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Author: Joan Cangiarella, MD; Alicia Gonzalez-Flores, MD; Tonya L. Fancher, MD, MPH; Sally A. Santen, MD, PhD; and Catherine L. Coe, MD

Title: Accelerated 3-Year MD Programs in the United States: Key Features, Innovations, Growth, Outcomes, and Lessons Learned

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**Accelerated 3-Year MD Programs in the United States: Key Features, Innovations, Growth,
Outcomes, and Lessons Learned**

Joan Cangiarella, MD, Alicia Gonzalez-Flores, MD, Tonya L. Fancher, MD, MPH, Sally A. Santen,
MD, PhD, and Catherine L. Coe, MD

J. Cangiarella is senior associate dean for education and faculty, director of the accelerated three-year MD pathway, and professor of pathology, NYU Grossman School of Medicine, New York, New York.

A. Gonzalez-Flores is director of the accelerated competency-based education in primary care and associate professor of medicine, University of California Davis School of Medicine, Sacramento, California.

T.L. Fancher is associate dean of workforce innovation and education quality improvement and professor of medicine, University of California Davis School of Medicine, Sacramento, California.

S.A. Santen is associate dean of medical education and professor of emergency medicine, University of Cincinnati College of Medicine, Cincinnati, Ohio.

C.L. Coe is assistant dean for clinical curriculum and associate professor of family medicine, University of North Carolina School of Medicine, Chapel Hill, North Carolina.

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Correspondence should be addressed to Joan Cangiarella, New York University Grossman School of Medicine, 530 First Ave., Skirball 7N, New York, NY 10016; telephone: (212) 263-5983; email: joan.cangiarella@nyulangone.org.

Abstract

Accelerated 3-year MD (3YMD) programs have experienced rapid growth in the United States since 2010. In 2015, 8 institutions with 3YMD programs formed the Consortium of Accelerated Medical Pathway Programs (CAMPP). As of 2024, CAMPP has 32 member schools with 3YMD programs, and there have been nearly 1,000 graduates from 3YMD programs who have entered residency, many through directed pathways at the same institution where they attended medical school. Compared to traditional 4-year graduates, 3YMD graduates are equally prepared, have less educational debt, and are frequently filling physician workforce shortage and working in underserved communities. This commentary provides an update on the current state of 32 3YMD programs in the United States, highlighting the key features, innovations, growth, outcomes, and lessons learned in the development and implementation of these programs at CAMPP member institutions.

Accelerated 3-year MD (3YMD) programs—where students graduate from medical school in 3 years instead of the traditional 4 years—have experienced rapid growth in the United States over the last 15 years (since 2010).¹ While these programs were popular in the 1970s and 1980s as a means of addressing an impending physician shortage, most 3YMD programs were discontinued after governmental subsidies diminished, despite demonstrating equivalency in student performance outcomes with 4-year MD (4YMD) programs.²⁻⁵ Three new 3YMD programs opened after 2010 with the strategic mission of increasing the primary care workforce by shortening training and reducing the role of student debt in driving specialty choice.⁶ These programs included a directed pathway (where the recruitment into the 3YMD program came with a residency position if the student met the graduation requirements and chose to rank the residency program) into family medicine residencies at the same institutions with the hope of retaining the physicians they trained to serve in their local rural and medically underserved communities.

With an even broader mission in mind, in 2013, NYU Grossman School of Medicine opened its 3YMD program to allow individualized training pathways for students; it was the first U.S. academic center to offer a 3YMD program with a directed pathway into any of the 21 residency programs at NYU Langone Health.⁷ In 2015, with the support of a Josiah Macy Jr. Foundation grant, NYU Grossman School of Medicine invited 7 other medical schools with 3YMD programs to form the Consortium of Accelerated Medical Pathway Programs (CAMPP).⁸ CAMPP provides expertise and has served to guide medical schools who are considering the development of an accelerated pathway. As of 2024, CAMPP has 32 member schools with 3YMD programs.¹ This

commentary provides an update on the current state of 32 3YMD programs in the United States, highlighting the key features, innovations, growth, outcomes, and lessons learned in the development and implementation of these programs at CAMPP member institutions.

Key Features of Accelerated 3YMD Programs

All medical school programs must comply with Liaison Committee on Medical Education Element 6.8, which specifies a minimum of 130 weeks of instruction⁹ with programs ranging from 130 to 151 weeks. Over 90% of 3YMD programs were established after a curriculum renewal at the home medical school shortened the traditional 2-year pre-clerkship phase. By starting earlier or including required content between the summer of year one and two, accelerated 3YMD programs are typically shorter than 4YMD programs by 20 weeks or less.

