Home Infusion and the Elderly Patient: Considerations for Safe and Effective Care

By Nancy Kramer, B.S.N., CRNI®, and Jeannie Counce

Continuing Education Objectives
After reading this article, the participant should be able to:
1. Describe the factors that contribute to a higher acuity of care for elderly patients receiving home infusion therapy.
2. List the physiological changes that accompany aging, and the considerations required for home infusion therapy as a result of these changes.
3. Review the factors that must be considered when planning safe and effective infusion therapy for elderly patients in their home.
4. List age-appropriate teaching strategies for elderly patients and their caregivers who are receiving infusion therapy in the home.

About the Authors
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The Forecast

Demographers are forecasting that in the next 20 years a tsunami of aging will reach American shores. The trickle will begin next year when the first “Baby Boomers” are eligible for Medicare. Thanks to advances in medicine that have greatly extended the human lifespan, the explosive birth rates of the post-WWII era, and a host of other population trends, the face of our country is about to undergo a radical shift.

The “graying of America” is a topic that is difficult to escape. We’ve all heard the statistics (see Exhibit 1), which are so staggering they are sometimes difficult to digest. We’ve also heard the dire predictions and policy implications: an over-burdened health care system, stressed out generations of working caregivers, a shortage of qualified health care workers—even beyond the current shortage of nurses and pharmacists—and unsustainable public institutions, such as Medicare and Social Security. Each of these topics is worthy of lengthy consideration in and of itself. But, how many alternate-site home infusion therapy providers are strategically, and practically, contemplating how this trend will affect the patients they treat and the way they deliver care?

The facts are undeniable: the graying of America will drastically change the patients served by this industry (see the box on this page). The demographics of aging will not only mean more patients over the age of 65, but fewer in the 20 to 65 age range—as one slice of the pie chart widens, the others shrink. And if you think that the current lack of comprehensive Medicare coverage for home infusion will dampen this effect, think again.

Most elderly patients who receive IV care in their homes have supplemental insurance or pay for services out-of-pocket. Even if Medicare coverage remained as it is today, the steady, yet striking uptick in the nation’s average age will have major implications for alternate-site businesses. Many of the “emerging geriatric Baby Boomers” will likely manifest themselves as independent-minded, aging consumers who culturally, as a cohort, “want what they want”—and will, just as they did in their 40s and 50s, demand what they want from the marketplace. Given this cohort dynamic, Boomers will likely push even more for home-based versus institution-based care. Undoubtedly, the percentage of patients 65+ in an alternate-site infusion provider’s overall census will increase—at the very least due to the fact that the sheer, massive wave of the consumer-empowered Baby Boomer demographic moving into adulthood will bring with it a greater number of patients who can (and will) pay for care privately than has been the case with older adults previously. Additionally, the percentage of “traditional adult” patients will also decrease on the provider census, as such patients age.

The overall trend toward home-based care is another major factor. The prospect of more people requiring more care threatens to push an already stressed system over the edge. As experts and policymakers grapple with ways to contain costs, they are placing a heavy emphasis on care in the home where patients feel more comfortable and are likely to achieve better outcomes. And, a plethora of new products and services are being developed to assist Americans in their desire to “age in place” for as long as possible.

“It’s been estimated that this year, 12 million older adults will need long-term care,” observes Ann Marie Parry, R.N., CRNI®, Clinical Coordinator for VITALine Infusion Pharmacy Services, which is part of the Geisinger Health System in Danville, Pennsylvania. “About 70 percent of them will be cared for at home, with family and friends providing the care.”

“The shift to home care will be dramatic over the next 20 to 25 years,” observes Ryan Garst, Pharm.D., R.Ph., CGP, Director of Pharmacy Services for Advanced Infusion Services in Akron, Ohio. “With the hospital reimbursement structure moving to penalize complications and decrease length of stay, there is an even greater motivation to get patients out of the institution as soon as possible.”

