CareManagement

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Gary S. Wolfe

COVID-19: Lessons Learned

On January 19, 2020, a 35-year-old man who had recently returned from visiting family in Wuhan, China, went to an urgent care clinic in Snohomish County, Washington, with a 4-day history of cough and subjective fever. This was the first confirmed case of COVID-19 in the United States but certainly not the last. Since that date, we have over 34 million confirmed cases and over 604,000 deaths from COVID-19. The healthcare system has been challenged in many ways: shortages of essential supplies, not enough space to accommodate patients, staff shortages, and lack of effective treatment options. The COVID-19 pandemic has affected everyone in many different ways, including employment, essential services and supplies, socialization, shopping, operation of businesses, recreation, education, and travel. In December 2020, the first COVID-19 vaccination was approved. To date (June 28, 2021), 54% of the US population eligible for the vaccination have received one vaccination and 46% have been fully vaccinated. It appears that we are coming out of the pandemic.

What have we learned from the pandemic?

1. **When in crisis, people pull together.**
2. **Scientists responded quickly to the need for new therapies and vaccinations for COVID-19.**
3. **Public health measures really do work.**
4. **Organizations responded under difficult situations.**

What have we learned?

1. When in crisis, people pull together. Food was short. Bills needed to be paid. Childcare was needed. Loved ones were dying alone. People came together in organized ways and many unorganized ways to help their neighbors. Emergency food pantries sprang up and people contributed generously. Parents came together to take care of their children and to teach them at home. Hospital staff came together in some amazing ways to communicate with family/friends of people dying of COVID-19 in the hospital when no one could visit. It was a wonderful outpouring of the human spirit.
2. Scientists responded quickly to the need for new therapies and vaccinations for COVID-19. The rapid development of a vaccination for COVID-19 in such a short period is amazing. Public health departments set up and administered vaccines in record time.
3. Public health measures really do work. From early on, public health officials urged the public to use protective face coverings, to social distance, and to wash their hands frequently. When these public health measures were practiced, the number of COVID-19 cases declined.
4. Organizations responded under

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Catherine M. Mullahy

Time Moves Forward and Then What?

As I write this column, Richard Branson, a billionaire, has just gone to the edge of space and returned, all in the span of 90 minutes. This is an incredible event that has opened the door to space tourism! When feats such as this are accomplished, it is tempting to think that all things are possible, and yet there is that ever-present sense of reality that causes us to acknowledge that these miraculous events are elusive for most of us. Mr. Branson had many of the advantages that potentiated his chances for success, but I suspect that even he knew that his success wasn't guaranteed.

We have some choices to make: Like Don Quixote, we can "Dream the Impossible Dream" and just hope that something happens or we can move beyond dreaming and create a strategic plan that will increase that possibility and movement toward reality. The challenges, barriers, and plans to achieve anything worthwhile can be overwhelming, so much so that many of us might be inclined to procrastinate or just decide that it's not likely to be successful anyway and put it aside.

There is a saying that "life is what happens when you're busy making plans," and while we're advised that we need to create a plan, to establish goals, and that nothing will happen unless we make it happen, sometimes that's just not enough. Who or what is the determining factor for a successful outcome is often as problematic as the issues themselves. We are often faced with a dilemma, analyze it carefully, create with our colleagues a seemingly perfect plan, collaborate with others, and obtain consensus, and then something happens that upends the execution of that plan. Our response can be a predictor of how we might approach other plans that will cross our path in the future. Will we elect to move on, wanting to just put it all behind us, or do we determine that it's important to analyze it critically, no matter the consequences, even if it reflects badly on you, the members of your team…or perhaps, even your boss? In case management, there are countless opportunities for us to learn, no matter how many years of experience we have. These learning opportunities arise because the individuals involved are not a one-size-fits-all; each of the players in a case management intervention is unique and will not always respond in the way we would like. Additionally, there are also variables that we can't control, including dysfunctional families, funding issues, complex diagnostic conditions, practice settings, and, of course, countless rules and regulations. It would be wonderful if we could just move beyond or around these obstacles, but more times than not, it's just not possible. It's often our inability to acknowledge that we might need multiple plans to achieve the desired outcome, which I like to refer to as Plan A, B, and perhaps a Plan C, that results in an increase in frustration and often, unfortunately, a lack of success. The examination of the issues and an analysis of what worked and what didn't is extremely important, and you might agree that more is learned from our failures than our successes, although obviously the latter is a more enjoyable experience.

The challenges, barriers, and plans to achieve anything worthwhile can be overwhelming, so much so that many of us might be inclined to procrastinate or just decide that it's not likely to be successful anyway and put it aside.

As case managers, we have countless opportunities for success and to make a difference…one patient at a time!

Hoping that you are taking some time during these summer months to reconnect with your family and friends and to take care of yourself as well… enjoy!!

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Alternatives

Melanie A. Prince, MSN, BSN, NE-BC, CCM, FAAN

It is hard to believe we are already in the third quarter of 2021. The "year of the pandemic" produced many challenges, some unprecedented. This year CMSA tackled three of the biggest member association challenges head-on and embraced the solutions as opportunities to complement existing member benefits with exciting alternatives. CMSA is busy transforming these alternatives into lasting commitments for members and cementing CMSA's staying power as the premier association for professional case managers worldwide. Let's take a look at these three member challenges that have now generated tangible alternatives for any case manager to consider for professional development and career enhancement.

As the world responded to the COVID-19 pandemic, many healthcare institutions were forced to alter how clinical staff were assigned and utilized to support patient demand in hospitals. Case managers are typically nurses or social workers, and many were asked to revert to their licensed credential and fill gaps in clinical nursing or point-of-care social work to accommodate patient surges. For example, case managers whose foundational professional license was registered nurse, with experience in emergency medicine or critical care, were reassigned to hospital intensive care units. The professionals who remained in case management roles were challenged with not only the volume of patients but also the dramatic reduction in resources to assist patients who required complex care management. Both scenarios identified the need to redefine professional roles and codify the practice of case management. CMSA has begun the process of circumscribing the practice and professional development of case managers with a revision to the CMSA Case Management Standards of Practice (SOP) and public policy around workforce development. We anticipate the release of the revised SOP by the end of the year.

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In the past 6 months, businesses, schools, and institutions around the country have opened and local programs have begun operating again. Anecdotal reports and a plethora of job vacancies reflect a growing demand for experienced case managers as hospitals, health plans, insurance companies, clinics, and community health groups return to prepandemic business as usual. Employment opportunities for case managers have increased, and there is a strong demand for experienced professionals.

CMSA is responding to the industry demand for experienced case managers with the development of a CMSA Case Management Boot Camp.™ The Boot Camp™ targets novice or newly transitioned case managers and is designed to provide practical application of case management concepts in a training environment that mirrors real-world experiences. Visit cmsa.org for launch date and applications.

CMSA responded to the challenge of member engagement and interactive continuing education with a phenomenal virtual conference in June 2021. The CMSA 31st annual conference combined live presentations with interactive speaker roundtables; real-time conversations with exhibitors; on-screen forums for attendees and CMSA leaders; fun social activities, including an incredible magic show that had everyone attempting their own personal magic trick; and

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Making CEs Easier and More Accessible

By MaryBeth Kurland, CAE

Continuing education is at the heart of board certification for case managers and a requirement for recertification. The Commission for Case Manager Certification (CCMC) requires a total of 80 CEs, eight of which must be ethics related to maintain the Certified Case Manager (CCM) and Certified Disability Management Specialist (CDMS) credentials.

As the thought leader in case management and disability management and the first and largest nationally accredited organization to certify case managers, the Commission recognizes the need for primary resources in case management and disability management. This includes detailed, comprehensive knowledge across essential case management domains. That's why we developed the Case Management Body of Knowledge (CMBOK®) in 2010 and continue to invest in updating and adding to its content.

CMBOK currently offers more than 100 CEs, including 14 ethics CEs (included with a subscription to CMBOK). All CEs are preapproved by CCMC and the American Nurses Credentialing Center's (ANCC) Commission on Accreditation. CCMC is also recognized by the New York State Education Department for Social Work (NYSED) as an approved provider of continuing education for New York State–licensed social workers. In addition, many of CCMC CEs, including those included with CMBOK, are preapproved for CEs to support recertification for CDMSs.

The CMBOK is a body of knowledge informed by the knowledge framework for case managers, disability management specialists, and other healthcare professionals who are involved in case management practice across the continuum of health and human services. As such, the Commission describes the CMBOK as "a comprehensive resource of essential knowledge in the field of case management that a case manager is expected to master and become knowledgeable, skilled, as well as experienced in, to effectively care for clients and their support systems and be considered a competent case management practitioner."

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In every care setting and for every professional background, case managers and disability management specialists need the knowledge, skills, abilities, and competencies that help ensure the provision of safe and superior services to clients (also known as "patients" in some care settings) and their support systems/families. By remaining current in their knowledge, especially in evidence-based practices, case managers and disability management specialists are better able to deliver services effectively to achieve desired outcomes in support of clients' goals.

In addition, the Commission develops webinars and courses that are available through its CM Learning Network, which includes this journal, *CareManagement*. The CM Learning Network is a learning hub and information center that addresses current and future practices of case management. Many educational offerings, both free and for purchase to earn CEs, are available through the hub. Recent webinar and issue brief topics include "Technology in Case Management: Telehealth for At-Risk Populations," "Maintaining Emotional Connections through Virtual Encounters," and "Creating Health & Equitable Communities: A New Social Compact

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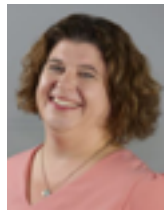

MaryBeth Kurland, CAE, *is CEO of the Commission for Case Manager Certification, the first and largest nationally accredited organization that certifies more than 50,000 professional case managers and disability management specialists. The Commission is a nonprofit, volunteer organization that oversees the process of case manager certification with its CCM® credential and the process of disability management specialist certification with its CDMS® credential.*

Disability Management and the Focus on Prevention

Ed Quick, MA, MBA, CDMS

Disability management extends beyond workplace accidents and incidents that result in job-related injuries. Often, disabling conditions are caused by repetitive stresses over time; therefore, programs and interventions that focus on wellness and prevention can reduce the risk of injury and maintain productivity.

Disability managers, particularly those who are board certified, have the necessary knowledge and expertise to help employers provide the education and support that can make a meaningful difference in the health and wellness of workers and their families. The very tenets of disability management speak to the importance of helping people achieve and maintain optimal physical and economic well-being by intervening as early as possible at the first signs of elevated risks.

To illustrate, the most recent role and function study for the Certified Disability Management Specialist (CDMS) certification underscored the importance of a practice domain known as "Workplace Interventions for Disability Prevention." That domain includes programs that promote health and wellness as well as injury prevention.

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Disability managers, particularly those who are board certified, have the necessary knowledge and expertise to help employers provide the education and support that can make a meaningful difference in the health and wellness of workers and their families.

Employers increasingly recognize the value of wellness and prevention. For example, Amazon recently announced a program to provide its employees with physical, mental, and nutritional support, with a goal of reducing its recordable incident rates by 50% in 4 years. This follows a pilot program in 2019, which eventually reached 859,000 workers at 350 sites in North America and Europe. According to Amazon, musculoskeletal disorders are among the most common injuries its employees face, with more than 500,000 reported cases in 2020 alone. In fact, Amazon CEO Jeff Bezos addressed workplace injuries in his annual letter to shareholders, noting that the previous pilot program for injury reduction decreased musculoskeletal disorder–related injuries by 32% from 2019 to 2020.

As more employers offer programs to promote health and wellness, hoping to reach as many employees and their dependents as possible, disability managers can assist employers with designing and implementing workplace interventions. CDMSs, in particular, have expertise in key areas such as optimizing employee functioning; individual and workplace strategies for ergonomics, safety, and accessibility; and health and wellness resources to support employees, their organizations, and their communities.

Workplace programs and interventions that promote health, wellness, and injury prevention have become increasingly important, given the aging of the population and the need to accommodate an older workforce. Research has shown that, while the rate of incidence of injuries is not higher among older workers, their injuries tend to be more severe and require a longer recovery time. Importantly, workforce programs apply across the workforce demographic; as the Centers for Disease Control and Prevention noted, "Regardless of the age of a particular workforce, employers whose programs are aimed at preventing disease and injury can help maintain the health of workers throughout their working lifetime."

As employers try to help improve the health and wellness of their workforce, they need to reach as many people as possible. At the same time, disability managers work one-on-one with injured employees to help them get the information and support they need. In addition, disability managers have access to data to identify groups of employees who have a

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Quality Improvement: "Escape Fire"

Elizabeth Hogue, Esq.

On December 9, 1999, Dr. Donald M. Berwick, the founder, president, and CEO of the Institute for Healthcare Improvement, gave an important address to the 11th Annual National Forum on Quality Improvement in Health Care. The wisdom of Dr. Berwick's words still rings true today and is important for all providers who are committed to improving the quality of patient care on a continuous basis.

Dr. Berwick began his speech with a description of the Mann Gulch fire in Montana on August 5, 1949. Thirteen young men lost their lives in this fire that did not develop as expected. At first, the fire appeared to be routine. The firefighters called it a "ten o'clock fire," which means that they expected to have the fire beaten by 10 o'clock in the morning. But they were wrong. The fire flanked them and cut off their escape route to the river.

According to Dr. Donald M. Berwick, a key role of organizations is what he calls "sensemaking," a concept developed by Professor Karl E. Weick. Sensemaking is the process by which the fluid, multilayered world is given order within which people can orient themselves, find purpose, and take effective action.

The firefighters immediately changed course and hoped to get up a steep hill and over a ridge before the fire reached them. Their leader, Wag Dodge, recognized that his team would not make it over the ridge before the fire engulfed them. Here is Berwick's description of what Dodge did:

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OSHA Issues New COVID-19 Safety Rules

Elizabeth Hogue, Esq.

