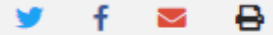


# Road map for success: What's next for high elevation research?

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**Frank Walter, a 96-year-old former resident of Summit County, talks about his days as a skier with Janine Houlberg, a nurse at Applewood Our House in Golden, on Tuesday, Sept. 24.**

*Liz Copan / ecopan@summitdaily.com*

Summit County is about to become a living laboratory for high elevation medical research, but the data might come too late for the county's growing senior population, many of whom have been forced to leave the place they love because of a lack of care options.

## Seeking to stay

Frank Walter sat alone next to a window at the front of the house, his wheelchair creaking along hardwood with a quiet restlessness.

Walter, just a few days shy of his 97th birthday on Oct. 1, was in the living room of an assisted living center called Applewood Our House in Golden. It is billed as an 24/7 assisted living and memory care facility for seniors, but is more of a cozy ranch-style home for people who were forced to leave their own homes, when nobody capable was left to tend to their critical physical and mental needs. These are people who lost the chance to age in place.

As nice as Applewood and its caretakers are, Walter would rather be 70 miles west on Interstate 70 at his home in Copper Mountain, where he lived for more than 40 years and where all of his closest friends are. He moved to

Copper in 1972 to ski full time in the winter after retiring from a distinguished career as an engineer at the Chrysler Motor Co. He often skied with his son, Larry, who now lives in California.

Walter got a lifetime pass at Copper when it opened, and every year since, he had the season's first chair. He skied at least 70 days every year in Summit County, up to 181 during one season. He was still skiing at 95 when he was featured in last year's Longevity Project as a thriving, active senior who inspired everyone around him with his vitality.

"I used to be a top skier up there," said Walter, who learned how to ski nine decades ago. "Copper Mountain is the only place where I could ski all the time."

But this April, just weeks after taking his final turns of the season at Keystone Resort, Walter had a fall while trying to get out of the shower in his home. Larry, said his dad broke a few bones, including a few vertebrae in his back, and got a nasty concussion. After being stabilized, Walter was admitted to a skilled nursing facility called the Life Care Center of Evergreen in Jefferson County.

### **i The Longevity Project: Unlocking the mysteries of human health at altitude**

**Part 1: Pushing the limit: Understanding the body's performance at elevation**

**Part 2: Living at altitude: Exploring the effects on mountain town residents**

**Part 3: Building community: Identifying solutions to the mental health problem**

**Part 4: Road map for success: What's next for high altitude research?**

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While down there, Walter's fortunes took an even worse turn when he contracted a severe case of pneumonia, the fifth-leading cause of death for seniors and fatal in as many as 24% of cases. The doctors in Evergreen told Larry that his father had two weeks to live.

Larry flew in from California and rushed to his father's bedside, where he saw that Frank was very much alive. He refused to believe his dad was on his way out of this world, and he moved Frank to Applewood, where he's lived comfortably and safely since June.

But for Frank, the comfort is cold. He yearns to ski and golf again, to feel the fresh, crisp air and see the majesty of mountain landscapes.

"I'm not sure if I'm going to be skiing at all this year," Walter said. "I don't know what to do. I just don't know what to do."

Gini Patterson, a physical therapist and executive director of Timberline Adult Day Services in Frisco, had been Walter's primary caretaker for five years. She visits him often in Golden and saw a marked change in him after he left the mountains.

"Physically, he's great," Patterson said. "He's zooming around in the backyard doing laps in his wheelchair. But his cognitive decline has been dramatic, as it usually is for seniors when they're taken away from an established place they were living, where they have their family, friends, church, support network. Down there, he has nobody."

Larry said his father had been suffering from Alzheimer's-related dementia for years, but the decline accelerated

rapidly after he left Copper Mountain.

“I visited him last week, and he didn’t remember who I was,” Larry said. “He was talking about how he was skiing with kids in the neighborhood. It’s September, and there’s no snow. He said his brother was going to take him golfing. His brother’s been dead 40 years.”

Despite the ravages of time, Frank’s eyes still gleam with joy when he recalls his favorite place in the world, a place where he went to live his dream of skiing a hundred days a year and the only place he would call home.

“His biggest complaint is, ‘I can’t see the mountains,’” Larry said.