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<th>Exhibit 1</th>
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<td><strong>NUMBER OF PERSONS 65+ 1900 - 2030 (NUMBER IN MILLIONS)</strong></td>
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<tr>
<td>1900</td>
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<tr>
<td>3.1</td>
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<td>Source: U.S. Census Bureau</td>
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A third factor could prove to be the game changer. If the Medicare benefit were updated to finally provide meaningful coverage for home infusion, a significantly larger portion of the 65+ population would gain access to these services. The industry would see a wave of new patients. “If Medicare coverage for home infusion therapy were available today, we could probably accept about 35 to 40 percent of the referrals that we now are unable to service,” explains Garst. While these figures may not be representative of the entire industry, they are telling.

When you overlay the population projections with current statistics—and then consider the trends and possibilities—it’s easy to see that in the future a significant number of older patients will receive IV care at home. Given this reality, INFUSION set out to explore what it means to treat older patients. In this article, we identify the most significant factors that affect delivery of care and examine how they can be addressed through clinical and operational adaptations within a provider organization.

**High-Acuity Patients**

Like pediatric patients, patients on the opposite end of the human lifespan are more medically complex and typically considered higher acuity by health care providers. Treating geriatric patients should be approached with a fundamental awareness of the physical, cognitive, and emotional factors likely to affect their health and course of treatment.

This is especially important for providers treating aging patients in their homes. While home care is an essential service for the many older patients who want to remain independent, it can present additional challenges. For alternate-site infusion therapy, which provides a small component of the entire spectrum of home care services for the elderly, it is essential to know and understand what is going on with the patient as well as to be aware of changes in the patient’s health—and even social—status as well as the possible implications of those changes.

“Geriatric patients are more complex to care for in the home setting,” asserts Garst, who is a Certified Geriatric Pharmacist and has a professional background that includes long-term care pharmacy. “You may not be treating them for all their conditions, but you have to have in your mind that those issues affect the care you’re giving.”

A widely cited 2002 study found that 82 percent of Medicare beneficiaries have one or more chronic conditions, and 65 percent have multiple chronic conditions. Pointing out that individuals with multiple chronic conditions may have different clinical needs than other patients, and are more likely to experience rapid declines in health status, the authors conclude the risk of preventable complications and avoidable inpatient admissions rises dramatically with the number of chronic conditions a patient has. For example, Medicare beneficiaries with four or more chronic conditions were 99 times more likely to have an admission for an “ambulatory care-sensitive” condition than a beneficiary without any chronic conditions.

According to Garst, the most common medical conditions that affect the delivery of home infusion therapies include diabetes, renal compromise, hypertension, heart failure, and cancer. “We see that today in our practice,” he says. “For example, we recently had a patient who was referred to us with a post-operative infection following knee replacement surgery. We treated him with IV antibiotics, but had to pay very close attention to his congestive heart failure (CHF).”

Managing a number of chronic conditions typically means several ongoing drug regimens at the same time, or polypharmacy. “Adding an IV therapy to the existing mix really changes things,” explains Garst.

The implications are not hard to imagine considering the vast majority of older Americans regularly take medication (see Exhibit 2). The rule of thumb is if the patient is taking nine or more medications, he or she requires more pharmaceutical oversight,” Garst says. For this reason, he notes that it is vitally important to get a full and accurate accounting of current medications when and patient comes on service and regularly throughout the course of treatment.

Drug therapy decision making is more complex for older adults. One reason is because the benefits and risks associated with medications as reported in clinical trials and professional literature cannot be directly extrapolated to this patient population. Multiple co-morbidities and risk factors further complicate matters.

“The things to keep in mind are drug interactions, side effects, and compliance,” continues Garst. In addition to the higher number of medications in older patients, physiological changes can affect the way they are metabolized. For example, reduced liver and kidney function can greatly affect the way the aging body
clears drugs, and contribute to adverse reactions. Likewise, an overall reduction of total body water that comes with age can increase the risk of dehydration.

At the same time, symptoms that should alert patients and their providers to problems—side effects, adverse events, or ineffectiveness—can be masked, or mistaken for other “normal age-related” issues. For example, dryness of the mouth or loss of appetite might not be as noticeable to an elderly patient who has a reduced thirst and/or hunger sensation. Or, a slow febrile response may fail to reveal a building infection. There are a host of physiological changes in the elderly that can affect the delivery of home infusion care. For a brief list, along with the implications for both pharmacy and nursing, see Exhibit 3.