On June 10, 2021, the Occupational Safety and Health Administration (OSHA) issued new COVID-19 workplace safety rules for health care providers. It is important to know that the regulations generally apply to all settings where providers render healthcare services or healthcare support services. The definition of healthcare services in the regulations specifically includes both home health and hospice care. There are, however, exceptions that may apply to home care providers. The new rules do not apply to:

- Home healthcare settings where all employees are fully vaccinated and all nonemployees are screened prior to entry and people with suspected or confirmed COVID-19 are not present
- Healthcare support services not performed in a healthcare setting such as billing
- Telehealth services performed outside of settings where direct patient care occurs

Here are some of the key provisions of the regulations:

- Providers must develop and implement a COVID-19 plan. If providers have more than ten employees, plans must be in writing.
- Providers must designate one or more safety coordinators to implement and monitor plans.
- Assessments must be conducted to identify potential workplace hazards related to COVID-19.
- Plans must address hazards identified by assessments.
- Policies and procedures must be included in plans that minimize the risk of transmission of COVID-19.
- Providers must protect employees who enter into private residences or other physical locations controlled by persons not covered by OSHA requirements, such as homeowners, including procedures for employees to withdraw from locations if protections are inadequate.
- Employers must provide and ensure that employees wear face masks described in the regulations.
- Providers must ensure that employees wear face masks over their noses and mouths when indoors and when they occupy vehicles with other people for work purposes. Employers must provide a sufficient number of face masks to each employee and must ensure that employees change them at least once per day, whenever they are soiled or damaged, and more frequently, if necessary.
- Providers must screen employees before each work day, which may include self-monitoring before reporting to work.
- Providers must require employees to promptly notify them of COVID-19 illnesses or symptoms.
- Employers are required to notify employees of exposure to COVID-19 in the workplace.
- Employers with more than ten employees on the effective date of the regulations must compensate employees required to work remotely or in isolation and continue to provide benefits. Compensation may be reduced by amounts received from other sources, including paid leave.
- Providers must also provide reasonable time and paid leave, such as sick leave, to employees for vaccination and any side effects as a result of vaccination.

On June 10, 2021, the Occupational Safety and Health Administration (OSHA) issued new COVID-19 workplace safety rules for health care providers. It is important to know that the regulations generally apply to all settings where providers render healthcare services or healthcare support services. The definition of healthcare services in the regulations specifically includes both home health and hospice care.

Compliance with many of the rules described above will be required within 14 days of publication of the rule in the Federal Register. Providers must comply with the remaining requirements within thirty days from the date of publication in the Federal Register.

There's always something new in healthcare! Here we are again! CM

Elizabeth Hogue, Esquire, *is an attorney who represents health care providers. She has published 11 books, hundreds of articles, and has spoken at conferences all over the country.*

As Different as Snowflakes

Jared D. Johnson, MSW, LMSW, CCM

When people first hear the words "Case Management," they generally think of discharge planning. However, case management is more in-depth and involved than just discharge planning. There are multiple layers to case management that include utilization review, utilization management, connecting resources for patients, and patient education. At the same time, they move through the levels of care, and of course, advocating for a patient to ensure they are transiting through the levels of care with the best outcomes possible. Honestly, the previously mentioned items are just touching the basics of what case management is.

Being a case manager is more than just following a clear set of guidelines while working with patients. Short et al. (2019) explained an increase in medical services and social and welfare services are becoming more apparent for the general population. Just like every snowflake is different, every person is also different. Some patients may require more extensive planning, guidance, and education while navigating through various levels of care. There has been more reliance from the general population on healthcare facilities for more than just medical needs in recent years. Patients are presenting with chronic illnesses. Some of these illnesses are being exacerbated by social issues, such as lack of resources, lack of education regarding the disease process, lack of a support system being in place, and the list goes on from there.

Additionally, multiple healthcare entities are either currently forming or have formed contractual agreements with other healthcare entities to ensure they are all making a profit to keep their doors open to serve the patients' ever-growing needs. While this is good for business, this leads to confusion for patients. Patients are not understanding the role of each healthcare setting they are currently being treated at. For example, a patient who needs long-term acute care (LTAC) would likely benefit more from an LTAC hospital versus an acute care hospital. This example shows where case management proves to be not only beneficial but essential for patients to have the best outcomes possible.

There are multiple layers to case management that include utilization review, utilization management, connecting resources for patients, and patient education.

Case managers can be seen as both the "good and bad cop" from a patient's perspective, depending on the situation. The good cop, if case managers can connect a patient with great resources, leading to the best outcomes. Additionally, for a case manager to be seen as a "good cop," the patient is generally also satisfied with the results. Sadly, this could also lead to a case manager being seen as a "bad cop" if the patient disagrees with the presented options on the flip side. Such as a case, where an individual underwent a traumatic injury and they do not identify as being "ready" for the next level of care, which could include skilled nursing facilities, home with home health therapy, etc. During times such as these, case managers are also tasked with explaining to the patients the risks of staying in an acute care setting, risks which could include, but are not limited to, hospital-acquired infections and insurance companies rejecting a bill for services rendered at the current level of care. Additionally, case managers could serve as a contact person for a patient's loved ones when they are not sure what to expect next in a disease process.

While case management can seem like much work, it is also one of the most rewarding careers a person can choose to go into if they have the heart for it. Just like any other helping profession, it is not possible to train someone to care. However, if someone does have a "calling" for case management, it is a career you can hang your hat upon, feeling like you have made a difference in someone's life. Not only with clients, the agencies that a case manager is employed with will also turn to the case manager to be the subject expert in multiple areas. This leads to the need to have multiple disciplines working in the role of a case manager. Each

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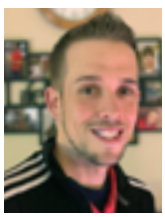

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Health Care Leadership in the Postpandemic Era

Christine M. MacDonell, FACRM

As an international accreditation system, CARF has the unique opportunity to interact with and learn from many leaders. No one could dispute that in 2020 and 2021 we have been immersed in major challenges in health and human services. As case managers you have been on the front lines, and some of you have been in leadership roles. Recently we were able to listen to a group of Canadian leaders speak about what they learned during the pandemic, including lessons learned for the future. We also have done many surveys where we heard from our providers about what worked and what they will continue with after we get to our "new normal."

During any time of crisis (natural disasters, financial downturns, violence, pandemics), judgment, decision making, and leaders' actions are displayed and influenced by their unique leadership style. In this recent pandemic, it appears that three distinct types of leaders emerged. The traditionalists controlled information and didn't embrace the science—eventually staff felt fearful, unsure, and panic stricken. The unknown became overwhelming. Luckily these leaders were in the minority in health and human services. The majority of leaders were what we might call integrators. They shared information on all levels and collaborated with cross-functional teams, and their teams focused on common goals. They worked within their organization and made everyone feel safe and secure during challenging times. You heard about command centers, leadership rounding, town hall meetings, daily newsletters with updates, and upgraded technology that allowed for immediate messaging to all. The integrators were there for their staff and those they served. The final group of leaders might be called pioneers. They worked on solving the immediate crisis but also looked at the long-term view: what we learned during the crisis, what can we enhance, and what lessons are worth not repeating. They usually display characteristics of being prepared, adaptable, collaborative, trustworthy, and authentic. We all know this type of leader: they care about their staff, look to provide a brighter future, and put their needs last.

Whether they are leaders on or the front lines, case managers need to be able to scale their services quickly, be innovative in meeting demands, embrace opportunities, and, very importantly, focus on their own self-care.

Pioneers tend to learn from every experience and use these learnings to build organizational resilience. In these CARF columns we have addressed the importance of resilience for both individuals and organizations. Resilience as an organization means that the leaders of the organization can anticipate, prepare, respond, and adapt to change and sudden disruptions.

Whether they are leaders on or the front lines, case managers need to be able to scale their services quickly, be innovative in meeting demands, embrace opportunities, and, very importantly, focus on their own self-care. This last point, self-care, is critical to good leadership. When you abandon practices that bring you peace of mind and energy, you begin down a slippery slope that results in exhaustion, defensiveness, and an inability to lead others. Many organizations spoke about the opportunities that they were given to have space to reflect, exercise, and to keep a journal— to recenter themselves during crisis times.

The last point that comes to mind is that pioneer leaders were transparent. Many organizations shared how their leaders listened to their needs and requests and adjustments were made. Flexibility and creativity were embraced to provide better and unique services. Frontline staff saw their leaders in a

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CE1 Approved for 1 hour of CCM, CDMS, and nursing education credit
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Medical Cannabis: Implications for the Care Manager

Part 1: Important Considerations for Health and Safety

Jennifer Crowley, BSN, RN, CLCP, CADDCT, CDP, CMC

This is a two-part series on medical cannabis and the care manager. Part 2 of this article will be featured in the October/November 2021 issue of *CareManagement* and will focus on care planning, practice guidelines, and ethical considerations associated with medical cannabis. Medical cannabis is becoming more readily available and growing in popularity. Care managers should fine tune their method for working with clients who choose to use medical cannabis. Evidence-based practice guidelines from industry leaders and relevant professional organizations will be reviewed, and opportunities for personal and professional development in this area will be discussed.

The rise in popularity of cannabis and cannabis byproducts has generated curiosity, heightened awareness, and created opportunities. Although driven by its promising health benefits, cannabis has also brought new challenges. New products are arriving daily, as evidenced by grocery and gas station checkout lanes that feature new cannabidiol (CBD) and CBD-laced products alongside energy drinks and lip moisturizer. Take a trip into a cannabis dispensary and you will find a plethora of products ranging from the traditional inhalants, gummies, edibles, liquid tinctures, and drops to bath bombs, drinkables, and lotions. Consumers may not understand the role of cannabis, the differences between cannabis products, and the physiological effects of cannabis on the body.

The cannabis industry itself is hard to follow, especially given the rapidly changing laws. Although the U.S. Food and Drug Administration (FDA) claims to not approve of cannabis-derived or CBD products currently available on the market (other than the three synthetic products approved years ago and Epidiolex for the treatment of seizures), the FDA is committed to encouraging the development of cannabis-related products through scientific research (Food & Drug Administration [FDA], 2020).

Care managers may have clients who are using cannabis products to relieve symptoms, whether through legal means or undisclosed use. They may have clients who want to use medical cannabis as a complement or alternative to their current treatment care plan. It is important for care managers to stay informed and aware of the public health risks of cannabis.

In the United States, over 33 states have legalized medical marijuana and over a dozen are in the process of or have completed the legalization of adult recreational use; approximately 3 million medical marijuana users are currently enrolled in state registries (Lynch, 2019). The use of marijuana is complex, relevant, and challenging for healthcare professionals. There are inconsistencies, decades of silent usage, and fears of retribution, creating a widening gap between those who ignore what they do not wish to accept and those who acknowledge the use of cannabis as part of a treatment plan.

Life care managers will need to strike a balance between their own personal bias, the client's autonomy for decision-making, current laws and regulations, and the primary care provider's viewpoint. Care managers will find a growing need for advocacy and education for clients and medical providers alike. Care managers may choose to collaborate with cannabis specialists who are familiar with the various products and understand the endocannabinoid system (ECS), who can explain the differences in the various strains and provide recommendations, and who can suggest ratios and dosing for treating various medical conditions.

Life care managers can help clients make informed decisions by educating themselves.

The word cannabis is still not a part of routine

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Consumers may not understand the role of cannabis, the differences between cannabis products, and the physiological effects of cannabis on the body.

conversation. Most professionals would agree they do not know enough about cannabis and have not been able to keep up with the industry. There is a tremendous need for research and education about cannabis, even for cannabis specialists.

Brief background

For care managers with little to no exposure to the world of cannabis, a brief background helps provide some understanding. Cannabis is the botanical name, commonly referred to as marijuana, hemp, pot, or weed. Some products come from the marijuana plant and others come from the hemp plant. There are over 100 cannabinoids in the cannabis plant, the best known being CBD and tetrahydrocannabinol (THC). Marijuana is known for its THC, which is psychoactive, whereas hemp will typically contain less than 0.3% THC.

Hemp is the legal product that comes from the cannabis sativa plant and has many nonmedicinal uses. These include bedding, clothing, body care, and textiles. The nonpsychoactive naturally occurring compound found in hemp is called CBD. The surge in CBD products and industry growth is reflective of consumer demand for a more natural form of relief from ailments without the typical side effects from THC. Not all CBD is completely free of THC, as there may be trace amounts of THC in certain types of CBD products.

Terpenes are the natural compounds that provide flavor, character, and therapeutic value in hemp and other plants. Terpenes are the aromatic oils secreted from glands of cannabis plants and may play a key role in distinguishing specific cannabis strains; over 100 terpenes have been identified in the cannabis plant. Terpenes may include Myrcene (Mc), believed to promote relaxation; Terpinolene (Te), with its uplifting effects; Limonene (Lm), for supposed stress relief; Caryophyllene (Cr) or Pinene (Pn), both believed to reduce inflammation; or one of the three other most common terpenes (Rahn, 2014). When choosing the most effective and desirable product, the amount of information can be overwhelming. It is important to encourage clients to use a reputable and experienced dispensary with knowledgeable and capable staff who can help answer questions and explain the reason behind the names like OG Kush, Wedding Cake, and Purple Punch.

How it works: The Endocannabinoid System

The opiate receptor of the brain was not discovered until 1973, and it was not until 1988 when Allyn Howlett and William Devane found that the mammalian brain had receptors that respond to the compounds found in cannabis, which have since been found to be the most abundant type of neurotransmitter receptor in the brain (Crowley & Huber, 2021). Research helped to further define the complex system we now know as ECS, which includes cannabinoid receptors and whose primary role is the hub for cellular messaging, communications, and homeostasis.

Two primary cannabinoid receptors within the ECS are called CB1 and CB2. CB1 receptors primarily mediate the psychotropic effects of THC while CB2 receptors respond to CBD. Interestingly, scientists have confirmed that CBD counteracts the psychoactive effects of THC, which is useful not only as an antidote to too much THC but also helps promote balance when clients use a combination of cannabis products and reduces concerns for abuse or other potential adversity with the use of THC (Cannabis Advisory, 2020).

Health Conditions

The ECS is known for its involvement in the brain's reward system and the perception of pain, potentially creating opportunities for improving outcomes related to substance abuse, pain management, and mental and physical well-being.

Chronic pain affects a staggering number of Americans (nearly 100 million), contributing to both the cost of care and lost productivity, which is estimated to be over $500 billion annually (Argueta et al., 2020). The challenges with managing chronic pain using the conventional methods of prescription medications such as nonsteroidal anti-inflammatories and opiates is the heightened risk for potential adverse effects and the highly addictive nature of opiates.

