

National study shows how internal medicine chief residency has changed over 20 years

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New research shows how the chief resident position in academic internal medicine residency programs has evolved over the past 20 years, revealing how the position has changed, the types of careers these

individuals pursue, and improvement in gender representation.

These findings, published this summer by the *American Journal of Medicine*, stem from a [20-year multicenter study](#) that involved the University of Colorado Internal Medicine Residency Program. CU Department of Medicine faculty member William Turbyfill, MD, was among the study's site investigators.

Turbyfill, who practices in the Veterans Affairs Eastern Colorado Health Care System, is part of a collective of hospitalists who are interested in research throughout the VA. He says the lead author of the study, Tyler J. Albert, MD, recognized there was a lack of research on chief residents despite their important role in medical education.

"We realized this is something no one has really looked at before, prompting us to wonder—how do we catalog this, and from that, what are the trends we see? What has happened in the past, and what might be happening in the future?" says Turbyfill, an assistant professor in the Division of Hospital Medicine.

Site investigators from 22 academically-affiliated [internal medicine](#) residency programs across the U.S. were recruited using the VA Academic Hospitalist Work Group. These investigators created a comprehensive registry of chief residents who served in their residency program between the academic years of 2001–2002 and 2020–2021, resulting in a final cohort of 2,060 chief residents.

"Ultimately, our goal was to understand how we can position chief residency throughout academic medicine in the U.S. to both support those who are chief residents and support the greater mission of providing excellent medical care in all of these institutions," he says.

How the role—and population—has evolved

The chief resident position can vary depending on the residency program, but it typically is an additional year of training that involves more independence and responsibility.

"As a chief resident, you are uniquely positioned in that you serve as a bridge between residents and supervisors," says Turbyfill, who previously served as a chief resident for the CU Internal Medicine Residency Program.

"In some ways, you become the face of the residency program. You help manage the day-to-day operations, scheduling conflicts, and recruitment for residents coming into the program. You gain a lot of experience and have opportunities for teaching, as well."

Over the years, more role-specific positions have formed, such as [quality improvement](#) and [patient safety](#) chief residents.

"Particularly at the VA, there has been a trend recently to have quality and safety chief residents," Turbyfill says. "Their goal is to focus more on projects to improve the quality and safety of the hospitals, residency programs, and hospital systems they work in."

The study revealed a strong association between the size of the residency program and the number of different chief resident roles offered, with smaller programs having more general chief residents and larger programs having more inpatient and ambulatory chief resident positions.

The study also found that there are more internal medicine chief residents now than there were two decades ago. The annual number of chief residents increased by 38% over the 20-year period across the 22 internal medicine residency programs. Per program, the median number of chief residents increased from three to five.

There was also significant improvement in gender parity among the internal medicine chief residents over time. Overall, 46% of the chief residents in the cohort were female, and the data showed clear improvement in gender representation throughout the 20 years. For the academic year 2001–2002, 39% of the chief residents were female, whereas for the 2020–2021 academic year, 52% were female.

Where the chief residents go

Beyond studying how the chief [resident](#) position and population has evolved, Turbyfill and his colleagues also aimed to find out more about their future career paths.

They found that roughly 63% of the chief residents pursued subspecialty training after chief residency. The most prevalent subspecialties were cardiology, pulmonary and critical care medicine, gastroenterology, and hematology and oncology.

"That was less surprising than the growth aspect, because chief residency has often been considered a stepping stone for going into subspecialties," Turbyfill says. "But over the years, we also saw there was a higher increase of people entering into hospital medicine, like I did."

According to the study, 36% of chief residents pursued careers in internal medicine, with 18% pursuing primary care and 17% pursuing hospital medicine. Over the 20-year period, an increasing proportion of chief residents pursued careers in hospital medicine.

"The hospitalist cohort has grown in medicine in general. I think this growth reflects that chief residency provides a great starting point for future hospitalists," Turbyfill says. "To me, it's exciting to see that chief residency may be moving in a direction where it's potentially less of a stepping stone into a subspecialty and more people are interested in

hospital medicine."

Overall, 56% of chief residents remained in academic medicine—with many remaining at the institution they trained at—and the proportion increased over time. The study authors say this indicates chief residency is a "pipeline for future academicians."

Unanswered questions

Although this study was able to shed light on the past and present status of internal medicine chief residency, Turbyfill says the next step is to find out why certain trends exist. For instance, why has the number of chief residents increased? Why do most of them remain in academic medicine? And why have more chief residents become interested in hospital medicine over the past 20 years?

"The whole point of this research is that it shows us the state of things right now and what has changed over the years," he says. "From this, we can conduct more studies to answer those 'why' questions."

One of the most interesting trends Turbyfill saw was the improvement in gender representation among the chief residents, especially considering there are still significant gender disparities in residency and fellowship programs, as well as across academic medicine in general.

"Now that we have that data, I think we're all interested in finding out what barriers exist so we can hopefully move more toward gender parity in the future," Turbyfill says.

"That's why this study is important—it sparked a lot of interest and curiosity," he adds. "It gives us a baseline to build off of so we can improve how we train the next generation of doctors and leaders in the academic realm."

More information: Tyler J. Albert et al, The Evolution of Internal Medicine Chief Residents: A 20-Year Multicenter Study, *The American Journal of Medicine* (2024). [DOI: 10.1016/j.amjmed.2024.05.026](https://doi.org/10.1016/j.amjmed.2024.05.026)

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