In addition, some patients are prescribed therapies that can interact with one another or with another disease state. An example might be a large-volume infusion prepared for a patient with CHF who is contending with peripheral edema. In other cases, medications have side effects that can create other age-related dangers. For example, medications used to treat hypertension can have the side effect of dizziness, which is a concern for older patients because it can increase the likelihood of falls. In a startling study, when given the choice, participants (community dwelling patients aged 70+ with hypertension) were evenly divided between choosing treatment for hypertension to reduce cardiovascular risk and no treatment to avoid the risk of falls associated with the side effects of treatment.4

Compliance—the single most important modifiable aspect of chronic disease management—is another major issue for older adults. Despite the fact that aging medications is an important daily task, their adherence rates are less than stellar—between 26 and 59 percent.5,6 As study after study has demonstrated, a lack of compliance with medication management results in poor clinical outcomes and can result in avoidable hospitalizations. The odds of positive outcomes are three times lower for patients who do not adhere to their recommended therapies.7 And, for older adults, poor compliance may account for up to 10 percent of hospital admissions.8,9

There are many reasons elderly patients are non-compliant with their prescribed medications, ranging from avoidance of undesirable side effects, to inadequate financial resources to take their medications as prescribed. For some patients, drugs taken for an asymptomatic condition, such as hypertension, are easier to stop taking because they experience no immediate symptoms or problems as a result of the non-compliance. When forced to choose between purchasing food or prescription medications, older people may elect to “conserv[e]” their medications by taking them on alternate days, or at half-doses. There’s also the classic case of forgetfulness, made all the more challenging by the complicated “polypharmacy” list of prescriptions that older people with more than one chronic health condition have to manage. The home infusion nurse and pharmacist need to be exceptionally vigilant when recording a patient’s medication profile to sort out what prescriptions the patient has received from their various physicians, from what they are actually taking in terms of drug, dose, and frequency.

**Considerations for Care in the Home**

“The two most significant considerations are the number of medications and the multiple disease states,” reiterates Garst, “but there is a whole spectrum of things to consider.” A patient’s vision, hearing, and dexterity are among the various factors that can complicate the successful delivery of IV care in the home. So are the availability of a qualified caregiver and the appropriateness of the home itself.

“You really have to assess whether or not the patient is appropriate for home care,” he continues. With elderly patients, this goes beyond the usual home care screening issues of cleanliness and safety. “For example,” says Garst, “Is there a caregiver who can help? Can the patient read the pump screen, drug labels, and directions? Do they have the strength and dexterity to clamp the IV line or lift the medication bag? There are clinical considerations and then there are just everyday things that you know will make the difference.” See Exhibit 4 for a more complete list.

Perhaps the biggest “difference maker” is the patient’s willingness to receive care at home. “Older
**EXHIBIT 3**

**Basic Physiological Changes Associated with Aging and Implications for Home Infusion Therapy**

While age-associated changes may be more evident in advanced age (85 years or older), they begin to appear at earlier ages in varying degrees based upon genetic and long-term lifestyle factors. These changes may alter the aging person’s response to illness, requiring intervention to ensure safe, appropriate, and effective infusion therapy. Please note: this chart provides only a broad overview of the considerations needed for home infusion therapy in the elderly patient; readers are advised to consult references for more specific information or clinical practice guidelines.