To stem the opioid crisis and reduce the risk of harm and fatalities from opioid use, providers, insurers, and other stakeholders are attempting to limit opioid use, providing a window of opportunity for alternative therapies and more natural remedies such as cannabis. Although studies have been limited, cannabis has been found to have modest effectiveness and to be a safe treatment for chronic noncancer pain (Deshpande et al., 2015).

Care managers may be involved with a client who is using cannabis products for the relief of symptoms, whether through legal means or undisclosed use. They may have clients who want to use medical cannabis as a complement or alternative to their current treatment care plan. Staying informed and aware of the public health risks of cannabis is important for care managers.

A comparison of data from Medicare Part D demonstrated less need for opiates and lower opioid prescribing with use of cannabis as well as improved quality of life (Roland, 2020). Although there can be some optimism about the shift from the rampant prescribing of opioids, there is considerable ground to be made with insurers and other stakeholders to formally recognize cannabis and improve coverage through health plans.

Cannabis-based treatments, including products that act on both CB1 and CB2 receptors, are effective at reducing symptoms associated with many conditions including multiple sclerosis, Parkinson's disease, and Alzheimer's disease, as evidenced by decreased muscle stiffness, decreased pain, less agitation, improved sleep, and improved quality of life (Suryadevara et al., 2017). Suryadevara et al., however, found that there were no clear benefits for the use of cannabis in patients with brain disorders such as bipolar disorder and that cannabis could have a harmful effect in patients with schizophrenia (2017). There is no exact science to the inner workings of humans, especially at the cellular level, and the subjective and objective response to cannabis will be highly individualized.

Eligible health conditions that qualify an individual for medical cannabis treatment will vary and depend on the state jurisdiction. The list generally includes glaucoma, Crohn's disease, insomnia, anxiety, eating disorders, epilepsy, posttraumatic stress disorder, cancer, and chronic pain (Arcel 2020).

It will likely take time before insurers cover cannabis on a broad scale, primarily because cannabis is illegal at the federal level. A New Jersey judge set a precedent recently for coverage of cannabis under workers' compensation, but this does not automatically translate to a precedence for medical insurance coverage, with most medical insurers wanting to avoid adverse selection or disrupting their bottom line through unparalleled risk (Kennedy-Simington 2018).

These issues create even more fiscal responsibility for consumers, leaving them on their own to understand and navigate this health option. Again, this is an opportunity for care managers to lead through education, advocacy, and preparedness.

Important Considerations for Health and Safety

With regard to cannabis, there are many things to consider. Social persuasion suggesting cannabis is natural and without harm is misleading. Dispensaries, rapidly on the rise, have staff that are often untrained or work with little guidance or oversight, potentially causing harm by providing recommendations for cannabinoids that have not been shown to be effective for a given condition or may worsen the client's condition (Haug et al., 2016).

Cannabis is not for everyone, and some individuals may be unaware that cannabis may be dangerous for them. Velez et al. correlated adverse effects of cannabis with increasing concentrations of THC, the increasing availability and broad use of edibles, and synthetic cannabinoids, all of which may contribute to cannabis-related reactions such as tachycardia, hyperthermia, agitation, hyperemesis, and delirium (Velez et al., 2018).

Hyperemesis due to cannabis use may occur suddenly and cause confusion because of its similarity to other acute illnesses. It can be difficult to diagnose and be refractory to traditional antiemetic treatment. Other adverse side effects due to cannabis use may include heart rhythm disturbances, hypoglycemia, and erectile dysfunction. Erectile dysfunction was found to be twice as high in cannabis users than in nonusers (Pizzol et al., 2019).

In 2016, an analysis found that the average potency of cannabis plants increased from about 4% in 1995 to 12% in 2014 (Dresden 2020). Understanding how to choose cannabis products according to individualized needs and tolerance is the first step. If consumers are not educated to choose wisely, they may be more vulnerable to the negative side effects and may reject cannabis early on as a viable option for symptom management. Despite the risks of cannabis, the potential harm is significantly lower than opioids; no fatality due to a cannabis overdose has ever been reported. It is important for patients to look at all options for symptom management and to avoid opiates when possible. Patients should be taught how to read and interpret cannabis product labels, which questions to ask when choosing cannabis products, which dosing recommendations are appropriate, and how to safely store the product.

As cannabis use grows and concentrations of THC increase, so does the potential for higher dependency and negative cognitive effect. Research is aimed at developing cognitive enhancers, such as galantamine, for addiction to cannabis known as cannabis use disorder (Sugarman et al., 2019). The care manager may recognize galantamine, an

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acetylcholinesterase inhibitor, as the approved pharmaceutical for the treatment of Alzheimer's disease or related dementia. Research continues to be needed across the continuum of cannabis, from the botanical and growing operations, to learn how to improve outcomes with specific health conditions and to determine remedies for managing cannabis side effects and withdrawal.

Cannabis withdrawal causes nagging and sometimes lingering symptoms of anxiety, chills, headaches, sleep disturbance, loss of focus, irritability, muscle aches or cramps, stomach pain, sweating, yawning, and feelings of depression (Keuma 2019). It can last several days to months and is less likely to occur or is less noticeable for individuals who are not regular cannabis users.

Albee and Penilton discussed alternative sources of cannabidiols that include noncannabis plant sources such as Helichrysum, Coneflower, liverwort, and black pepper (Albee & Penilton, 2020). This becomes increasingly important in situations where there is a potential interaction, contraindication, or known adverse reaction associated with cannabis but the client wants a more natural remedy. The authors reviewed various medications with potential contraindications with use of medical marijuana; these medications include warfarin, antiseizure medications, metformin, and theophylline. Additionally, any medications with sedative or drowsy effects will be accentuated by cannabis.

Care managers should ensure that their clients who take medical cannabis review their prescriptions regularly and discuss their medication treatment plan with a pharmacist for safety reasons. As with any care plan, using a person-centered approach is vital.

Additionally, clients should be able how to read labels and purchase cannabis products that have been tested for chemicals and contaminants such as pesticides, microbes, molds, solvents, and heavy metals. Hemp is known as a bioaccumulator. It absorbs heavy metals and other compounds that may be harmful. Dispensaries and manufacturers should have a certificate of analysis, which is often completed through a third-party laboratory and may need to be requested if not immediately available. Patients should use professional dispensaries that follow industry standards and provide the most effective and safest products. CE

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Issues and Considerations of Transitions of Care and the Seven Essential Elements of Care Transition Bundle: Part I

Cheri Lattimer, RN, BSN

The term transitions of care is not new to the health care industry. The issues and concerns surrounding transitions of care for providers, patients, and their family caregivers have been the focus of several health care researchers since the early 1990s. Although health care systems and payers have made significant strides in addressing the issues and concerns associated with poor transitions, the industry still has not identified or achieved consensus on a specific model or method of reimbursement (Rochester-Eyeguokan et al., 2016). The COVID-19 pandemic has severely affected the delivery of health care in the United States and globally (Herzik and Bethishou, 2021). Optimizing transfers to and from acute care settings has always been important and became increasingly so during the pandemic. The pandemic forced us to think about limited resources in all settings and to carefully consider the preferences of patients and their family caregivers and where individuals would receive the best care consistent with their goals (Resnick, 2020). Resnick indicated that in her practice during the pandemic she spoke directly to her residents or their legally authorized representatives to review end-of-life care preferences and particularly what each resident would want to do in the event the individual became positive for COVID-19. COVID-19 highlighted the need to understand and deliver a more positive and safer patient journey concerning transitions and care coordination focused not only on clinical presentation but inclusive of patient preference through the health care maze of acute to postacute care and beyond the brick and mortar of our health care facilities.

Transitions of care refers to the movement of patients from one health care practitioner or setting to another because of changes in their conditions and care needs during the course of a chronic or acute illness or an episode of care. These may include transitions from hospital or skilled nursing facilities to the home, emergency department, or intensive care unit or transitions from primary care to specialty care (Agency for Healthcare Research and Quality, 2016).

Consistent gaps and barriers identified in transitions of care, such as inadequate medication lists, poor medication management, delays with transfer and exchange of information across settings and providers, and lack of patient and family caregiver engagement and education, can place vulnerable patients at risk (Tahan and Treiger, 2017). These gaps and barriers are known to contribute to hospital readmission, medication errors, miscommunication, and confusion not only between providers but also between patients and family caregivers, lending to increased costs and dissatisfaction with the health care system (NTOCC, 2008).

Patients face significant challenges when moving from one care setting to another within the fragmented health care system. As currently structured, the US health care system does not meet the needs of many patients during transitions between health care settings. Oftentimes, episodes of care for serious illnesses or conditions involve numerous settings and many highly specialized professionals. These episodes generally occur with suboptimal communication between the various components and provide the context where resource utilization and quality care have met the greatest challenges (NTOCC, 2010).

Various care transition models such as the Transitional Care Model (TCM), Care Transitions Intervention (CTI), Better Outcomes for Older Adults Through Safe Transitions (BOOST), Project Re-engineered Discharge (RED), Chronic Care Model (CCM), and INTERACT, have shown promise and a reduction in hospital readmissions and cost (AAACN, 2013). The various models approach transitions of care with a focus on patient-centered care and offer different interventions depending on the setting of services. Several common themes are identified between the various models: improved communication, tools for health care professionals, and follow-up care. Despite the focus on improving transitions of care, there continues to be lack of consensus regarding what

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constitutes best practice (Rochester-Eyeguokan et al., 2016).

The National Transitions of Care Coalition (NTOCC) works to define solutions by addressing the gaps that impact safety and quality of care for transitioning patients. The original work of NTOCC began in 2006 and was carried out by an invited group of national health care leaders and led organizations to discuss ways to create and implement solutions that benefit patients, caregivers, and providers. Since its founding, NTOCC has produced a variety of white papers and statements defining transition issues, tools to help health care professionals, patients, and family caregivers establish safer transitions, and resources for practitioners and policy makers to improve transitions throughout the health care system. One of the key tools and resources developed by NTOCC is the Care Transition Bundle, which consists of Seven Essential Intervention Categories (NTOCC, 2011). The bundle provides examples of care strategies that health care professionals can consider using to improve transitions of care. The Seven Essential Interventions are applicable to all levels of care settings and disease states. The Care Transition Bundle lists the essential interventions as seen in Figure 1. The Seven Essential Interventions are categorized into main topics that are essential to any care transition with descriptive language and examples that can aid providers in adopting these strategies during the transition process. The complete document can be accessed on the NTOCC Compendium found here.

FIGURE 1 NTOCC'S 7 ESSENTIAL INTERVENTIONS CATEGORIES

1. Medications Management
2. Transition Planning
3. Patient and Family Engagement/Education
4. Healthcare Providers Engagement
5. Follow-up Care
6. Information Transfer
7. Shared Accountability Across Providers and Organizations

Each of the Seven Essential Interventions Categories are considered important in improving care transitions for patients and their family caregivers. Care teams using the Seven Essential Interventions as a combined process may see not only improved care transitions but also reductions in hospital readmissions and enhanced medication management as well as improved patient and family engagement and satisfaction.

Medication management promotes the safe use of medications by patients and their family caregivers based on an individualized plan of care. A careful and thorough medication reconciliation and management with the collaborative care team, including the physician, pharmacist, nurse, case manager, and social worker, can enhance a comprehensive review that should be shared with the patient and family caregiver. Patient and family education and counseling about medications and establishing a teach-back method will promote comprehension and reduce miscommunication. Professional case managers play a prominent role in supporting the patient's medication plan and determining whether the patient has a realistic plan for accessing their medications, whether they know how to take the medication correctly, and whether they know which side effects to watch out for.

Transition planning facilitates and communicates the transition needs of the patient and family with the care team. At each level of care, dependent on the care setting, an identified practitioner should assess the patient's and family caregiver's needs and coordinate the transition plan with the family and care team. Professional case managers, nurses, and social worker are often best suited for performing an enhanced assessment, including an acute care hospital assessment, postacute assessment, and comprehensive home assessment to ensure a safe transition. Consideration and assessment of the patient's and family's health literacy and social determinants of health assist the care team to understand if the plan of care is doable for the patient and family caregiver. Using the assessment information, a transition summary (discharge plan) is completed and communicated to the next level of care to ensure consistency, safety, and continuity.

The COVID-19 pandemic has severely affected the delivery of health care in the United States and globally. Optimizing transfers to and from acute care settings has always been important and became increasingly so during the pandemic.

Patient and family engagement, education, and counseling provided to patients and families encourages and enhances their active participation in their own care and informed decision making. Patients and their caregivers need to be knowledgeable about their condition, know how to determine when their condition is worsening, and know how to respond using knowledge of "red flags." At the point of transition, translating information between the provider and patient to ensure that each really understands what the other has communicated is key to achieving continuity and adherence to the transition plan. Assessing the patient's and family's degree of understanding requires not only using teach-back methods but also asking them to explain their plan of care in their own words.

Information transfer is sharing important care information among patients, the family, the caregiver, and healthcare professionals in a timely manner. The transfer of information requires timely feedback and feedforward of information using formal communication models that support consistent and clear communication among health care providers and caregiver. Case managers must actively facilitate communication among providers and between the patient and providers to reduce miscommunication, medication errors, and delays in care.

Follow-up care requires health care professionals to provide timely access to key health care providers after an episode of care as required by the patient's condition and needs. Confirmation of primary care or specialist care may require staff to make an appointment or to follow up with the patient posttransition. It is recommended that a nurse, case manager, or social worker follow up telephonically, virtually, or face-to-face posttransition from the acute setting or a postacute setting to the home depending on the needs of the patient and family caregiver to ensure they are able to make and get to appointments, that they have and understand their medication plan, and that they have followed through on any posttransition testing.