**Summit County  
Community & Senior  
Center Manager Lorie  
Williams, left, and Staying  
in Summit President Andy  
Searls talk about senior  
living and the challenges  
of aging at altitude Sept. 6  
at the senior center in  
Frisco.**

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### **Lack of continuing care for seniors**

Summit County is known as a place where people who physically and financially thrive are welcomed with a cornucopia of activities and physical pursuits, but the environment is much harsher for those who get too sick, too old or too poor.

Within its 619 square miles, Summit does not have a single assisted living, skilled nursing or memory care facility where seniors can get the specialized care they require when they advance in age.

Colorado State Demographer Elizabeth Garner said that of Summit’s 31,000 residents, 4,100, or 13%, are 65 or older. By 2050, that number will increase 24% to 5,100. Those seniors will find it increasingly hard to afford to live here, even if they are physically able — a problem driven mainly by housing costs.

The state’s data revealed there are about 31,000 housing units in Summit County, and 68% of those units are considered vacant most of the year. The available housing stock makes it hard to attract critical components of a senior-friendly community, such as geriatric health providers, memory care providers and caretakers.

“There are minimal long-term care providers here, and their people come and go often,” said Andy Searls, president of Staying in Summit, a nonprofit dedicated to helping Summit’s seniors remain in Summit County. “It’s not an easy job. There’s a high cost to paying people to staff those facilities, and they burn out quickly.”

And when county funds are tight, priority is given to the immediate needs of the community before high-cost, low-return amenities like an assisted living facility or memory care unit for seniors.

Pragmatists might wonder: why should seniors get more facilities catering to their needs, when the population is made up mainly of working 20- to 30-year-olds?

That’s a question Lorie Williams, manager of the Summit County Community & Senior Center, is qualified to answer. Williams oversees the center and schedules activities for its 1,859 senior members, and she says they all make valuable contributions to the community, even as their bodies are able to do less physically. Their desire to live here also motivates them to sustain and build up the Summit community.

“These people want to stay here, and if they leave, they take their money with them,” Williams said. “All those people who own shops up and down Main Street in Breckenridge and Frisco, many of them have lived here for a very long time and don’t want to leave. They have their entire support system, their friends and family, up here. Some come here to live with their children and grandchildren. It would be optimal for a lot of people to be able to physically live here and be close to their family.”

**Dr. Benjamin Honigman, a specialist in emergency medicine who has been practicing for more than 20 years, talks about the health impacts of living at altitude Sept. 11 in Silverthorne.**

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## **High Altitude Research Center**

Even if more is done to accommodate Summit's seniors, there still needs to be a health care community to care for them. Those careers would be expected to know about any peculiarities of health at high altitude, with its thinner air and hypoxic conditions, to ensure people can live in Summit for as long as their mortality will allow.

But without an existing body of medical research about high altitude community health to consult, the pool of specialists who can cater to those high altitude needs is pretty small.

To better serve mountain residents and their particular health needs, Summit County is about to become a living laboratory. Centura-owned St. Anthony Summit Medical Center has partnered with the University of Colorado School of Medicine's Altitude Research Center to establish the first High Altitude Research Center in Summit County.

Dr. Marshall Denkinger, chief informatics officer for Centura Health, said the research center will base its initial efforts around a giant population-based longitudinal demographic study in Summit County, with participants of different ages, genders, races and physical attributes giving basic information and vital health data.

Denkinger said that, once enough of that data is compiled, researchers will be able to sift through it to find health trends and make key connections that could lead to medical breakthroughs.

Findings could include patterns among demographic groups when it comes to blood pressure, a better idea of the physical makeup of people who thrive at elevation as well as those who don't, differences between people who were born here versus those who weren't, genetic susceptibility to high altitude conditions as well as how the body adjusts to the high elevation environment over a long time.

It also could help answer some burning questions about High Country health, like why people here live longer than the rest of the nation.

"Life expectancy in Summit County has already been noted to be longer than average in the U.S., so there is some health effects from living here," Denkinger said. "There are some parts of the human physiology that altitude effects, and I think what we're trying to define is what those really are in a broad-based community study."

As far as the broad practical implications for building up this medical data, Denkinger said ordinary people will be empowered with better knowledge that could in turn lead to better outcomes for them and their families later in life.

"The study will provide information that helps high altitude residents make better decisions about their health care, their habits or their lifestyle, so they can enjoy the environment in Summit County and live here as long as they want to."

Dr. Benjamin Honigman, director emeritus of the Altitude Research Center based out of the University of Colorado Anschutz Medical Campus, said the findings from the High Altitude Research Center also could inform the medical science community outside of Summit. One organization that could have a keen interest in its findings is the U.S. military.