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<tr>
<th>Anatomical System</th>
<th>Physiological Changes</th>
<th>Implications for Home IV Therapy</th>
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<tbody>
<tr>
<td><strong>Integumentary System</strong></td>
<td>Skin thins, loses elasticity, and becomes increasingly fragile, making it more prone to tears. Wound healing is also diminished. A decreased number of nerve endings and sebaceous glands and atrophy of dermal cells lead to more frequent bruising.</td>
<td>• Adhesives in dressings and tapes can cause skin irritation and tearing if removed abruptly, or applied over moist skin (including wet antiseptic solution). Paper tape and gauze dressings may be less irritating to fragile skin. Consider gauze wraps, stockinettes, flexible netting, or other wraps to secure dressings rather than tape. • Skin prep solutions can create a barrier between the adhesive and the skin to facilitate adhesive removal, however some ingredients in the solution (such as alcohol) may be irritating to sensitive skin. Choose skin prep solutions specifically formulated for sensitive skin. Allow skin prep to dry completely before applying tape or dressing to prepped skin. • Use caution when removing tapes and dressings to avoid skin tears. Loosen one edge of the dressing and slowly pull the dressing off, keeping the dressing level with the skin; avoiding lifting the dressing to prevent tenting of the skin. Adhesive removers that are suitable for sensitive skin can also be used to carefully remove dressings and tapes. • Tourniquets can cause bruising if applied too tightly, and can lead to vein collapse during needle insertion if left in place for the venipuncture. A loosely applied tourniquet used to locate a suitable vein, then removed before the venipuncture may reduce these complications.</td>
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<td><strong>Musculoskeletal System</strong></td>
<td>Decreased muscle mass with an increased body fat to muscle mass ratio can create larger drug storage reservoirs, prolonging the half-life of some drugs; decreased elasticity in the ligaments and tendons, causing stiffness. Decreased bone mass and density. Arthritis can lead to decreased joint mobility and joint instability. Decreased endurance and agility create changes in functional mobility. The speed of fine motor movement decreases and deep tendon reflexes slow.</td>
<td>• IV poles and stationary pumps that must be pushed/pulled around the home can pose a challenge for elderly patients with mobility issues. • Select a method of drug administration that is suitable for the drug to be infused and best fits the patient’s dexterity and fine motor skills, particularly their ability to manipulate small objects such as sterile end caps, or make connections between tubing and injection caps. • Caregiver support can also be a factor in the administration method decision—if caregivers will be relied upon to perform medication administration, ensure that they will be readily available for every dose.</td>
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### Exhibit 3 (continued)

**Basic Physiological Changes Associated with Aging and Implications for Home Infusion Therapy**

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<tr>
<td><strong>Cardiovascular System</strong></td>
<td>Heart valves become thicker and less flexible, the ventricle walls become stiffer resulting in decreased cardiac output, orthostatic hypotension, decreased cardiac perfusion, increased arterial resistance. Heart increases in size and weight. Peripheral resistance increases, venous elasticity decreases, and peripheral valve efficiency decreases. Greater chance for peripheral edema. Impaired mobility leads to decrease venous return. Slower response to blood loss.</td>
<td>• Monitor for signs of congestive heart failure (CHF) when administering fluids or medications compounded in large volumes, paying particular attention to sudden weight gain, shortness of breath, peripheral edema, and increased blood pressure above the patient’s baseline. • When compounding medications for patients with a history of CHF, consider sodium content and total fluid volume. • Dietary restrictions are common with CHF, and should be familiar to the nurse and pharmacist providing care to the patient. • Orthostatic hypotension presents a fall-risk in this patient population. Determine the patient’s knowledge level regarding avoidance of this complication, and provide education as needed.</td>
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<td><strong>Respiratory System</strong></td>
<td>Breathing tends to be shallower. Increased time to return to resting respiratory rate after exercise or activity. Elasticity of chest wall and lung tissue decreases as does respiratory muscle strength, causing lower tidal volume and slower response to hypoxia. Cough reflex is also diminished.</td>
<td>• Breath sounds and cough history are important components of the baseline and ongoing physical assessment, and can provide indications of new or worsening conditions such as CHF and/or pneumonia.</td>
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<tr>
<td><strong>Renal System</strong></td>
<td>Blood flow to the kidneys is reduced, resulting in reduced renal function. Kidney mass and bladder capacity decrease, as does the ability to respond to fluid overload. The ability to metabolize and excrete drugs is decreased, as is creatinine clearance, creating the potential for drug reactions and complications for drugs that are cleared through the kidney.</td>
<td>• Assess renal function (Cockroft-Gault formula) for renally cleared drugs to validate accurate dosage. Dosage recommendations are available based on this formula in many common prescribing resources. • Consider total fluid volume of compounded medication, particularly in patients with a history of diminished renal function and CHF. Hydration, parenteral nutrition (PN), and other large-volume solutions pose a particular risk and require careful monitoring to achieve the correct fluid balance. • Assess for adequate fluid intake and urinary output. A reduced sense of thirst may lead to inadequate fluid intake and dehydration. Before encouraging water consumption, careful consideration must be given to patients with a history of renal failure and/or CHF. • Dietary and fluid restrictions are common with renal dysfunction and should be familiar to the nurse and pharmacist providing care to the patient.</td>
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### Basic Physiological Changes Associated with Aging and Implications for Home Infusion Therapy