The last two essential interventions, health care provider engagement and shared accountability, are key to open and timely communication among collaborative care teams. Each of the interventions listed in the Care Transition Bundle is dependent on intradisciplinary care teams being committed and accountable for care enhancement throughout the continuum of care transitions. Improving the flow of information between the acute care setting, postacute setting, and community-based providers enhances communication with other health care providers about the change in a patient's or resident's status posttransition. The sending health care provider must remain responsible for the patient's care until the receiving provider has acknowledged they can effectively assume the care of the patient. In return, the receiving

FIGURE 2 ESSENTIAL HEART FAILURE CARE TRANSITIONS INTERVENTION: MEDICATION

Assessment of patient's medication intake

- Medication review, including over-the-counter medications, herbal supplements, vitamins, allergies, and drug interactions
- Identify medication-related problems such as tolerability
- Assess adherence and access to medications, particularly specialty pharmacy medications
- Assess ability to administer medications and access to resources to facilitate access to specialty medications for the treatment of heart failure

Patient and family/caregiver education and counseling about medications

- Teach-back method to establish understanding of medication plan
- Explain what medication to take, emphasizing any changes in the regimen and rationale for changes
- Review each medication's purpose, how to take or administer each medication correctly, and important side effects to watch for
- Discuss special resource needs based on medications prescribed

Development and implementation of a plan for medication management as a part of the patient's overall plan of care

- Provide medication reconciliation including prehospitalization or facility and posthospitalization or facility medication list
- Distribute medication reconciliation pre- and postadmission lists to all sites of care used beyond the patient's usual community residence
- Discuss processes for accessing and maintaining supply of specialty pharmacy or compounded medications
- Confirm the medication plan and follow-up care plan
- Consider posthospitalization of postfacility follow-up phone call or visit in home for continuity of care as a best practice
- Interaction between cardiologist, heart failure specialist, and community care providers regarding heart failure and other medications with any change in clinical status or medication

Case managers must actively facilitate communication among providers and between the patient and providers to reduce miscommunication, medication errors, and delays in care.

provider has to acknowledge receipt of the transferred information in a timely manner, understand the plan of care for the patient, and be prepared to assume responsibility for the patient's care (National Transitions of Care Coalition, 2011). No single entity can be solely responsible for the transition process. This is a shared responsibility between collaborative intradisciplinary care teams, not just within a specific care setting but across the continuum of care.

Since the release of the NTOCC Care Transition Bundle, several educational disease pathways have been developed using the intervention elements and concepts. These guides and pathways included pulmonary arterial hypertension, idiopathic pulmonary fibrosis, *Clostridium difficile* infection, heart failure, and most recently COVID-19. The versatility of the Care Bundle allows clinicians to adapt the seven elements to patient populations, specific disease states, and care settings. Figure 2 provides an example of using the medication management intervention specifically for heart failure patients. The full adaption of the Care Transition Bundle for heart failure can be found in the PRIME white paper: An Interdisciplinary Guide for Safer Care Transitions and Fewer Readmissions for Heart Failure (PRIME, 2017).

The National Quality Strategy, which was first published in March 2011 and led by the Agency for Healthcare Research and Quality, looked at addressing the most common health concerns that Americans faced through the establishment of six priorities. The National Quality Strategy established a set of three overarching aims that builds on the Institute for Healthcare Improvement Triple Aim:

- Better care
- Healthy people/healthy communities
- Affordable care

To advance these aims the National Quality Strategy focused on six priorities (AHRQ, 2017). The six priorities highlighted several of the interventions supported in the NTOCC Care Transition Bundle:

- Making care safer by reducing harm caused by the delivery of care
- Ensuring that each person and family is engaged as partners in their care
- Promoting effective communication and coordination of care
- Promoting the most effective prevention and treatment practices for the leading causes of mortality, starting with cardiovascular disease
- Working with communities to promote wide use of best practices to enable healthy living
- Making quality care more affordable for individuals, families, employers, and governments by developing and spreading new health care delivery models

Improving transitions of care requires the skills of professional case managers, nurses, and social workers as well as their knowledge of and experience with care coordination. To have a successful transition, the case manager must be an integral part of the intradisciplinary clinical team from the beginning of care (Tahan, 2017). Case managers play a significant role in care transitions by conducting a thorough case management assessment and ensuring that medical, behavioral, psychosocial, social determinants of health, and financial needs of the patient have been clearly documented and shared with providers and transferred to the next level of care. Case managers may apply NTOCC's Care Transitions Bundle to their specific care settings and practice, thus enhancing patient advocacy and improving communication, care planning, patient engagement, and transfer of information.

Optimizing transitions between the acute care setting and long-term care facilities has always been important and increasingly so during the COVID-19 pandemic. The pandemic illuminated the advantages of coordinating providers' offices, community health clinics, home care services, prehospitalization services (ambulances), community services, public health offerings, and other parts of the care continuum with hospitals and health systems (Resnick, 2020). There is a call to action for postacute facilities to prepare strategic clinical programs and develop health care system partnerships to address the needs of the clinically complex patient and improve transition of care. In the October/November 2021 issue of CareManagement, a long-term care system will share their journey in developing their strategic programs that incorporated the Seven Essential Elements identified within the Care Transition Bundle and measured outcomes during the COVID-19 crisis. CE II

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Dementia and Care Coordination for the Geriatric Client: Part II

Chikita Mann, MSN, RN, CCM

The population of individuals aged 65 years and older is growing rapidly and is projected to reach 95 million by 2060 and comprise 23% of the total population in the United States (Fact Sheet: Aging in the United States, n.d.). The increase in this older population highlights the need for more knowledge and research to properly care for the geriatric population. Notably, this increase has promoted increased interest in studying the aging brain. A previous article in the June/July 2021 issue of *CareManagement* (Part 1) explored depression and mild cognitive impairment, which may be present in the geriatric client. This article addresses another area that affects the geriatric population: dementia.

Age is one the most prevalent risk factors for dementia; the risk of developing dementia doubles every 5 years after the age of 65. By 2050, the number of cases of Alzheimer's disease (AD) is expected to reach 152 million (Breijyeh & Karaman, 2020; Byers & Yaffe, 2011; Iadecola et al., 2019). AD is not associated with economic and psychosocial status. Dementia can lead to physical and psychological disability and dependency. Dementia not only affects the individual who has been diagnosed with it but also affects caregivers, family members, and communities. Case managers and others who assist with care coordination of the geriatric client with dementia are sometimes limited by inadequate knowledge about geriatric care. In this article, we discuss the three common dementias (including comparisons and differences among them), ethical considerations for care coordination, and recommendations for those who are coordinating care for the geriatric client with dementia.

Dementia

The focus of this article will be on AD, Lewy body dementia including Parkinson's disease, and vascular dementia, the most common dementias documented in the elderly (Raz, Knoefel, & Bhaskar, 2016). Some geriatric clients have a combination of two or more types of dementia, which can complicate care. While a clinical characteristic of these diseases is dementia, the client can also present with noncognitive symptoms of a psychiatric nature. Another less discussed but prominent symptom of dementia is inappropriate sexual behavior (De Giorgi & Series, 2016).

Alzheimer's Disease

AD is named for Alois Alzheimer, who first described the disease in 1907. It accounts for up to 80% of all dementia diagnoses. It is estimated that 5-7 million new cases of AD cases are recorded annually (Robinson et al., 2017). AD is defined as an age-related neurodegenerative disorder that has progressive decline in two or more cognitive domains including personality, memory, executive and visuospatial function, behavior, and memory. It is often linked with neuropsychiatric manifestations such as depression, apathy, sleep disturbances, aggression, paranoia, and anxiety (Baldwin & Farias, 2009). These cognitive impairments and behavioral changes ultimately interfere with activities of daily living (ADL). Environmental and lifestyle factors (eg, education, physical activity, and exercise) have been shown to impact disease progression. Smoking and severe head injuries can increase one's risk of developing AD (Robinson et al., 2017).

The progression of Alzheimer's dementia is viewed as a continuum from normal cognition to mild cognitive impairment, proceeding to mild, moderate, and severe AD. Stage 1 is normal cognitive function and no loss of memory. Stage 2 begins with mild cognitive impairment, also known as the predementia phase of AD. There may be observable but minor memory deficits (amnestic) or impaired decision-making or reasoning (nonamnestic). Stage 3, which is when family and caregivers typically notice that an individual has dementia, consists of increased forgetfulness, getting lost

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Dementia not only affects the individual who has been diagnosed with it but also caregivers, family members, and communities. This article focuses on Alzheimer's disease, Lewy body dementia including Parkinson's disease, and vascular dementia, the most common dementias documented in the elderly.

frequently, and difficulty concentrating. The average duration of this stage is 2-7 years. Difficulty with task completion and managing finances, inability to travel alone to new locations, and forgetting recent events are common symptoms that signify the progression to Stage 4. Stage 5 (or mid-stage) is marked by the client's inability to remember their address or telephone number, needing assistance with ADL, and episodes of forgetting where they are. This stage is when considerable and noticeable memory deficits manifest. In stage 6, considered middle dementia, the individual often forgets family members' names and recent events, has difficulty counting down to 10, and exhibits emotional and personality changes. Psychiatric symptoms such as anxiety and delusions become more prominent in this stage. Bladder and bowel incontinence usually appear in this phase as well. In Stage 7, the client requires assistance with most activities and experiences loss of motor skills and the inability to speak or communicate (Davis et al., 2018; DementiaCareCentral.com, 2020).

Vascular Dementia

Vascular dementia (VaD) is caused by limited blood flow to the brain due to cerebrovascular diseases. It can progressively affect one's cognitive capacities. Hypertension, obesity, smoking, and diabetes are contributing factors in about 25%-40% of VaD cases (Venkat et al., 2015). VaD often occurs concurrently with AD. There are four categories of VaD. One is multi-infarct dementia, which occurs because of mini strokes. The second type is single infarct dementia caused by a specific major stroke that results in learning and memory deficits. Small vessel ischemic disease, usually an after effect of plaque accumulation in the small blood vessels in the brain, is a third type of VaD. The fourth type is vasculitic dementia, which is characterized by inflammation in brain blood vessels. With this latter type of VaD, migraine headaches are common (Venkat et al., 2015; Zanon Zotin et al., 2021).

Risk factors for vascular dementia mirror those for strokes: coronary artery disease, diabetes mellitus, smoking, obesity, metabolic syndrome, and hypertension (Wiesmann et al., 2013). The individual may present with symptoms of disorientation, slowed thinking, forgetfulness, and loss of executive functions such as working memory, planning, judgment, and problem solving. Depending on the location of the lesion and infarct severity, the client may also experience depression, emotional incontinence (eg, pathological laughter), apathy, sleep disturbances, and motor and gait disturbances. Some clients could also present with vision loss, slurred speech, and loss of bladder and bowel control (Venkat et al., 2015).

Dementia with Lewy Bodies

The third most common of these conditions is dementia with Lewy bodies and Parkinson's disease dementia. It is often underdiagnosed. It is known collectively as dementia with Lewy bodies (DLB) (Taylor et al., 2020). With Parkinson's disease, dementia manifests in the advanced stages but it is primarily known as a movement disorder. The unique challenge with DLB is that the individual can have a mixture of cognitive, sleep, autonomic, neuropsychiatric, and motor symptoms. The condition can mimic some of the noncognitive and cognitive symptoms of AD. Familiar clinical symptoms of DLB are attentional deficits, daytime drowsiness, blank stares, nonamnestic cognitive deficits, visual hallucinations, depression, anxiety, rapid eye movement sleep disturbances, and recurrent falls. Additional symptoms observed in DLB patients are reduced ability to smell, hypersomnia, erectile dysfunction, constipation, and bladder incontinence (Chin et al., 2019). Those with DLB may experience rapid cognitive decline and quicker death than individuals with AD or VaD (Connors et al., 2017). Risk factors are a combination of genetics, age, and environment. Parkinson's disease occurs in three phases. Stage 1 is preclinical with no symptoms; there may be a familial history that predisposes the client for Parkinson's. In Stage 2 of Parkinson's, nonmotor and motor symptoms (eg, tremors, hyposmia, and sleep disturbances) become observable. In Phase 3, the classic motor symptoms associated with Parkinson's are present (Mahlknecht et al., 2015).

Ethical Concerns with Dementia

As it progresses, dementia challenges the geriatric individual's independence, rationality, and quality of life. Ethical principles of paramount importance are privacy, confidentiality, autonomy, beneficence, nonmaleficence, and justice. One thing ties all these principles together: maintaining the client's dignity. Respecting dignity requires one to consider such important factors

Advocating for the individual with dementia requires the case manager to have the requisite knowledge of the disease and its impact on the individual and to be able to access that knowledge to properly care for the client. With an early diagnosis, patients could reap maximum benefit from treatment.

as autonomy and identity (Rejnö et al., 2020). Intertwined with the concept of dignity is critical interests, meaning those interests that consider the person as a whole and give an individual's life meaning. These interests, in turn, establish one's identity. Therefore, the first ethical principle that will be explored here is autonomy.

Autonomy

Autonomy includes intentional actions, being free from controlling influences, and being able to make one's own decisions. It is freedom of will, with total independence and self-determination. For example, an individual wants to live in their own home with their own rules and space. Autonomy includes being able to live in accordance with one's values and beliefs. Autonomy is further broken down into choice autonomy (making decisions regarding one's everyday life, including health care decisions) and agent autonomy (the ability to execute one's choices). As dementia progresses, however, one's decision-making capacity decreases, which can be a threat to autonomy. An example of choice autonomy is the client declining treatment or refusing to undergo additional testing to confirm the diagnosis. An example of agent autonomy is the client beginning to take medications without telling family members of the diagnosis. Decreased cognitive and volitional capacity leads to impaired decision making and ability to determine what is in one's best interests. When the individual begins to show significant cognitive impairment, it can threaten the geriatric client's sense of identity. For example, the person may be adamant about staying in their own home.

Respecting the person's autonomy as dementia progresses can be a conflict for caregivers and/or family members. As dementia progresses, caring can be a demanding process, requiring continuous involvement, commitment, and decision making. The caregiver may not be able to properly care for the individual with dementia who wants to remain at home while also caring for themselves, thus causing an ethical dilemma: choosing between their own health and the safety and health of the person with dementia.

Another component of autonomy is informed consent, which requires voluntary and informed choice by a competent client. This purpose of the informed consent process is to protect the client's interest and safety (Wong et al., 2020). For example, the individual may decide to participate in clinical trials for dementia. Cognitive impairment, however, can interfere with informed consent. If the individual is being asked to participate in clinical trials, it would be prudent for the treating provider to assess the patient's capacity to consent to research. The geriatric client must comprehend that participating in clinical trials is a choice, as research has raised concerns that some participants considered the clinical trial to be part of their regular treatment (Black et al., 2013).