"The military often sends troops to places with higher elevations, such as Afghanistan," Honigman said. "They send people into very remote areas where there might not be a lot of care, which could put soldiers in jeopardy if they don't react well to the high altitude. The data the (High Altitude Research Center) gathers could be used to see who

is more susceptible to high-altitude health conditions. If you can get thousands of individuals who live up here, who are predisposed to the high altitude, we can look at their physiological makeup at a molecular level.”

Honigman cautioned that some of the eventual desired outcomes of this research — such as a quick test to determine susceptibility to dangerous conditions like high altitude pulmonary edema — would not be found immediately.

Denkinger said the initial study is a population-based one, a mere jumping board from which bigger breakthroughs could be made much farther down the line. The research would be funded by grants, with more research funds coming in as more data and knowledge is gathered.

Denkinger said he and fellow High Altitude Research Center researchers are actively involved in developing and finalizing the study outline, with the eventual goal of presenting it to an institutional review board, which reviews the ethical and research integrity of all human-based studies.

“This is to ensure the rights and welfare of research subjects, which is a critical step toward initiating the study and meeting the very carefully defined standards required to validate that data,” Denkinger said. “We are hoping this initial study is going to begin by the end of the year.”

**Staying in Summit  
President Andy Searls  
talks about senior living  
and the challenges of  
aging at altitude Sept. 6 at  
the Summit County  
Community & Senior  
Center in Frisco.**  
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## **Aging in place**

While the High Altitude Research Center nears its launch, some of the immediate health concerns of Summit County residents remain unaddressed.

Staying in Summit’s Searls said that while talks have started to progress with the county on delivering a physical site for a senior care facility, no developers have stepped up to the plate to take on the expensive and complex task of caring for seniors.

As with most things in Summit, it also comes down to money. To woo those developers, or for the county to build and run its own senior care facilities, there needs to be money involved, and a lot of it. Searls said a number of options are being explored, including asking voters to fund a new revenue stream specifically for senior care.

But in order to get that, there needs to be public will. To encourage communities like Summit that do a lot for seniors, but could do more, AARP recently designated Summit County as an “age friendly community,” a distinction bestowed on communities that make an effort to help its older people age in place.

While that distinction may seem somewhat premature considering the lack of senior medical care facilities, AARP Colorado Director Bob Murphy said it takes into account many other factors that help seniors stay in their communities.

Murphy said Summit County’s efforts to create a robust free public transportation system, a plethora of activities for seniors at the senior center, volunteering opportunities that offer purpose and activity and other factors make life pretty good for seniors who want to live independently in Summit.

Murphy also said the distinction is not meant to be a final say on whether a community could do more for its seniors; it is meant to encourage conversation on what is lacking and how the community can be better to its seniors.

**Frank Walter, 96, skies  
April 4, 2018, at Keystone  
Resort.**

## Pining for snow-capped peaks

Frank Walter certainly could have used a little more help to stay at his beloved Copper Mountain. While his skiing days might be over, Copper Mountain and Summit County is still his home, one he can't see or feel down on the Front Range.

Larry is in the process of selling Frank's home, given that there is no facility in Summit County that would allow him to live here with his advanced cognitive decline.

He feels for his father, who he knows loved Copper, and is probably the only person alive who can claim the mountain itself as a second home, given the thousands of days he spent taking turns down its runs. He also feels it could have been avoidable if Summit County had worked to do the right thing by its most loyal and longest-living residents.

"If Summit County had a small memory care facility, my dad — at 96 years old, 97 in a week — would have been able to stay in Summit County and had most of his support system still in place," Larry wrote in an email to Frank's former caretaker. "It is no doubt there are many others in the same position. It is something to seriously consider."

Things aren't all that bad for Frank, though. While he might not be able to ski again, there is a chance he'll return for a day at Copper, maybe even coming up to push the button for the first chair, where he has been a fixture for decades.

Frank's attentive nurse at Applewood, Janine Houlberg, said he's still doing his wheelchair laps, enjoying being out in the sun and even walking around on occasion. He still loves to talk about Copper Mountain, skiing, golf and his son. While some ideas and memories get mixed up at times, he has not lost hold of the things he cherishes most.

When asked what makes him happy, Frank thought for a second before a flash of recognition flared across his steel-grey eyes.

"Good snow, good equipment and temperatures that are just right, just the right combination," Frank said, with a wry laugh.

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