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| Gastrointestinal System   | Decreased saliva production and gastric acid secretions result in impaired digestion. Decreased thirst increases chance of dehydration. Changes in taste and smell can affect appetite. | • Drugs can modify the nutrient needs and metabolism of older people. Restrictive diets, malnutrition, changes in eating patterns, alcoholism, and chronic disease with long-term drug treatment are some of the risk factors in the elderly that place them at risk for drug–nutrient interactions.  
• The U.S. Food and Drug Administration (www.fda.gov) and National Institutes for Health (www.nih.gov) have Internet resources for common drug–nutrient interactions. |
| Hepatic System            | The overall liver size decreases and blood flow is diminished. A decline in liver function affects the ability to metabolize drugs, and can result in adverse drug reactions. | • Review liver function tests (LFTs) when dispensing/monitoring medications that are metabolized by the liver. Dose adjustment may be needed.  
• Alcohol intake is also of concern as liver function declines, and requires careful assessment when obtaining the patient’s history on admission. |
| Neurologic and Cognitive  | Nerve cells in brain and spinal chord are lost. Slower reaction time combines with reduced agility and vibratory sense to increase the risk of falls, which can lead to accidents and injury. There is a modest decline in the ability to learn new things, along with a diminished ability to respond to multiple stimuli. Patient may experience a change in sleep patterns, cognition, depression, delirium and dementia, sometimes called “sundowners syndrome.” | • Patients should be given the necessary information and the opportunity to exercise the degree of control they choose over health care decisions that affect them. If patients are involved in decision making, they are less likely to make decisions that may lead to adverse drug reactions (ADRs), such as abruptly discontinuing a medication that should be tapered off.  
• Provide patient education in a quiet setting, slowly reviewing each key point and validating patient comprehension throughout.  
• Validate patient and caregiver understanding of medication administration procedures by observing a return documentation of all self-care procedures.  
• Providing care for patients with debilitating cognitive or neurological impairment, whether present as an underlying condition or recently developed as a secondary result of a treatable medical condition (such as dehydration), requires an additional level of expertise and understanding by clinical staff providing care and support to these patients and caregivers. The first priority is determining, as a care team including the referring physician, other disciplines working with the patient and the caregiver, whether care can be safely provided in the home. The next step is to determine how best to deliver that care, considering the support available.  
• Communication with patients experiencing moderate to severe cognitive or neurological impairment can be challenging. Staff who interact with these patients benefit greatly from education regarding communication techniques and strategies. |
## Anatomical System

### Hearing and Vision

There is a decreased ability to hear higher frequency tones. The eyes are less able to adjust at night. Visual acuity is affected by a decreased ability to detect moving objects and accurately perceive color—especially blues and greens—and depth/distance. Common causes of vision loss are age-related macular degeneration, glaucoma, cataracts, and diabetic retinopathy.

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<tr>
<th>Sexual Orientation</th>
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| Hearing and Vision| There is a decreased ability to hear higher frequency tones. The eyes are less able to adjust at night. Visual acuity is affected by a decreased ability to detect moving objects and accurately perceive color—especially blues and greens—and depth/distance. Common causes of vision loss are age-related macular degeneration, glaucoma, cataracts, and diabetic retinopathy. | - Provide patient education materials in larger font, using diagrams or pictures when possible.  
- Minimize background noise/distractions during education and return demonstration procedures.  
- Ensure adequate light is available in the area of the home designated for medication administration procedures.  
- Educate patients/caregivers who have diminished hearing and who are receiving IV medications via an infusion pump to regularly perform a visual inspection of their infusion pump for proper operation. |

### Immune System

Febrile response to infection is diminished, sometimes creating a delay in the patient seeking treatment and/or the diagnosis of serious illness. An overall diminished immune response increases the risk of infection.

| Immune System | Febrile response to infection is diminished, sometimes creating a delay in the patient seeking treatment and/or the diagnosis of serious illness. An overall diminished immune response increases the risk of infection. | - Assess for any change in symptoms that could indicate an infection, even in the absence of fever or leukocytosis, e.g., worsening cough, change in mental status, and slight increase in redness or drainage in a wound or at an access device insertion site.  
- Prevent exposure to communicable diseases by limiting time spent around people exhibiting signs and symptoms of an upper respiratory tract infection. Nurses who have an upper respiratory tract infection should consider wearing a mask when providing direct patient care to minimize transmission. |

### Exhibit 3 References:

Continuing Education

folks are hesitant about home care,” observes Parry. “They grew up in an age where everything this serious was done in a hospital by a doctor or nurse. It tends to be a generational thing.”