Privacy and Confidentiality

To maintain their autonomy and avoid stigmatization, an individual with dementia may choose not to disclose their diagnosis to their family members/support system. Disclosing this information could lead to the loss of a driver's license and ability to own a gun and result in constant scrutiny by family members and others in their support system. The individual may ask their physician to not inform family members of their diagnosis. However, an individual with dementia who is living at home is often at an increased risk for nutritional deficits (ie, not eating enough or at all), falls, drug mismanagement, getting lost, being taken advantage of financially, and social isolation. If the person's progressing dementia puts them into situations that are detrimental to their safety, the physician may have to decide if carrying out the patient's wishes (as required by beneficence) could result in harm to the client and others (which triggers nonmaleficence) (Smebye et al., 2016). Or, if the individual resides in an assisted living facility and is engaging in inappropriate sexual behavior, the physician would have to reevaluate the decision not to disclose the client's dementia diagnosis to family members because the safety of the individual and others could be an issue.

Justice

The growth of the aging population has brought to light another issue: different ethnic groups may not have adequate financial resources to afford the costly treatment for dementia. Unfortunately, African Americans and Hispanics have a higher incidence of dementia and are sometimes not informed of their diagnosis (Chen & Zissimopoulos, 2018). It is imperative that these populations are made aware of their diagnoses in a

The case manager should be aware of the benefit of advance care planning, which can set the stage for frequent clear communication with the geriatric client, caregiver(s), and family members/support system.

timely manner and offered all available treatment options.

Care Coordination for the Dementia Patient

The geriatric population is a vulnerable group, and a dementia diagnosis increases their vulnerability. Care coordination for the geriatric client with dementia should be person-centered, proactive, and focused on improving daily functioning and quality of life (Tilburgs et al., 2018). It should follow a well-established process grounded in ethical and professional best practices.

Advocacy

Advocating for the individual with dementia requires the case manager to have the requisite knowledge of the disease and its impact on the individual and to be able to access that knowledge to properly care for the client. With an early diagnosis, patients could reap maximum benefit from treatment. For example, if the client wants to continue to live at home, the case manager would need to investigate resources that could allow this to happen. The case manager could also speak with the treating physician regarding nonpharmacological treatment such as exercise and cognitive behavioral training (Hane et al., 2017; Gates et al., 2019).

Assessment

Assessing an individual with dementia requires a holistic view. The case manager needs to be thorough in obtaining all information that directly and indirectly affects their treatment. Developing trust and being nonjudgmental are imperative to obtaining the trust and cooperation of a geriatric client. Cognitive impairment is common with the three types of dementia mentioned in this article. Therefore, the case manager should ask about falls and other medical issues the client may have. For example, if the client is exhibiting inappropriate sexual behavior, the case manager will need to inquire into the client's sexual history.

When interviewing the individual to determine the extent of cognitive impairment, these assessment tools would likely be used: Mini-Mental State Examination, Abbreviated Mental Test Score, clock-drawing test, Montreal Cognitive Assessment, and Addenbrooke's Cognitive Assessment. Common assessment tools for functional ability are Bristol Activities of Daily Living Scale, The Barthel Index, and Functional Independence Measure. If a caregiver is involved, the Informant Questionnaire on Cognitive Decline in the Elderly is used to get feedback regarding the individual's cognitive abilities. The case manager could ask the treating physician if they recommend performing a Neuropsychological Inventory, although that test would need to be administered by a specialist; results of the Inventory can help pinpoint the client's psychological behaviors. An assessment tool when interviewing caregivers is the Zarit Burden Interview (Sheehan, 2012).

Advance Care Planning

The case manager should be aware of the benefit of advance care planning, which can set the stage for frequent clear communication with the geriatric client, caregiver(s), and family members/support system. Advance care planning shows respect for the geriatric client's preferences and values (eg, where the person wants to live and the medical treatment they want or do not want to receive). It can also inform those who will eventually and increasingly assume care for the geriatric person with dementia. Keeping the client involved in their care is paramount to their sense of worth, self-determination, and dignity. These wishes can eventually be transferred to an advance directive, living will, or lasting power of attorney. The case manager can ensure that all who are involved in the care of the geriatric individual are aware of the contents of these documents (Tilburgs et al., 2018).

Advance care planning could also encourage conversations between family members and caregivers, especially if the client has been estranged from one or more members of their family. The case manager may have to take on the role of mediator to help the family members understand the unique needs of the person, including explaining to the family how continuing to be involved in health care decisions could help improve the geriatric individual's self-esteem and confidence.

There are challenges that can arise with advance care planning, such as determining when to initiate the advance care plan due to fluctuating cognitive impairments. Another struggle is deciding where to store the advance care plan so that all who are actively involved in the person's care are able to access it. When initiated, the advance care plan should take into account the person's current cognitive and communication deficits. For example, if the client is in the middle stage of dementia, there may be fewer

options for treatment to include in the advance care plan. Lastly, the persons who were initially involved in creating the advance care plan may be unable to help as the client's dementia progresses (Bosisio et al., 2018).

Polypharmacy

Polypharmacy is common with the geriatric population, and thus the case manager should regularly perform medication reconciliation. How many medications is the geriatric client taking? Are they taking them properly? Could interactions of medications be a source of cognitive impairment? Which treating providers are involved and are they aware of the entire treatment the geriatric client receives? For instance, a geriatric client with DLB could be experiencing orthostatic hypotension and visual hallucinations but may be taking a medication for another health condition that could increase their risk of falls and hallucinations, while other medications could increase their chances of developing constipation and depression. The individual with DLB is also not a good candidate for sedating sleep aids or diphenhydramine (Benadryl®) as this could increase their risk for daytime somnolence.

Special Considerations for Caregivers

Caring for an individual with dementia can be physically and mentally tiring, even to the point of exhaustion. Caregivers have been found to have increased stress and low quality of life (Su & Chang, 2020) and may have an increased incidence of developing depression and anxiety. Further, family members who are caregivers could face financial difficulty if they must stop working to care for their loved one or use savings or retirement funds to pay for treatment and support for individuals with dementia. Role reversal is often faced by caregivers who are caring for a parent. Some may be taking care of their children in addition to caring for a parent. Many encounter negative behaviors exhibited toward those closely associated with a person with dementia ("stigma by association"). They are also likely to be dealing with affiliate stigma, which is internalizing the negative behaviors of others. This could lead them to have feelings of shame and anger and not seek assistance from others. Caring for the caregivers should be a priority for those who coordinate care for clients with dementia. Most caregivers need peer support, regular communication with health care providers, access to information, and psychological and decisional support (Grabher, 2018; Hopwood et al., 2018). When interacting with caregivers, case managers can inform them of the importance of self-care and encourage them to ask for help.

Conclusion

The geriatric client is vulnerable, and adding a dementia diagnosis increases their vulnerability. Knowing the main three types of dementia can allow the case manager to facilitate appropriate care coordination for the geriatric client. The case manager should be cognizant of ethical issues that could arise. Prompt, proactive communication with the client, caregivers, treating providers, and family members is key to providing appropriate care coordination for the geriatric client with dementia. CE III

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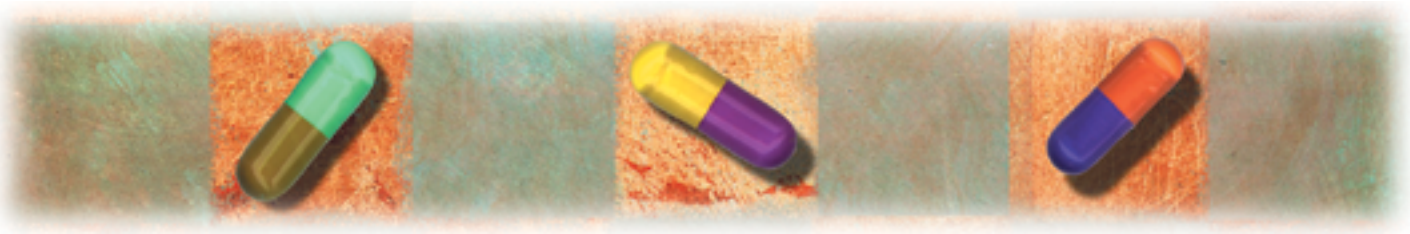
PharmaFacts for Case Managers



Aduhelm™ (aducanumab-avwa) injection, for intravenous use

INDICATIONS AND USAGE

Adulhelm is an amyloid beta-directed antibody indicated for the treatment of Alzheimer's disease. Treatment with Adulhelm should be initiated in patients with mild cognitive impairment or mild dementia stage of disease, the population in which treatment was initiated in clinical trials. There are no safety or effectiveness data on initiating treatment at earlier or later stages of the disease than were studied. This indication is approved under accelerated approval based on reduction in amyloid beta plaques observed in patients treated with Adulhelm. Continued approval for this indication may be contingent upon verification of clinical benefit in confirmatory trial(s).

DOSAGE AND ADMINISTRATION

Dosing Instructions

After an initial titration over seven infusions, the recommended dosage of Aduhelm is 10 mg/kg. Aduhelm is administered as an intravenous (IV) infusion over approximately one hour every four weeks and at least 21 days apart.

Monitoring for Amyloid-Related Imaging Abnormalities

Obtain recent (within one year) brain magnetic resonance imaging (MRI) prior to initiating treatment. Obtain MRIs prior to the 7th infusion (first dose of 10 mg/kg) and 12th infusion (sixth dose of 10 mg/kg). If 10 or more new incident microhemorrhages or >2 focal areas of superficial siderosis (radiographic severe ARIA-H) is observed, treatment may be continued with caution only after a clinical evaluation and a follow-up MRI demonstrates radiographic stabilization (i.e., no increase in size or number of ARIA-H).

Resuming Aduhelm After Missed Dose

If an infusion is missed, resume administration at the same dose as soon as possible. Infusions are to be administered every 4 weeks and at least 21 days apart.

DOSAGE FORMS AND STRENGTHS

Aduhelm is a clear to opalescent and colorless to yellow solution, available as:

- Injection: 170 mg/1.7 mL (100 mg/mL) in a single-dose vial
- Injection: 300 mg/3 mL (100 mg/mL) in a single-dose vial

CONTRAINDICATIONS

None.

WARNINGS AND PRECAUTIONS

Amyloid-Related Imaging Abnormalities

Aduhelm can cause amyloid-related imaging abnormalities-edema (ARIA-E), which can be observed on MRI as brain edema or sulcal effusions, and amyloid-related imaging abnormalities hemosiderin deposition (ARIA-H), which includes microhemorrhage and superficial siderosis.

Obtain recent (within one year) brain magnetic resonance imaging (MRI) prior to initiating treatment. The safety of Aduhelm in patients with any pretreatment localized superficial siderosis, 10 or more brain microhemorrhages, and/or with a brain hemorrhage greater than 1 cm within one year of treatment initiation has not been established.

In Studies 1 and 2, ARIA (-E and/or -H) was observed in 41% of patients treated with Aduhelm with a planned dose of 10 mg/kg (454 out of 1105), compared to 10% of patients on placebo (111 out of 1087).

ARIA-E was observed in 35% of patients treated with Aduhelm 10 mg/kg, compared to 3% of patients on placebo. The incidence of ARIA-E was higher in apolipoprotein E ε4 (ApoE ε4) carriers than in ApoE ε4 non-carriers (42% and 20%, respectively). The majority of ARIA-E radiographic events occurred early in treatment (within the first 8 doses), although ARIA can occur at any time. Among patients treated with a planned dose of Aduhelm 10 mg/kg who had ARIA-E, the maximum radiographic severity was mild in 30%, moderate in 58%, and severe in 13% of patients. Resolution occurred in 68% of ARIA-E patients by 12 weeks, 91% by 20 weeks, and 98% overall after detection. 10% of all patients who received Aduhelm 10 mg/kg had more than one episode of ARIA-E.

ARIA-H in the setting of ARIA-E associated with the use of Aduhelm 10 mg/kg was observed in 21% of patients treated with Aduhelm 10 mg/kg, compared to 1% of patients on placebo. There was no imbalance in isolated ARIA-H (i.e., ARIA-H in patients who did not also experience ARIA-E) between Aduhelm and placebo. There was no imbalance in hemorrhage greater than 1 cm between Aduhelm and placebo.

Clinical symptoms were present in 24% of patients treated with Aduhelm 10 mg/kg who had an observation of ARIA (-E and/or -H), compared to 5% of patients on placebo. The most common symptom in patients treated with Aduhelm 10 mg/kg with ARIA was headache (13%). Other frequent symptoms were confusion/delirium/altered mental status/disorientation (5%), dizziness/vertigo (4%), visual disturbance (2%), and nausea (2%). Serious symptoms associated with ARIA were reported in 0.3% of patients treated with Aduhelm 10 mg/kg. Clinical symptoms resolved in the majority of patients (88%) during the period of observation. Enhanced clinical vigilance for ARIA is recommended during the first 8 doses of treatment with Aduhelm, particularly during titration, as this is the time the majority of ARIA was observed in Studies 1 and 2. If a patient experiences symptom that could be suggestive of ARIA, clinical evaluation should be performed, including MRI testing if indicated. If ARIA is observed on MRI in the presence of clinical symptoms, careful clinical evaluation should be performed prior to continuing treatment.

Obtain brain MRIs prior to the 7th infusion (first dose of 10 mg/kg) and 12th infusion (sixth dose of 10 mg/kg) of Aduhelm to evaluate for the presence of asymptomatic ARIA. For patients with radiographic findings of ARIA, enhanced clinical vigilance is recommended. Additional MRIs may be considered if clinically indicated. If radiographically severe ARIA-H is observed, treatment may be continued with caution only after a clinical evaluation and a follow-up MRI demonstrates radiographic stabilization (i.e., no increase in size or number of ARIA-H). For ARIA-E or mild/moderate ARIA-H, treatment may continue with caution. If dosing is temporarily suspended, dosing may resume at that same dose and titration schedule. There are no systematic data on continued dosing with Aduhelm following detection of radiographically moderate or severe ARIA. In Studies 1 and 2, temporary dose suspension was required for radiographically moderate or severe ARIA-E and radiographically moderate ARIA-H. In Studies 1 and 2, permanent discontinuation of dosing was required for radiographically severe ARIA-H.

Hypersensitivity Reactions

Angioedema and urticaria were reported in one patient in the placebo-controlled period of Studies 1 and 2 and occurred during the Aduhelm infusion. Promptly discontinue the infusion upon the first observation of any signs or symptoms consistent with a hypersensitivity reaction and initiate appropriate therapy.

ADVERSE REACTIONS

The following adverse reactions are described elsewhere in the labeling:

- Amyloid-Related Imaging Abnormalities
- Hypersensitivity Reactions

USE IN SPECIFIC POPULATIONS

Pregnancy

Risk Summary

There are no adequate data on Aduhelm use in pregnant women to evaluate for a drug-associated risk of major birth defects, miscarriage, or other adverse maternal or fetal outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively. The background risk of major birth defects and miscarriage for the indicated population is unknown.