Twenty-nine of 32 (91%) CAMPP 3YMD programs have a directed pathway into residency at their home institution (ranging from family medicine only, to 3-5 specialties, to any residency program). Many institutions initially linked the accelerated program with only one residency program but have since expanded to include others.

Other key features of CAMPP 3YMD programs are described in List 1.

Innovations in Accelerated 3YMD Programs

Accelerated 3YMD programs have disrupted undergraduate medical education (UME) by recognizing that not all graduates have to be “identical”; some students come to medical school knowing what career they want to pursue and do not need a fourth year to make a specialty

choice. Allowing students to graduate in less time with an associated reduction in student debt revolutionized thinking around the cost of medical education and its impact on student specialty choice. Novel to many 3YMD programs was the directed pathway to residency, which required residency program directors to participate in the admission decision. This unique feature also enables students to track and plan their path across the UME to graduate medical education (GME) continuum, which can be a powerful recruitment tool for enrolling students who will make a long-term commitment to the institution and residency program.

Additional student-centered mentoring initiatives were also developed in 3YMD programs. While accelerated 3YMD programs continue the traditional advising and academic coaching programs to support students seen in traditional 4YMD programs, they have also added multipronged mentoring with 3YMD advisors and specialty advisors.⁷ The 3YMD advisor is crucial to understanding student concerns that come along with any accelerated program; they serve as an advocate for students in regard to academic and professional issues and provide wellness support. The specialty advisor, who typically does not have an evaluative role, is a faculty member in the department of the students' chosen residency program, who helps assimilate the student into their residency department by introducing them to faculty and residents in that department, offering opportunities for clinical shadowing, connecting them with research mentors, and inviting them to departmental seminars and social events. Interaction with the specialty mentor continues as the student moves from UME to GME helping to ease the transition.

Growth of Accelerated 3YMD Programs

The number of accelerated 3YMD programs has quadrupled since 2010.¹ As of 2024, CAMPP has 32 medical schools with 3YMD programs (approximately 20% of all U.S. MD-granting medical schools).¹ This growth has been driven by curricular reform that enables implementation of such programs, mounting student educational debt, the pressing need for medical schools to address workforce shortages, and the increased awareness of the importance of individualized learning. Ten additional CAMPP schools are in various stages of developing an accelerated program but, as noted below, establishing these programs is not easy, as buy-in from senior leadership to support the financial loss of tuition and the necessary curriculum reform is vital. In developing a 3YMD program, schools must consider the return on investment that the school, student, department, and community will receive as the changes needed to initiate and sustain these programs require substantial time commitments and resources.¹⁰ Collectively, as of 2024, the CAMPP programs have seen nearly 1,000 accelerated 3YMD graduates who have entered residency, many through directed pathways at the same institution where they attended medical school.

Outcomes in Accelerated 3YMD Programs

Graduates perform on-par with 4YMD graduates

Residency program directors are most concerned that accelerated programs do not include sufficient breadth and depth of direct patient exposure to ensure the overall clinical competence of 3YMD students.^{11,12} Data generated through studies of CAMPP 3YMD programs have found no difference in students' performance on key preclinical medical knowledge exams and, with the

exception of a slightly lower score on the National Board of Medical Examiners medicine shelf exam at one school and slightly lower scores on the United States Medical Licensing Examination (USMLE) Step 1 and Step 2 CK, no differences in clinical performance.^{13,14} Program directors also report 3YMD interns' equal preparedness for residency with no significant differences in overall performance or in the assessment of any of the 13 Association of American Medical Colleges (AAMC) Core Entrustable Professional Activities for Entering Residency, in USMLE Step 3 pass rates, or in intern milestone ratings for internal medicine residents as compared to the 4YMD interns with whom they graduated.^{13,15} A customized report from the 2017 and 2018 AAMC Graduation Questionnaire compared accelerated MD program graduates to nonaccelerated graduates from 9 CAMPP medical schools who wished to participate to all nonaccelerated U.S. MD graduates.¹⁶ In this report, 3YMD students reported feeling equally prepared for residency and more satisfied with their medical school experience compared to their 4YMD counterparts.