Parry notes that many elderly patients are uncomfortable when they learn that they will be participating in their own care. “Many take it seriously—they are hesitant at first, afraid they’ll do something wrong—but they get past it. Others refuse and go to a skilled nursing facility (SNF).” The majority, she says, are “reluctantly willing” and do great once they get over the initial shock.

Caregivers, such as spouses or relatives, play a significant role in home care as well. “We encourage the caregiver to be there for the teaching visit,” explains Parry. “They are good moral support and can help the patient remember all the information you are giving them.”

If everything is fine with the patient, a caregiver is a good backup, according to Parry. “If there are rough spots, the caregiver can help,” she says, noting that older patients often need hands-on help to compensate for issues such as poor vision or a lack of dexterity, or to remind them that they are scheduled for a blood draw or delivery.

Too often, however, that caregiver is the critical element in keeping the patient out of the acute care setting—or not. Garst recalls a parenteral nutrition patient in his 90s, whose ability to receive care in the home was affected by his 85-year-old wife’s health. “He didn’t have the strength to spike the bag or carry it around, and we didn’t want him tripping on his IV line moving around, so she helped,” he explains.

She fell and broke her shoulder, which required replacement surgery and discharge to a SNF. “We knew the couple well and when she was injured, we realized what that meant for his infusion care,” recounts Garst. “We worked with the nurses at their assisted living facility and the family, and made some extra visits. Through the collective efforts of everyone involved, he was able to stay at home.”

Adapting to Meet the Need

Both Garst and Parry point out that treating older patients in the home requires proactive thinking. With an in-depth clinical awareness of their specific needs and an organization-wide awareness of the factors that inhibit success, home infusion providers can adapt to effectively treat elderly patients. “These patients take extra time and attention, but it just becomes part of what you do,” asserts Parry—and the more you do it, the more efficient and effective you become.

For example, initial patient assessments are always thorough. But for older patients with multiple conditions and more extensive medical histories, this step can require more on the part of the clinical staff. “We do a baseline assessment that asks for information from head to toe,” she says. In addition to asking about a variety of health conditions, the assessment includes specific questions that address functional mobility (Can you open a jar lid?), vision (Do you have cataracts or wear glasses?), and other issues that could become problematic. “We try to do this face-to-face,” Parry adds. “This helps us determine which pump or administration method to use.” The focused, proactive time spent up-front, enhances the care process and clinical outcomes as treatment unfolds.

Intake also involves reimbursement staff time, sorting out issues such as primary and secondary insurance coverage, deductibles, and so on. “Discharge is a very confusing time for the patient,” acknowledges Garst. “They aren’t always feeling well, and they are inundated with information.”

It can be a problem when a patient doesn’t remember conversations they’ve had, or doesn’t understand that they have to pay (even though they’ve signed patient responsibility forms). “To clarify things,” says Garst, “we started making call backs after the first delivery to see if the patient had questions about their care or any of the financial details.”
Meet the need of older patients, agrees Parry. “Patient concerns, the added follow up has helped Garst’s organization improve its patient teaching tools, as well. Flushing protocols, for example were converted into a chart form. “It’s on one page, it’s easy to read, and laminated. We don’t get nearly as many calls as we used to,” he says.

Give specific directions using concrete terms. 
- Demonstrate, rather than describe, a new skill or procedure; and have the patient practice it with you.
- Leave behind printed material to reinforce the teaching. Text should be easy to read, large print, and high-contrast on the page. Display essential points in bullet or list form.
- Give specific directions using concrete terms. Rather than directing a patient to "increase the calcium in your diet," list specific foods that are good sources of calcium.
- Demonstrate, rather than describe, a new skill or procedure; and have the patient practice it with you.
- Relate new information or target learning to cues within the patient’s home or daily routines to assist with recall.
- Repeat essential points frequently throughout the teaching session and have patients repeat back the new information in their own words.


