME:
65 MIN

TOTAL COST SAVINGS:
$294K
DispatchHealth’s outcomes have been dramatically different than a typical emergency room. “We think that the difference has to do with the fact that we spend an average of 55 minutes on scene with our patients. Our providers are taught to look for the ‘why’ behind a given illness, document social determinants of disease when appropriate, and communicate with the patient’s care team on every encounter,” said Kevin Riddleberger, MBA, MS, PA-C, Chief Strategy Officer, DispatchHealth. Compared to a typical ED’s bounceback rate of over 20 percent, DispatchHealth’s aggregate bounceback rate is currently 9 percent. In more complex, “sicker” senior and home health populations, it’s 12 percent; while in the commercial population; the DispatchHealth rate is less than 3 percent.

“In addition to the time spent with our patients, we believe our outcomes are also the result of the unique environmental perspective inherent in the house call and our integration with the primary care community. We are truly unique in that regard. Our level of care team integration is simply not achieved in other acute care arenas such as urgent care centers and emergency rooms,” said Riddleberger.

Since its inception, DispatchHealth has saved more than $3 million dollars in acute care delivery costs. The average cost for a visit is $250 compared to the average cost for an ED visit at $2200. DispatchHealth tracks the savings related to ED diversion for all of its patients. Patients that have bounced back to the ED within 30 days for the same complaint are removed from the company’s savings calculation and therefore, negatively affect the overall savings number. Senior patient visits represent ED diversions almost 100 percent of the time given that, in previous triage scenarios — without DispatchHealth, they would have invariably been sent to the ED by their facility.

DispatchHealth’s goal is to provide patients quality, convenient care in their time of need and break the cycle of acute care utilization so they can return to their PCP with the right resources. Effective care involves closed-loop communication with the patient’s care team. DispatchHealth works with the care team on every case to achieve optimal outcomes.
DispatchHealth is making an impact in Denver, and specifically the city’s senior population, with its unique mobile delivery of on-demand healthcare. Its disruption of the current care delivery system touches each goal of the Triple Aim — increasing quality, decreasing costs, and improving access or experience. DispatchHealth is also focused on developing advanced technology to support in-home care delivery and improve our healthcare system.

The future

Looking forward, DispatchHealth is creating utilization management software that will ultimately direct patients to the right care delivery mechanism for the right complaint. “Eventually, we anticipate the ability to triage patients with very low acuity complaints to either telemedicine or to an appointment with their provider the following day. In the future, we feel the “smart” home — one equipped with sensors and connected devices used to create algorithmic notifications — will also be a major factor in the growth of home-based medicine,” said Riddleberger. “These innovations are already radically changing a long-standing broken system and transforming healthcare for the better.”
Become a Care Partner

DispatchHealth will be expanding its footprint in the near future. Its fleet of mobile healthcare professionals and technology is at the American senior population’s beck and call, ready to arrive at their homes armed with the tools to provide high-quality and compassionate care at a reasonable cost.

Join us in delivering the highest standards of care in home medicine. To discuss how we can partner to treat your senior population, contact us at partners@dispatchhealth.com.
References


8 Ibid.

9 Ibid.

