



NUTRITION EDUCATION FOR PHYSICIANS AND HEALTH PROFESSIONALS: Policy Opportunities for New York

September 2020

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Executive Summary

Nutrition plays a critical role in the prevention and treatment of many chronic diseases, and diet is one of the most significant risk factors for disability and premature death in the United States. Leading causes of death include heart disease, cancer, stroke, and diabetes—all of which have a high correlation to poor diet and nutrition. Yet despite the overwhelming evidence linking food with health, nutrition receives little attention in medical school and throughout the education of physicians.

The lack of comprehensive nutrition education for physicians represents a missed opportunity for doctors to promote good health, illness prevention, and treatment of chronic diseases. Physicians have the trust of their patients, and therefore have the opportunity to influence patient behavior. Without adequate nutrition education, however, physicians are less likely to recognize the importance of dietary problems, include nutrition assessments during patient exams, communicate accurate basic nutrition advice, or be equipped to provide referrals as needed. Nutrition education should therefore be an essential component of all physician training. Luckily, many opportunities exist to increase the

basic knowledge of physicians about the relationship between food, diet, and health.

This issue brief maps the potential opportunities that New York City and New York State, given current state policies, could take to ensure that physicians trained and practicing in New York are able to prevent, address, and treat diseases that have a link to diet. This issue brief was prepared for the office of Brooklyn Borough President Eric Adams as a follow-up to the FLPC's September 2019 report, *Doctoring Our Diet: Policy Tools to Include Nutrition in U.S. Medical Training*, which presents a range of recommendations about how to best address the lack of diet-related education for physicians and health care professionals nationally.¹ As described below, this issue brief and its contents are of personal and professional importance to Borough President Adams.

This issue brief is of particular significance in light of the COVID-19 pandemic, as those with diet-related conditions, such as heart disease and diabetes, have been especially impacted by the coronavirus.² In particular, racial and ethnic minorities, who were already experiencing disparities in prevalence of diet-related disease, have faced disproportionate

fatalities from COVID-19.³ More broadly, diet quality has a strong relationship to immune function,⁴ and the pandemic has caused rising rates of food insecurity, which is associated with lower diet quality.⁵ The need for a healthy and equitable food system is more salient than ever.

This issue brief offers a range of opportunities to increase physician and health professional training on diet and nutrition. Given the strain on the health care sector during the COVID-19 pandemic, as well as current budgetary crises in New York City and New York State, immediate action may not be feasible for some of the policy opportunities described in the brief. However, the pandemic crisis further highlights that fighting diet-related and chronic disease is of utmost importance. Several of the policy opportunities identified in the brief could be actionable in the near term, and these and other options are described in more detail throughout the brief. **In particular, the following options are most feasible, cost-effective, and actionable in the short term:**

Pass a Resolution

The New York State Legislature or the New York City Council could pass a resolution urging medical schools (also known as undergraduate medical education or UME) and residency/fellowship programs (also known as graduate medical education or GME) in the state to offer a baseline level of nutrition education. The resolution could acknowledge the impact of diet-related diseases on COVID-19 and highlight the lack of nutrition education at all levels of medical education. It could then call upon the state or city government agencies to raise awareness of the responsibility of health care professionals to promote healthy diet and urge health professional training programs to consider increasing class and clinic hours devoted to nutrition education after the pandemic crisis subsides.

Create Recognition Awards for Programs that Invest in Nutrition Education

The New York State Department of Health or New York City's Department of Health and Mental Hygiene could create an award of recognition, either monetary or non-monetary, for physician and other health professional training programs that innovate in providing excellent nutrition education to their trainees.

Issue a Nutrition Education Challenge

The New York State Department of Health or New York City's Department of Health and Mental Hygiene could create a "challenge" program to encourage UME and GME programs to place greater emphasis on nutrition education. The departments could issue a challenge to in-state UME and GME programs to commit to increasing their nutrition-related curricula and programs. Programs that accept the challenge would then report on their progress and receive technical assistance from the department overseeing the program.

Offer Technical Assistance

The State Legislature or City Council could create offices within their health agencies to improve nutrition-related programs and curricula in health professional training programs. Once created, these offices would be dedicated to researching and promoting effective existing nutrition-related curricula, establishing core competencies in nutrition for medical schools and various GME subspecialties, and disseminating information on best practices in nutrition education to UME and GME programs. They could circulate data on the impact of including diet and nutrition in the medical curriculum and act as a clearinghouse for information about existing initiatives and available curricular offerings. As an alternative to creating an office, the State Legislature could direct an advisory group to manage physician nutrition education resource centers that would provide technical assistance to UME and GME programs.

Create Nutrition Education Licensing Requirements

The New York State Office of the Professions, the state regulatory body that licenses New York physicians, can amend its regulations to create nutrition education requirements as a part of the licensing of New York physicians. These changes could be passed now but go into effect in several years, to avoid causing strain in the short-term. The Office of the Professions can require training in nutrition and nutrition counseling as a one-time requirement for physicians' initial licensure, and also require physicians in the state to take nutrition education courses regularly as part of their continuing medical education requirements.