Lactation

Risk Summary

There are no data on the presence of aducanumab-avwa in human milk, the effects on the breastfed infant, or the effects of the drug on milk production. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for Aduhelm and any potential adverse effects on the breastfed infant from Aduhelm or from the underlying maternal condition.

Pediatric Use

Safety and effectiveness in pediatric patients have not been established.

Geriatric Use

In Studies 1 and 2, the age of patients ranged from 50 to 85 years, with a mean age of 70 years; 79% were 65 and older, and 32% were 75 and older. There were no notable differences in the incidence of adverse reactions between these age groups and no additional safety concerns in patients 65 years of age and older compared to younger patients.

CLINICAL STUDIES

The efficacy of Aduhelm was evaluated in two double-blind, randomized, placebo-controlled, parallel group studies (Study 1, NCT 02484547 and Study 2, NCT 02477800) in patients with Alzheimer's disease (patients with confirmed presence of amyloid pathology and mild cognitive impairment or mild dementia stage of disease, consistent with Stage 3 and Stage 4 Alzheimer's disease, stratified to include 80% Stage 3 patients and 20% Stage 4 patients). The effects of Aduhelm were also supported by a double-blind, randomized, placebo-controlled, dose-ranging study (Study 3, NCT 01677572) in patients with Alzheimer's disease (patients with confirmed presence of amyloid pathology and prodromal or mild dementia stage of disease, consistent with Stage 3 and Stage 4 Alzheimer's disease, with an enrolled distribution of 43% Stage 3 patients and 57% Stage 4 patients), followed by an optional, dose-blind, long-term extension period.

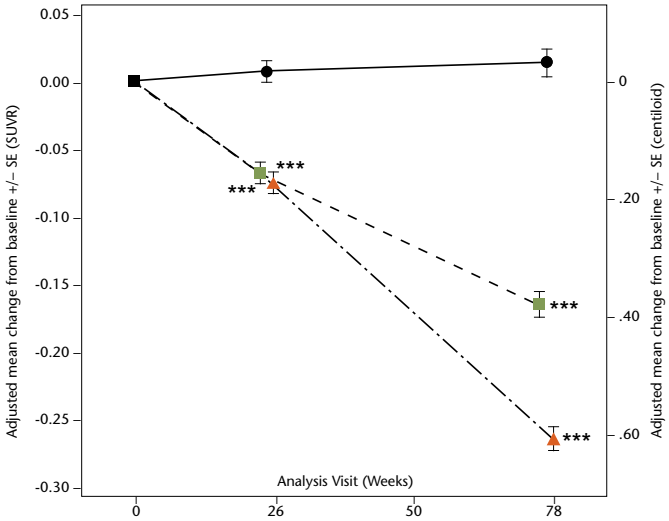
In Studies 1 and 2, patients were randomized to receive Aduhelm low dose (3 or 6 mg/kg for ApoE ε4 carriers and

noncarriers, respectively), Aduhelm high dose (10 mg/kg), or placebo every 4 weeks for 18 months, followed by an optional, dose-blind, long-term extension period. Both studies included an initial titration period of up to 6 months to the maximum target dose. At the beginning of the study, ApoE ε4 carriers were

FIGURE 1

REDUCTION IN BRAIN AMYLOID BETA PLAQUE

(Change from Baseline in Amyloid Beta PET Composite, SUVR and Centiloids) in Study 1



*** p<0.001

TABLE 1 BIOMARKER RESULTS OF ADUHELM IN STUDY 1

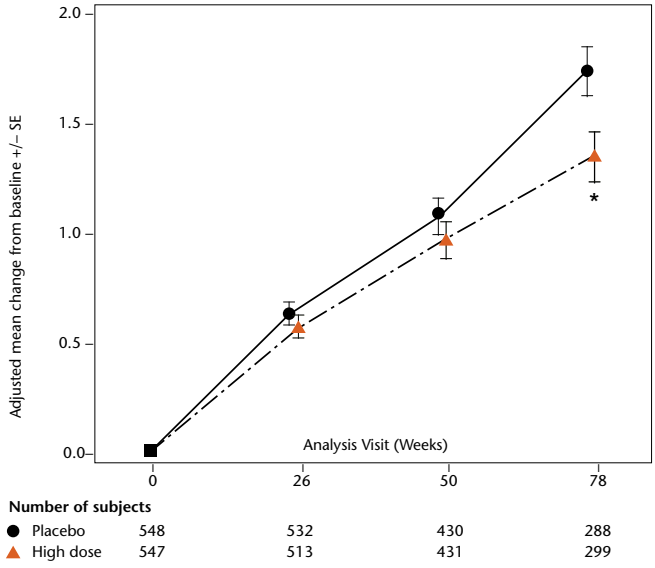
BIOMARKER ENDPOINT AT WEEK 78[1]	ADUHELM HIGH DOSE	PLACEBO
Amyloid Beta PET Composite SUVR	N=170	N=159
Mean baseline	1.383	1.375
Change from baseline Difference from placebo	-0.264 -0.278, p<0.0001	0.014
Amyloid Beta PET Centiloid	N=170	N=159
Mean baseline	85.3	83.5
Change from baseline(%) Difference from placebo	-60.8 (-71%) -64.2, p<0.0001	3.4
CSF p-Tau (pg/mL)	N=17	N=28
Mean baseline	100.11	72.55
Change from baseline Difference from placebo	-22.93 -22.44, p=0.0005	-0.49
CSF t-Tau (pg/mL)	N=17	N=28
Mean baseline	686.65	484.00
Change from baseline Difference from placebo	-112.44 -112.05, p=0.0088	-0.39

[1]P-values were not statistically controlled for multiple comparisons.

FIGURE 2

LINE PLOT OF PRIMARY EFFICACY ENDPOINT

(Change From Baseline in CDR Sum of Boxes) in Study 1



* p<0.05

TABLE 2 CLINICAL RESULTS OF ADUHELM IN STUDY 1

CLINICAL ENDPOINT AT WEEK 78	ADUHELM HIGH DOSE (N=547)	PLACEBO (N=548)
CDR-SB		
Mean baseline	2.51	2.47
Change from baseline Difference from placebo (%)	1.35 0.39 (-22%) p=0.0120	1.74
MMSE		
Mean baseline	26.3	26.4
Change from baseline Difference from placebo (%)	--2.7 0.6 (-18%) p=0.0493	-3.3
ADAS-Cog 13		
Mean baseline	22.246	21.867
Change from baseline Difference from placebo (%)	3.763 -1.400 (-27%) p=0.0097	5.162
ADCS-ADL-MCI		
Mean baseline	42.5	42.6
Change from baseline Difference from placebo (%)	-2.5 1.7 (-40%) p=0.0006	-4.3
NPI-101		
Mean baseline	4.5	4.3
Change from baseline Difference from placebo (%)	0.2 -1.3 (-87%) p=0.0215	1.5

[1]P-value was not statistically controlled for multiple comparisons.

initially titrated up to a maximum of 6 mg/kg in the high dose group, which was later adjusted to 10 mg/kg.

In Studies 1 and 2, patients were enrolled with a Clinical Dementia Rating (CDR) global score of 0.5, a Repeatable Battery for Assessment of Neuropsychological Status (RBANS) delayed memory index score ≤ 85, and a Mini-Mental State Examination (MMSE) score of 24-30. In Study 3, patients were enrolled with a global CDR score of 0.5 or 1.0 and an MMSE score of 20–30. Patients were enrolled with or without concomitant approved therapies (cholinesterase inhibitors and the N-methyl-D-aspartate antagonist memantine) for Alzheimer's disease. Studies 1 and 2 were terminated prior to their planned completion. Study endpoints were analyzed based on the prespecified statistical analysis plan.

Study 1

In Study 1, 1638 patients were randomized 1:1:1 to receive Aduhelm low dose, Aduhelm high dose, or placebo. At baseline, the mean age of patients was 71 years, with a range of 50 to 85 years.

A subgroup of 488 patients were enrolled in the amyloid PET substudy; of these, 302 were evaluated at week 78. Results from the amyloid beta PET and CSF biomarker substudies are described in Figure 1 and Table 1.

The primary efficacy endpoint was the change from baseline on the CDR-Sum of Boxes (CDR-SB) at Week 78. In Study 1, treatment with Aduhelm high dose demonstrated reduced clinical decline, as evidenced by a statistically significant treatment effect on change from baseline in CDR-SB compared to placebo (-0.39 [-22%], p = 0.0120), as shown in Figure 2 and Table 2. The estimate of the treatment effect favored Aduhelm across all prespecified subgroups of interest.

Secondary efficacy endpoints included the change from baseline in MMSE score at Week 78, the change from baseline in the Alzheimer's Disease Assessment Scale-Cognitive Subscale (13 items) (ADAS-Cog 13) at Week 78, and the change from baseline in the Alzheimer's Disease Cooperative Study–Activities of Daily Living Inventory (Mild Cognitive Impairment version) (ADCS-ADL-MCI) score at Week 78. In Study 1, statistically significant differences from placebo were observed in the Aduhelm high dose group on all secondary efficacy endpoints evaluated. The estimate of the treatment effect favored Aduhelm across most prespecified subgroups of interest for the secondary efficacy endpoints. The Neuropsychiatric Inventory-10 item (NPI-10) was the only tertiary endpoint that assessed efficacy. The results of the high dose group, compared to placebo, are presented in Table 2.

Study 2

In Study 2, 1647 patients were randomized 1:1:1 to receive Aduhelm low dose, Aduhelm high dose, or placebo. At baseline, the mean age of patients was 71 years, with a range of 50 to 85 years.

A subgroup of 585 patients were enrolled in the amyloid PET subgroup; of these, 374 were evaluated at week 78. Results from the amyloid beta PET and CSF biomarker substudies are described in Figure 3 and Table 3.

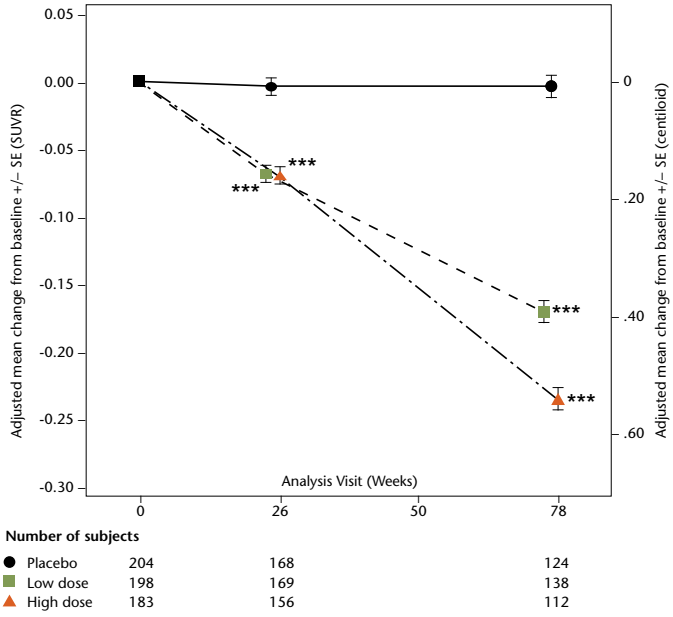
No statistically significant differences were observed between the Aduhelm-treated and placebo-treated patients on

continues on page 37

FIGURE 3

REDUCTION IN BRAIN AMYLOID BETA PLAQUE

(Change from Baseline in Amyloid Beta PET Composite, SUVR and Centiloids) in Study 2



*** p<0.001

TABLE 3 **BIOMARKER RESULTS OF ADUHELM IN STUDY 2**

BIOMARKER ENDPOINT AT WEEK 78[1]	ADUHELM HIGH DOSE	PLACEBO
Amyloid Beta PET Composite SUVR	N=183	N=204
Mean baseline	1.407	1.376
Change from baseline Difference from placebo	-0.235 -0.232, p<0.0001	-0.003
Amyloid Beta PET Centiloid	N=183	N=204
Mean baseline	90.8	83.8
Change from baseline (%) Difference from placebo	-54.0 (-59%) -53.5, p<0.0001	-0.5
CSF p-Tau (pg/mL)	N=18	N=15
Mean baseline	121.81	94.53
Change from baseline Difference from placebo	-13.19 -10.95, p=0.3019	-2.24
CSF t-Tau (pg/mL)	N=16	N=14
Mean baseline	618.50	592.57
Change from baseline Difference from placebo	-102.51 -69.25, p=0.3098	-33.26

[1]P-values were not statistically controlled for multiple comparisons.

LITSCAN FOR CASE MANAGERS

LitScan for Case Managers reviews medical literature and reports abstracts that are of particular interest to case managers in an easy-to-read format. Each abstract includes information to locate the full-text article if there is an interest. This member benefit is designed to assist case managers in keeping current with clinical breakthroughs in a time-effective manner.

Clin Infect Dis. 2021 Jun 12;ciab542.

Adipokines, weight gain and metabolic and inflammatory markers after antiretroviral therapy initiation: ACTG A5260s

Koethe JR, Moser C, Brown TT, et al.

BACKGROUND: The adipokines leptin and adiponectin, produced primarily by adipose tissue, have diverse endocrine and immunologic effects, and circulating levels reflect adipocyte lipid content, local inflammation, and tissue composition. We assessed relationships between changes in regional fat depots, leptin and adiponectin levels, and metabolic and inflammatory markers over 96 weeks in the ACTG A5260s metabolic substudy of the A5257 randomized trial of tenofovir disoproxil fumarate-emtricitabine plus atazanavir-ritonavir, darunavir-ritonavir, or raltegravir among treatment-naïve persons with HIV (PWH).

METHODS: Fat depots were measured using dual-energy absorptiometry and abdominal CT imaging at treatment initiation and 96 weeks later. Serum leptin and adiponectin, homeostatic model assessment of insulin resistance (HOMA-IR), and high-sensitivity C-reactive protein (hsCRP) were measured at the same timepoints. Multivariable regression models assessed relationships between fat depots, adipokines, HOMA-IR, and hsCRP at week 96. Results: 234 participants maintained viral suppression through 96 weeks (90% male, 29% Black, median age 36 years). Serum leptin increased over 96 weeks (mean change 22%) while adiponectin did not (mean change 1%), which did not differ by study arm. Greater trunk, limb, and abdominal subcutaneous and visceral fat were associated with higher HOMA-IR and hsCRP at 96 weeks, but serum leptin level was a stronger determinant of these endpoints using a mediation model approach. A similar mediating effect was not observed for adiponectin.