One of the largest cohort studies of 136 3YMD students at NYU Grossman School of Medicine, found 3YMD graduates performed similarly to 4YMD graduates across multiple medical school and internship learning and performance outcomes, including medical school preclerkship knowledge exams, National Board of Medical Examiners shelf exams, clerkship grades and assessments, USMLE Step 3 pass rates, induction into Alpha Omega Alpha, and selection as a chief resident.¹⁵

When looking at performance in residency, a nested cohort analysis of first-year Accreditation Council for Graduate Medical Education milestone performance comparing residents who had

graduated from 3YMD programs to those who had graduated from 4YMD programs demonstrated equal preparedness with no difference in their milestone attainment at 6 months and 12 months into internship.¹⁷

Students have less educational debt

The 2017 and 2018 AAMC Graduation Questionnaire report noted above also included data on indebtedness among accelerated MD graduates compared to nonaccelerated graduates, showing that 3YMD students had less debt than nonaccelerated students.¹⁶ For example, 41.4% of accelerated graduates had no medical school debt as compared to 28.0% of nonaccelerated graduates. Additionally, only 13.8% of accelerated graduates had medical school debt greater than \$150,000 as compared to 50.2% of nonaccelerated graduates. Overall, the report found that one less year of tuition and the ability to enter practice earlier (providing an additional year of earnings) accounted for an approximate lifetime savings of \$250,000.

Impact on workforce shortages in underserved communities

Approximately 60% of accelerated programs have an explicit mission to train physicians to practice locally after residency and serve in underserved communities, and to address physician shortages by recruiting students committed to working in primary care or family medicine.^{18,19} Partnering with GME programs who have similar missions and are located in areas of high need allows for early and sustained immersion in the community with the goal of retaining graduates. Accelerated programs with a goal of addressing physician shortages are already starting to see a return on investment as graduates enter the workforce. Examples include the Texas Tech

University Health Sciences Center accelerated 3YMD program, which has seen 70% of graduates working in rural or underserved areas,²⁰ and the University of California-Davis accelerated program, which has seen their first graduates enter the workforce in 2020 all practice in California with 66% at federally qualified health centers.¹⁹

Enhanced UME-GME transition

The directed pathways into residency programs that 3YMD students experience enables their integration in the department where they will pursue residency from the beginning of medical school through their specialty advisor, doing clinical work in the department, and participating in seminars, didactics, and grand rounds. Graduates are familiar with the GME program's culture, faculty, and resources, and the GME programs are familiar with the graduates' competencies from the first day of internship. Through our own informal discussions with 3YMD graduates, we have learned that they have found the transition from UME to GME easier than they were expecting. To enhance students' readiness for residency, many 3YMD programs are exemplifying precision education by taking a personalized approach for each learner, driven by individualized learning plans and competency-based assessment.^{21,22} For example, at NYU Grossman School of Medicine longitudinal student data and analytic platforms are driving educational interventions that are personalized to each learner to ensure they achieve successful outcomes by completion of the accelerated program.²²

Lessons Learned

Programs will evolve over time

Through CAMPP, a wealth of knowledge and lessons learned have emerged that can help other institutions as they consider developing their own 3YMD programs. Described below, these lessons have allowed 3YMD programs to adapt to a changing medical education landscape. From being programs focused on a single specialty in family medicine within a 4YMD school, accelerated 3YMD programs have evolved to include many different specialties or even to some schools where the entire curriculum is 3 years. As the number of accelerated 3YMD programs has increased, there has been an increased need for more frequent collaboration with national bodies such as the National Resident Matching Program and Liaison Committee on Medical Education. And many medical schools with programs that have more than 5 years of graduates are re-evaluating their missions and assessing residency competence and practice locations to confirm that they are meeting their stated goals.

Programs need flexibility to deal with academic challenges, unexpected leaves of absence, and changes in career plans

Despite the tremendous support that 3YMD students receive and their commitment to a particular specialty, not all are successful in an accelerated program. Many accelerated curricula use traditional breaks for required activities, leaving limited time for remediation or make-up work. It is critically important to have well-designed points at which students can transition to the 4YMD program if needed and clear communication between 3YMD students and institutional officials about these transition points. Recent reports show a slight decrease in

3YMD students' USMLE Step 2 scores (approximately 4-8 points) as compared to 4YMD students^{14,15}; this is presumed to be due to there being less study time in a compressed curriculum, less effort among students who already have a directed pathway to residency, and/or the timing of the exam, which leads some students to take Step 2 before completing all of their clerkships. Since passing Step 2 is a requirement for graduation, most programs have students take Step 2 by March of their third year, so that if they fail, students will still have time to repeat the test before graduation.

Life events such as illness, crises, or parental leave, can disrupt students' ability to complete an accelerated curriculum. Short absences can be tolerated but when extended time off is needed, students need to transition to the 4YMD program. For schools without 4YMD programs, graduation may be delayed. One lesson learned was to push a schools' graduation date back by 4 weeks to grant students additional time to complete graduation requirements in the case of an unexpected life event to avoid delaying graduation.