Exhibit 5

Age-appropriate Teaching Strategies for the Older Adult
- Communicate respect, acceptance, and support. Make the patient comfortable to acknowledge what is and is not understood.
- Schedule teaching sessions in mid-morning when energy levels are high. Several brief teaching sessions on different days are more appropriate than one lengthy session.
- Pause after presenting each new concept to allow for processing. Validate understanding before moving on.
- Link new knowledge or skills with past experiences.
- Minimize distractions, limit the message to a few (five or less) essential key points, and avoid extraneous information.
- Speak slowly, but not so slowly that the patient becomes distracted or bored.
- Face the patient, sitting on the same level.
- Speak clearly and concisely, using familiar words.
- Leave behind printed material to reinforce the teaching. Text should be easy to read, large print, and high-contrast on the page. Display essential points in bullet or list form.
- Give specific directions using concrete terms. Rather than directing a patient to "increase the calcium in your diet," list specific foods that are good sources of calcium.
- Demonstrate, rather than describe, a new skill or procedure; and have the patient practice it with you.
- Relate new information or target learning to cues within the patient’s home or daily routines to assist with recall.
- Repeat essential points frequently throughout the teaching session and have patients repeat back the new information in their own words.

It pays to adapt the patient education process to meet the need of older patients, agrees Parry. “Patient teaching is most effective when you can relate the topic you’re trying to teach to things the patient can understand—likening a catheter clearance agent to Drano®, for example.” While alternate-site infusion providers should always assess and tailor education to each older adult patient’s own unique factors, conditions, abilities and needs, the strategies for age-appropriate teaching outlined in Exhibit 5 are a very valuable foundation.

Most of VITALine’s patient education materials are geared to about the sixth-grade educational level, says Parry. “Don’t confuse education level with health literacy,” she warns. “We see many skilled readers who are still not very literate on health issues.” Health literacy tends to be lower in older adults. A national assessment revealed that just three percent of adults over the age of 65 were proficient in health literacy skills. Lower health literacy rates are associated with higher hospitalization rates, an inability to manage chronic diseases, and increased mortality.9 Because of the potential negative outcomes involved, it’s critical that home infusion providers take the time to explain not only the IV care, but be available to answer other health-related questions and address patient concerns that stem from a lack of knowledge.

Once an older patient is on service, they require regular monitoring. Garst and Parry agree that a holistic approach is needed and is best executed by every possible member of the home infusion team. “Every visit, nurses should be checking vitals, asking the patients how they are feeling, how they have been eating and sleeping, and what is their pain level,” explains Parry. “They should also ask if the patient has been compliant with other care, such as taking daily weights for diabetics and CHF patients.” Problems or concerns are discussed with the referring physician.

Non-clinical staff members can also play a significant role in patient monitoring. As another familiar face from the home infusion team, drivers assist patients in many ways, from arriving at pre-arranged times to lifting heavy items, such as IV bags and supplies, into the refrigerator. As such, they are another pair of eyes and ears in the home. “Drivers will alert us if they see something that looks off and we’ll get a nurse out to the house,” Parry says.

Customer service representatives (CSR) can act in much the same way. “When they are on the phone arranging for a delivery, our CSRs ask the patient how they are feeling or do they need any help with anything,” explains Garst. “Sometimes when they are reordering supplies, they’ll have the patient count what they’ve got left and look for signs of confusion.”

Team members can make notes about the patient’s disposition—whether they were grumpy or chatty—when and how they prefer to be contacted, and special

instructions, such as deliver to the back door because there are fewer steps. That information can be put into the electronic patient file as an alert, and communicated among the appropriate staff. In many ways, these extra steps are an offshoot of the regular work home IV providers are already doing: working in teams to coordinate high-quality, patient-specific care.

“Little things can make the difference,” observes Garst. “And with older patients, sometimes the social and cultural issues are as important as the medical issues.”

Treating geriatric patients is challenging, but in a good way, he concludes. “Because they are higher acuity, you have to think about all those other things that could be going on. That forces you to think outside your box.”

REFERENCES