CONCLUSIONS: Higher circulating leptin is associated with greater HOMA-IR and hsCRP independent of fat depot size, suggesting greater adipocyte lipid content may contribute to impaired glucose tolerance and systemic inflammation among PWH starting ART.

Eur J Cardiothorac Surg. 2021 Jun 7;ezab177.

Long-term outcomes of patients with primary graft dysfunction after cardiac transplantation

Squiers JJ, DiMaio JM, Van Zyl J, et al.

OBJECTIVES: The International Society of Heart and Lung Transplantation (ISHLT) criteria for primary graft dysfunction (PGD) after cardiac transplantation have been shown to stratify patient outcomes up to 1 year after transplantation, but scarce data are available regarding outcomes beyond the 1st year. We sought to characterize survival of patients with PGD following cardiac transplantation beyond the 1st year.

METHODS: A retrospective review of consecutive patients undergoing isolated cardiac transplantation at a single centre between 2012 and 2015 was performed. Patients were diagnosed with none, mild, moderate or severe PGD by the ISHLT criteria. Survival was ascertained from the United Network for Organ Sharing database and chart review. Kaplan-Meier curves were plotted to compare survival. The hazard ratio for mortality associated with PGD severity was estimated using Cox-proportional hazards modelling, with a pre-specified conditional survival analysis at 90 days.

RESULTS: A total of 257 consecutive patients underwent cardiac transplantation during the study period, of whom 73 (28%) met ISHLT criteria for PGD: 43 (17%) mild, 12 (5%) moderate and 18 (7%) severe. Patients with moderate or severe PGD had decreased survival up to 5 years after transplantation (log-rank $P < 0.001$). Landmark analyses demonstrated that patients with moderate or severe PGD were at increased risk of mortality during the first 90-days after transplantation as compared to those with none or mild PGD [hazard ratio (95% confidence interval) 18.9 (7.1-50.5); $P < 0.001$], but this hazard did not persist beyond 90-days in survivors ($P = 0.64$).

CONCLUSIONS: A diagnosis of moderate or severe PGD is associated with increased mortality up to 5 years after cardiac transplantation. However, patients with moderate or severe PGD who survive to post-transplantation day 90 are no longer at increased risk for mortality as compared to those with none or mild PGD.

Clin Infect Dis. 2021 Jun 12;ciab541.

Time to viral rebound after interruption of modern antiretroviral therapies

Li JZ, Aga E, Rosch R, et al.

BACKGROUND: Development of HIV remission strategies requires precise information on time to HIV rebound after treatment interruption, but there is uncertainty regarding whether modern ART regimens and timing of ART initiation may impact this outcome.

METHODS: ACTG A5345 enrolled individuals who initiated ART during chronic or early HIV infection and on suppressive ART for ≥2 years. Participants underwent carefully monitored antiretroviral interruption. ART was restarted upon two successive viral loads ≥1,000 copies/mL. We compared participants of A5345 with participants of 6 historic ACTG treatment interruption studies.

RESULTS: Thirty-three chronic-treated and 12 early-treated participants interrupted ART with evaluable time to viral rebound. Median time to viral rebound ≥1000 HIV RNA copies/mL was 22 days. Acute retroviral rebound syndrome was diagnosed in 9% of chronic-treated and none of early-treated individuals. All participants of the historic studies were on older protease inhibitor-based regimens while 97% of A5345 participants were on integrase inhibitor-based ART. There were no differences in the timing of viral rebound comparing A5345 versus historic studies. In a combined analysis, a higher percentage of early-treated participants remained off ART at post-treatment interruption week 12 (chronic vs early: 2% vs 9%, P=0.0496). One chronic-treated and one early-treated A5345 participant remained off ART for >24 weeks. All participants re-suppressed after ART re-initiation.

CONCLUSIONS: Early ART initiation, using either older or newer ART regimens, was associated with a significant delay in the time to HIV rebound after ART interruption, lowering the barrier for HIV remission.

Nature. 2021 Jun 14.

Naturally enhanced neutralizing breadth against SARS-CoV-2 one year after infection

Wang Z, Muecksch F, Schaefer-Babajew D, et al.

Over one year after its inception, the coronavirus disease-2019 (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) remains difficult to control despite the availability of several excellent vaccines. Progress in controlling the pandemic is slowed by the emergence of variants that appear to be more transmissible and more resistant to antibodies. Here we report on a cohort of 63 COVID-19-convalescent individuals assessed at 1.3, 6.2 and 12 months after infection, 41% of whom also received mRNA vaccines, In the absence of vaccination antibody reactivity to the receptor binding domain (RBD) of SARS-CoV-2, neutralizing activity and the number of RBD-specific memory B cells remain relatively stable from 6 to 12 months. Vaccination increases all components of the humoral response, and as expected, results in serum neutralizing activities against variants of concern that are comparable to or greater than neutralizing activity against the original Wuhan Hu-1 achieved by vaccination of naive individuals. The mechanism underlying these broad-based responses involves ongoing antibody somatic mutation, memory B cell clonal turnover, and development of monoclonal antibodies that are exceptionally resistant to SARS-CoV-2 RBD mutations, including those found in variants of concern. In addition, B cell clones expressing broad and potent antibodies are selectively retained in the repertoire over time and expand dramatically after vaccination. The data suggest that immunity in convalescent individuals will be very long lasting and that convalescent individuals who receive available mRNA vaccines will produce antibodies and memory B cells that should be protective against circulating SARS-CoV-2 variants.

Clin Infect Dis. 2021 Jun 10;ciab536.

Improved survival among hospitalized patients with COVID-19 treated with remdesivir and dexamethasone: a nationwide population-based cohort study

Benfield T, Bodilsen J, Brieghel C, et al.

BACKGROUND: There is limited data on outcomes of moderate to severe Coronavirus disease 2019 (COVID-19) among patients treated with remdesivir and dexamethasone in a real-world setting.

OBJECTIVE: To compare the effectiveness of standard of care (SOC) alone vs SOC plus remdesivir and dexamethasone.

METHODS: Two population-based nationwide cohorts of individuals hospitalized with COVID-19 during February through December 2020. Death within 30 days and need of mechanical ventilation (MV) were compared by inverse probability of treatment weighted (ITPW) logistic regression analysis and shown as odds ratio (OR) with 95% confidence interval (CI).

RESULTS: The 30-d mortality rate of 1694 individuals treated with remdesivir and dexamethasone in addition to SOC was 12.6% compared to 19.7% for 1053 individuals receiving SOC alone. This corresponded to a weighted OR of 30-day mortality of 0.47 (95% CI, 0.38-0.57) for patients treated with remdesivir and dexamethasone compared to patients receiving SOC alone. Similarly, progression to MV was reduced (OR 0.36 (95% CI, 0.29-0.46)).

CONCLUSIONS AND RELEVANCE: Treatment of moderate

to severe COVID-19 during June through December that included remdesivir and dexamethasone was associated with reduced 30-day mortality and need of MV compared to treatment in February through May.

Circ Arrhythm Electrophysiol. 2021 Jun;14(6):e000078.

Managing atrial fibrillation in patients with heart failure and reduced ejection fraction: a scientific statement from the American Heart Association

Gopinathannair R, Chen LY, Mina K Chung MK, et al.

Atrial fibrillation and heart failure with reduced ejection fraction are increasing in prevalence worldwide. Atrial fibrillation can precipitate and can be a consequence of heart failure with reduced ejection fraction and cardiomyopathy. Atrial fibrillation and heart failure, when present together, are associated with worse outcomes. Together, these 2 conditions increase the risk of stroke, requiring oral anticoagulation in many or left atrial appendage closure in some. Medical management for rate and rhythm control of atrial fibrillation in heart failure remain hampered by variable success, intolerance, and adverse effects. In multiple randomized clinical trials in recent years, catheter ablation for atrial fibrillation in patients with heart failure and reduced ejection fraction has shown superiority in improving survival, quality of life, and ventricular function and reducing heart failure hospitalizations compared with antiarrhythmic drugs and rate control therapies. This has resulted in a paradigm shift in management toward nonpharmacological rhythm control of atrial fibrillation in heart failure with reduced ejection fraction. The primary objective of this American Heart Association scientific statement is to review the available evidence on the epidemiology and pathophysiology of atrial fibrillation in relation to heart failure and to provide guidance on the latest adj1
s in pharmacological and nonpharmacological management of atrial fibrillation in patients with heart failure and reduced ejection fraction. The writing committee's consensus on the implications for clinical practice, gaps in knowledge, and directions for future research are highlighted.

Hypertension. 2021 Jun 14;HYPERTENSIONAHA12016418.

Hypertension control in the United States 2009 to 2018: factors underlying falling control rates during 2015 to 2018 across age- and race-ethnicity groups

Egan BM, Li J, Sutherland SE, et al.

Hypertension control (United States) increased from 1999 to 2000 to 2009 to 2010, plateaued during 2009 to 2014, then fell during 2015 to 2018. We sought explanatory factors for declining hypertension control and assessed whether specific age (18-39, 40-59, ≥60 years) or race-ethnicity groups (Non-Hispanic White, NH [B]lack, Hispanic) were disproportionately impacted. Adults with hypertension in National Health and Nutrition Examination Surveys during the plateau (2009-2014) and decline (2015-2018) in hypertension control were studied. Definitions: hypertension, blood pressure (mm Hg) ≥140 and/or ≥90 mm Hg or self-reported antihypertensive medications (Treated); Aware, 'Yes" to, "Have you been told you have hypertension?"; Treatment effectiveness, proportion of treated adults controlled; control, blood pressure <140/<90. Comparing 2009 to 2014 to 2015 to 2018, blood pressure control fell among all adults (-7.5% absolute, P<0.001). Hypertension awareness (-3.4%, P=0.01), treatment (-4.6%, P=0.004), and treatment effectiveness (-6.0%, P<0.0001) fell, despite unchanged access to care (health care insurance, source, and visits [-0.2%, P=0.97]). Antihypertensive monotherapy rose (+4.2%, P=0.04), although treatment resistance factors increased (obesity +4.0%, P=0.02, diabetes +2.3%, P=0.02). Hypertension control fell across age (18-39 [-4.9%, P=0.30]; 40-59 [-9.9%, P=0.0003]; ≥60 years [-6.5%, P=0.005]) and race-ethnicity groups (Non-Hispanic White [-8.5%, P=0.0007]; NHB -7.4%, P=0.002]; Hispanic [-5.2%, P=0.06]). Racial/ethnic disparities in hypertension control versus Non-Hispanic White were attenuated after adjusting for modifiable factors including education, obesity and access to care; NHB (odds ratio, 0.79 unadjusted versus 0.84 adjusted); Hispanic (odds ratio 0.74 unadjusted versus 0.98 adjusted). Improving hypertension control and reducing disparities require greater and more equitable access to high quality health care and healthier lifestyles.

Curr Opin Pulm Med. 2021 Jun 14.

Pulmonary hypertension in interstitial lung disease: screening, diagnosis and treatment

Behr J, Nathan SD.

PURPOSE OF REVIEW: Pulmonary vascular disease resulting in pulmonary hypertension in the context of interstitial lung disease (PH-ILD) is a common complication that presents many challenges in clinical practice. Despite recent advances, the pathogenetic interplay between parenchymal and vascular disease in ILD is not fully understood. This review provides an overview of the current knowledge and recent advances in the field.

RECENT FINDINGS: Clinical trials employing the phosphodiesterase-5-inhibitor sildenafil delivered negative results whereas riociguat showed harmful effects in the PH-ILD population. More

recently, inhaled treprostinil showed positive effects on the primary endpoint (six-min walk-distance) in the largest prospective randomized placebo-controlled trial to date in this patient population. Additionally, a pilot trial of ambulatory inhaled nitric oxide suggests beneficial effects based on the novel endpoint of actigraphy.

SUMMARY: In view of these novel developments this review provides an overview of the status quo of screening, diagnosis and management of pulmonary vascular disease and PH in patients with ILD.

AJR Am J Roentgenol. 2021 Jun;216(6):1423-1431.

Management of pulmonary nodules in oncologic patients: AJR Expert Panel narrative review

Araujo-Filho JAB, Halpenny D, McQuade C, et al.

Cancer survivors are at higher risk than the general population for development of a new primary malignancy, most commonly lung cancer. Current lung cancer screening guidelines recommend low-dose chest CT for high-risk individuals, including patients with a history of cancer and a qualifying smoking history. However, major lung cancer screening trials have inconsistently included cancer survivors, and few studies have assessed management of lung nodules in this population. This narrative review highlights relevant literature and provides expert opinion for management of pulmonary nodules detected incidentally or by screening in oncologic patients. In patients with previously treated lung cancer, a new nodule most likely represents distant metastasis from the initial lung cancer or a second primary lung cancer; CT features such as nodule size and composition should guide decisions regarding biopsy, PET/CT, and CT surveillance. In patients with extrapulmonary cancers, nodule management requires individualized risk assessment; smoking is associated with increased odds of primary lung cancer, whereas specific primary cancer types are associated with increased odds of pulmonary metastasis. Nonneoplastic causes, such as infection, medication toxicity, and postradiation or postsurgical change, should also be considered. Future prospective studies are warranted to provide evidence-based data to assist clinical decision-making in this context.

J Allergy Clin Immunol. 2021 Jun 9;S0091-6749(21)00902-7.

Effect of vitamin D supplementation on lung function in children with asthma and low vitamin D levels

Rosser FJ, Han Y-Y, Forno E, et al.

BACKGROUND: Observational studies have yielded inconsistent findings for the relation between vitamin D level and total IgE or allergic sensitization.

OBJECTIVE: To determine whether vitamin D supplementation reduces levels of total IgE and IgE to each of two common indoor allergens in children with asthma and low vitamin D levels. Methods: Total IgE, IgE to Dermatophagoides pteronyssinus (Der p), and IgE to Blattella germanica (Bla g) were measured at the randomization and exit visits for 174 participants in the Vitamin D Kids Asthma study (VDKA), a multicenter, double-blind, randomized placebo-controlled trial of vitamin D3 supplementation (4,000 IU/day) to prevent severe exacerbations in children with persistent asthma and vitamin D levels <30 ng/ml. Multivariable linear regression was used for the analysis of the effect of vitamin D supplementation on change in each IgE measure.