The accelerated curriculum also has limited room for specialty exploration. Many 3YMD programs have moved their clinical shadowing experiences to earlier in medical school to allow students to observe and learn about specialties and possibly have enough exposure to make their specialty choice sooner. For some institutions with multiple residency pathway options linked to the accelerated program, a student may change their career specialty and still remain in the accelerated program. For other programs, a change in specialty choice forces the student to leave the accelerated program and become part of the 4YMD program.

Programs need robust assessment models and clear policies for transitioning out

Clear opt-out transition points and policies are critical so that students understand the performance guidelines of the program. Aligning the 3YMD and 4YMD program curricula ensures that students do not need additional requirements to reach graduation if an accelerated student needs to transition to the nonaccelerated program. Additionally, graduating competent students in 3 years requires a robust assessment model that allows for early identification and intervention of students who need extra support. This requires frequent monitoring of clinical and academic skills and support for those who are not meeting expectations to endeavor to help them graduate on time.

Formation of a program requires commitment and resources

Schools considering an accelerated program must follow a roadmap toward implementation that includes evaluating their curricular structure and time, acquiring institutional support and resources, and obtaining buy-in and collaboration from deans, UME leaders, and GME partners.²³ Schools that have not shortened their preclinical phase may find it impossible to develop a 3YMD program as other requirements for graduation cannot be met in a 3-year timeline. Further, not all schools may have the resources to support and sustain an accelerated 3YMD program. The majority of 3YMD programs formed since 2010 remain operational, but CAMPP is aware of a few programs that were considering implementing a 3YMD program that did not do so or that stopped admitting students into a previously established 3YMD program. These changes were not due to competency concerns but rather to leadership changes, loss of interest or a champion, or financial concerns from loss of tuition revenue.

Commitment from UME and GME faculty is needed to ensure the success of an accelerated 3YMD program and to dispel any apprehension regarding competency outcomes. Collaboration between UME and GME leaders strengthens these programs by allowing the UME leaders to have a greater understanding of GME leaders' expectations for the students who enter into their residency programs, and allowing GME leaders to participate in the selection and mentoring of students. Collaboration varies by program and can include GME faculty participation during admissions interviews, GME faculty involvement in medical student didactics, and quarterly or yearly meetings with UME and GME faculty to discuss students' progress. Frequent GME collaboration and interactions with students help dissipate any competency concerns as they allow program directors to form relationships with students during medical school.

One of the most significant lessons learned is that over time, with more students graduating from 3YMD programs and performing well in residency, there is greater acceptance and commitment to accelerated programs by medical school and residency faculty. This is evidenced by additional residencies joining accelerated programs at a medical school or by the addition of more accelerated slots to a single residency program.

Conclusions

There is growth and continued interest among medical schools in accelerated 3YMD programs. While there are hurdles to overcome to establish and maintain accelerated programs, 3YMD students are successful and equally prepared for residency as their 4YMD counterparts. Accelerated 3YMD programs have seen success in achieving the goals of reducing educational

debt, growing the workforce, individualizing education, and training competent physicians, and CAMPP has provided a collaborative venue for faculty leading 3YMD curricula. As the number of students who have graduated from an accelerated 3YMD program increases, CAMPP aims to continue to explore the impact of 3YMD programs on academic success, residency preparedness, debt, and workforce shortages.

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List 1

Key Features of Accelerated CAMPP 3YMD Programs

- Nineteen of 32 (59%) CAMPP 3YMD programs admit students into the accelerated program between matriculation and the end of the second year, 12 (38%) programs at the time of matriculation, and only 1 (3%) at the beginning of the third year
- Most programs have the same schedule for preclerkship and clerkship year courses (the first two years of medical school) as their 4YMD students to allow a transition back into the 4-year program, when necessary, without a loss of time or credit
- Three of 32 (9%) CAMPP 3YMD schools offer an accelerated pathway for students with a PhD at matriculation or for MD-PhD students
- Twenty-nine of 32 (91%) CAMPP 3YMD schools offer an accelerated program alongside a 4-year program, 2 (6%) at a regional campus, and 1 (3%) for the entire school
- With the exception of 5 of 32 (16%) CAMPP 3YMD schools granted an NRMP exception to the all in match policy,²⁴ all programs participate in the NRMP (i.e., 27 of 32 [84%])

Abbreviations: CAMPP, Consortium of Accelerated Medical Pathway Programs; 3YMD, 3-year MD; 4YMD, 4-year MD; NRMP, National Resident Matching Program.