RESULTS: Participants were followed for an average of 316 days. At the exit visit, more subjects in the vitamin D arm achieved a vitamin D level ≥30 ng/ml compared to those in the placebo arm (87% vs. 30%, P<0.001). In a multivariable analysis, vitamin D3 supplementation had no significant effect on change in total IgE, IgE to Der p, or IgE to Bla g between the exit and randomization visits (e.g., for log10 total IgE, ß=0.007, 95% confidence interval= -0.061 to 0.074, P=0.85).

CONCLUSION: Vitamin D supplementation, compared to placebo, has no significant effect on serum levels of total IgE, IgE to dust mite, or IgE to cockroach in children with asthma and low vitamin D levels.

Ren Fail. 2021 Dec;43(1):934-941.

Association of brachial-ankle pulse wave velocity with cognitive impairment in peritoneal dialysis patients

Yi C, Zhang W, Ye H, et al.

BACKGROUND: The relationship between cognitive impairment (CI) and arterial stiffness in peritoneal dialysis (PD) patients has not been clearly clarified. The aim of this study was to examine the relationship between CI and arterial stiffness in PD patients.

METHODS: This cross-sectional study enrolled PD patients who performed a vascular profiler test at a single PD center in China between January 2014 and June 2016. The cognitive function was evaluated using the Montreal cognitive assessment (MoCA). A noninvasive vascular screening device was used to assess arterial stiffness relevant indicators.

RESULTS: A total of 643 PD patients with median age 45 (37-57.4) years and median duration of PD 27.8 (8.7-56.4) months were enrolled. The rate of CI was 49.9%. The mean brachial-ankle pulse wave velocity (baPWV) was 17.2 ± 5.6 m/s. Compared with normal cognitive function group, patients with CI had higher baPWV

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Medical Cannabis: Implications for the Care Manager Part 1: Important Considerations for Health and Safety

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Issues and Considerations of Transitions of Care and the Seven Essential Elements of Care Transition Bundle

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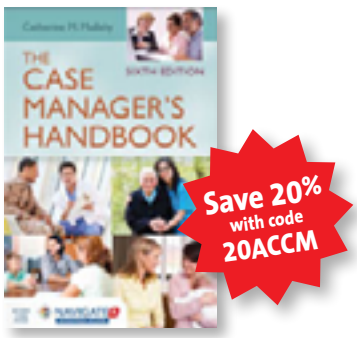

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As Different as Snow Flakes

continued from page 9

discipline will view a problem a patient or client is having with a different set of eyes. Nursing backgrounds will be able to understand better the clinical aspect of the needs of a patient. In contrast, a social work background will allow for the social needs to be met for a patient, such as a lack of resources contributing to a patient failing to follow a treatment plan. CM

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Disability Management and the Focus on Prevention *continued from page 6*

higher-than-normal incidence rate for injuries. Prevention programs that emphasize taking periodic breaks and stretches can be particularly effective. Moreover, when these programs are implemented across a group, engagement and accountability also increase. For example, earlier in my career, I helped implement a program that involved nearly 500 employees engaging in team stretching twice a day.

Going forward, as employees continue to work remotely or engage in a hybrid arrangement of both in-office or remote work, workplace wellness must evolve to accommodate people in all work settings. What remains the same, however, is the importance of education and support to improve wellness and prevent injuries. CM

Making CEs Easier and More Accessible *continued from page 5*

for Health." In addition, when CCMs complete a course, their CEs automatically appear on their CCMC dashboard.

These are but two of many ways to earn approved CEs. The CCM and CDMS Renewal Guides lists several options. Among them are workshops, seminars, conferences, and in-service training programs; home studies, distance learning courses, and webinars; college or university courses; development of curriculum; writing articles, books, and chapters in books; development of presentations and in-service training programs; and research/independent study. Every year, the Commission's Symposium offers multiple learning opportunities and CE offerings. In 2021, CCMC's Symposium will be offered virtually during Case Management Week, October 12–14, 2021. In addition, *CareManagement*, the Case Management Society of America and American Case Management Association provide education and learning experiences that can be applied to renew board certification for CCMs, while the Disability Management Employer Coalition (DMEC) offers many programs that can be applied to CDMS recertification.

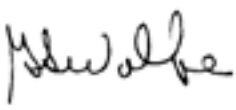
Continuing education should be pursued as an ongoing process of enrichment, not merely as a means to fulfill learning requirements for certification renewal. By elevating their knowledge and committing to lifelong learning, board-certified professionals can distinguish themselves in a community of like-minded professionals as they advocate for others across the health and human services spectrum. CM

COVID-19: Lessons Learned *continued from page 2*

difficult situations. Many businesses continued to operate during the pandemic with employees who wore protective face masks and practiced social distancing. Many office workers were allowed to telecommute. Telehealth, which is not really new, was quickly expanded and allowed providers to see patients in a safe environment.

In this pandemic, we learned that we could get through it —TOGETHER! Although the pandemic is not over and we still have a lot to learn about it, if we continue with vaccinations and public health measures the pandemic will get under control. New cases are emerging at the lowest level since testing became widely available. Death and hospitalizations continue to decline. In the post-COVID-19 world, we will continue to study the effects of COVID-19 on multiorgan systems, the long-term effectiveness of treatment and hospitalization for COVID-19, and long COVID-19.

Case managers were and are an important group in fighting this pandemic. Case managers developed new strategies and ways of coordinating care across the continuum. Doing what we always do!



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ACCM: Improving Case Management Practice through Education

LITSCAN FOR CASE MANAGERS

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(18.6 ± 7.0 vs. 15.8 ± 3.2 m/s), systolic blood pressure (150.3 ± 21.5 vs. 144.2 ± 20.2 mmHg), and pulse pressure (59.7 ± 14.7 vs. 52.5 ± 11.6 mmHg), and lower ankle-brachial index (ABI, 1.12 ± 0.12 vs. 1.15 ± 0.09) (all p<.05). Compared with systolic blood pressure, pulse pressure, and ABI in receiver operating characteristic (ROC) analysis, baPWV had better performance in predicting CI (area under curve: 0.68, 95% confidence interval: 0.64-0.72). BaPWV was independently associated with MoCA score (B per SD, -0.42 [95% confidence interval, -0.71 to -0.12]; p = .006) and CI (OR per SD, 1.55 [95% confidence interval, 1.11-2.17]; p = .011) in PD patients after adjustment for confounders.

CONCLUSIONS: Higher baPWV was independently associated with CI in PD patients.

Alternatives *continued from page 4*

exceptional keynote speakers that sang to us, made us laugh or cry, and celebrated case managers. All of this and more replicated an in-person conference experience enjoyed by over 975 attendees, including 79 international participants. CMSA uplifted case managers and highlighted their extraordinary work during the pandemic with a special presentation of Case Management Heroes…a presentation worth viewing several times over! CMSA also celebrated the outstanding work of our Case Manager of the Year winner, Ms. Patricia Noonan, and our Lifetime Achievement Award recipient, Ms. Mindy Owen, two incredible leaders within the case management industry. We know how hard CMSA members have worked to sustain their chapters through a difficult year, and we celebrated their resiliency with our first-ever Chapter Roll Call…another great video to check out! One of the most exciting aspects of the conference was the recognition of new and reconnected partnerships with organizations and companies that support the advancement of professional case management. We value these partnerships and look forward to building solutions for case managers and the institutions they support.

Finally, CMSA will use the outstanding feedback from conference attendees to develop more alternatives and opportunities for members and partners. We are committed to evolving with the industry and elevating our association to lead the way in the practice of professional case management. We have many ideas in the hopper, so stay connected with us through CareManagement, CMSA Today, other publications, social media, and our website, www.cmsa.org. CMSA has transformed the challenges of 1) role definition 2) professional experience and 3) member engagement into opportunities to provide relevant SOP and a real-world, scenario-based boot camp and has successfully produced an interactive annual conference that engaged case managers from around the world with networking, education, and celebration. There is more to come as we build a portfolio of alternatives to support case managers in an ever-changing healthcare arena! CM

Quality Improvement: "Escape Fire" *continued from page 7*

"With the fire barely 200 yards behind him, he did a strange and marvelous thing. He invented a solution. On the spot. His crew must be thought he had gone crazy as he took some matches out of his pocket, bent down, lit a match and set fire to the grass directly in front of him. The new fire spread quickly uphill ahead of him, and he stepped into the middle of the newly burnt area. He called to his crew to join him as he lay down in the middle of the burnt ground…"

Dodge's team either did not hear him or ignored his calls and ran right past him. Only two of them, in addition to Dodge, survived. Dodge invented what is called an "escape fire," which soon became a standard part of training for firefighters.

Berwick goes on to point out that a key role of organizations is what he calls "sensemaking," a concept developed by Professor Karl E. Weick. Sensemaking is the process by which the fluid, multilayered world is given order within which people can orient themselves, find purpose, and take effective action. According to Weick, organizations don't discover sense, they create it.

Here are some of Berwick's principles of sensemaking in healthcare organizations:

- With regard to patients, the guiding principle must be "Nothing about me without me."
- From Dr. James Reinertsen, "All and only. We will promise to deliver, reliably and without error, all the care that will help, and only the care that will help."
- "Every patient is the only patient."
- "The patient is the source of all control."
- "By what right does a nurse, doctor, or manager make a decision that violates basic principles of human decency and caring?"

If providers follow the above guiding principles, just imagine how the quality of care provided to patients will improve. Let's go! CM

Health Care Leadership in the Postpandemic Era *continued from page 10*

new light. They shared information in a timely, direct fashion, they were respectful, and they were focused on giving accurate and truthful information.

The pandemic has made leaders seize the moment and take the lessons learned forward. Many areas of health and human services will change and improve because of these lessons. Case managers have the unique opportunity to take these lessons learned, look for those that are pioneers in your industry, and start dialogue and collaboration to be the best providers to those that are receiving case management services. CM

continued from page 27

the primary efficacy endpoint, the change from baseline in CDR-SB score at 78 weeks.

Study 3

In Study 3, 197 patients were randomized to receive a fixed dose of Aduhelm 1 mg/kg (n=31), 3 mg/kg (n=32), 6 mg/kg (n=30), 10 mg/kg (n=32), titration of Aduhelm to 10 mg/kg over 44 weeks (n=23), or placebo (n=48) for 12 months. At baseline, the mean age of patients was 73 years, with a range of 51–91 years.

Results from the amyloid beta PET substudy are described in Figure 4 and Table 4.

Clinical assessments in Study 3 were exploratory. Results for clinical assessments were directionally aligned with the findings from Study 1, with less change from baseline in CDR-SB and MMSE scores at 1 year in the Aduhelm 10 mg/kg fixed-dose group than in patients on placebo (CDR-SB: -1.26, 95% CI [-2.356, -0.163]; MMSE: 1.9, 95% CI [0.06, 3.75]).

HOW SUPPLIED/STORAGE AND HANDLING

How Supplied

Aduhelm (aducanumab-avwa) injection is a preservative-free, sterile, clear to opalescent, and colorless to yellow solution. Aduhelm is supplied one vial per carton as follows:

- 170 mg/1.7 mL (100 mg/mL) single-dose vial (with red flip cap)
- 300 mg/3 mL (100 mg/mL) single-dose vial (with blue flip cap)

Storage and Handling

Unopened Vial

- Store in original carton until use to protect from light.
- Store in a refrigerator at 2°C to 8°C (36°F to 46°F).
- Do not freeze or shake.
- If no refrigeration is available, Aduhelm may be stored unopened in its original carton to protect from light at room temperature up to 25°C (77°F) for up to 3 days.
- Prior to dilution, unopened vials of Aduhelm may be removed from and returned to the refrigerator if necessary, when kept in the original carton. Total combined time out of refrigeration with protection from light should not exceed 24 hours at room temperature up to 25°C (77°F).

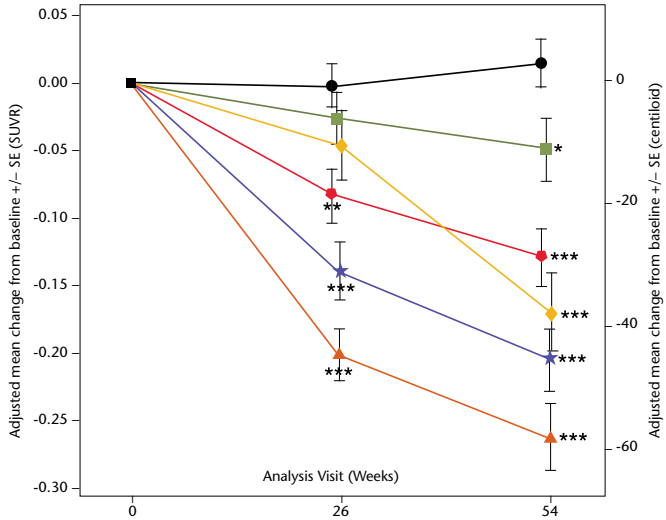
For full prescribing information, please see Product Insert.

Aduhelm is manufactured by Biogen, Inc, Cambridge, MA.

FIGURE 4

REDUCTION IN BRAIN AMYLOID BETA PLAQUE

(Change from Baseline in Amyloid Beta PET Composite, SUVR and Centiloids) in Study 3



Number of subjects			
Placebo	42	42	38
1 mg/kg	26	26	21
3 mg/kg	29	27	26
6 mg/kg	24	23	23
10 mg/kg	28	27	21
Titration to 10 mg/kg	18	17	16

* p<0.05, ** p<0.01, *** p<0.001

TABLE 4 **BIOMARKER RESULTS OF ADUHELM IN STUDY 3**

BIOMARKER ENDPOINT AT WEEK 54[1]	ADUHELM 10 MG/KG	PLACEBO
Amyloid Beta PET Composite SUVR	N=28	N=42
Mean baseline	1.432	1.441
Change from baseline Difference from placebo	-0.263 -0.277, p<0.0001	0.014
Amyloid Beta PET Centiloid	N=28	N=42
Mean baseline	94.5	96.5
Change from baseline (%) Difference from placebo	-58.0 (-61%) -61.1, p<0.0001	3.1

[1]P-values were not statistically controlled for multiple comparisons.

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