INTRODUCTION

The Harvard Law School Food Law and Policy Clinic (FLPC), established in 2010, serves partner organizations and communities by providing guidance on cutting-edge food system issues while engaging law students in real-world pressing legal and policy issues to make the food system healthier, more sustainable, and more equitable.

FLPC recognizes that these solutions require a holistic approach, one which acknowledges the integral relationship between food and health. For the past several years, FLPC has worked with the Nutrition Education Working Group, a cohort of faculty and student leaders in nutrition, medicine, and policy from Harvard T.H. Chan School of Public Health, Harvard Medical School, Northwestern University, and the non-profit Gaples Institute, among others, to map out opportunities to educate and engage physicians to help improve preventive health and address the increase of diet-related disease.

This collaboration culminated in the publication of a report in fall 2019, *Doctoring Our Diet: Policy Tools to Include Nutrition in U.S. Medical Training*, which presents a range of recommendations about how to best address the current lack of diet-related

education for physicians and health care professionals nationally.⁶ In addition to opportunities for federal action, FLPC identified several state recommendations in the *Doctoring Our Diet* report.

The current issue brief was prepared for the office of Brooklyn Borough President Eric Adams. This issue brief outlines the potential opportunities that New York City (hereinafter NYC) and New York State, given their current legislative goals and state policies, could take to ensure that physicians trained and practicing in New York are able to prevent, address, and treat diseases that have a link to diet. This issue brief and its contents are of personal and professional importance to Borough President Adams. He succeeded in reversing his own Type 2 diabetes through dietary interventions, specifically plant-based nutrition, and since then, has prioritized food policy and initiatives in Brooklyn and New York City.

THE MISSED OPPORTUNITY TO FIGHT DIET-RELATED DISEASES

Diet is the most significant risk factor for disability and premature death in the United States. Heart disease, cancer, stroke, and diabetes—all highly correlated to diet—are among the leading causes of death.⁷ We frequently turn to physicians and health care professionals to help us reduce risk of these diet-related diseases, but—unbeknownst to patients—the vast majority of physicians report feeling wholly unqualified to provide advice on food, diet, or nutrition.⁸ The general public considers physicians to be among the most credible sources for accurate, up-to-date guidance about diet and food, despite the fact that many physicians lack the training and knowledge to confidently take on this role.⁹ In fact, 90% of surveyed physicians reported minimal to no educational training regarding nutrition, although 95% believed that it was their personal responsibility to have such knowledge.¹⁰ The missed opportunity to train

doctors on nutrition is evident at every stage of medical education:

Medical School

Medical school, referred to formally as “undergraduate medical education” (UME) is the first stage of medical education. United States medical schools offer an average of 19 hours total on nutrition education over four years, much of which is devoted to non-clinical topics like biochemistry.¹¹ Additionally, the Liaison Committee on Medical Education (LCME), the primary accrediting body for U.S. medical schools, does not mention nutrition education in its medical school accreditation standards.¹² As a result of this lack of nutrition education at the medical school level, new physicians fail to understand the importance of nutrition: a study found that while 72% of students entering medical school thought that nutrition counseling would be highly relevant in their practices, less than half maintained this view by graduation.¹³

Residency/Fellowship

Residency and fellowship training is known as “graduate medical education” (GME). This stage of medical education includes both clinical and didactic training requirements of physicians in their chosen specialty areas (i.e. internal medicine, pediatrics, surgery) as well as later subspecialty training (i.e. cardiology, gastroenterology, cardiac surgery). The national accrediting body for GME programs, the American Council of Graduate Medical Education (ACGME), currently does not require competency in diet and nutrition for accreditation of graduate medical training programs. In fact, ACGME fails to include any reference to “food,” “diet,” or “nutrition,” in the Common Program Requirements (which apply to all GME programs) or most Specialty Requirements for residents or fellows.¹⁴

Step and Board Exams¹⁵

Prospective physicians must take three medical licensing “Step” exams in order to become licensed physicians: two during UME and the third during

GME.¹⁶ Medical students must pass all three Step exams in order to continue with their medical education. These exams are co-sponsored by the National Board of Medical Examiners (NBME) and the Federation of State Medical Boards (FSMB).¹⁷ In addition to the Step tests, most physicians opt to take a specialty-specific Board exam after they complete residency. By undergoing this voluntary testing and evaluation process, physicians can earn Board certification.¹⁸ The process is managed by the specialty-specific member boards of the American Board of Medical Specialties (ABMS).¹⁹ Both the Step and Board exams are generally devoid of questions that will test whether a physician understands and can advise on general prevention of diet-related diseases and promotion of a healthy diet.

Continuing Medical Education

States generally set requirements as to the number of hours and topic areas in which physicians and other health care professionals must take continuing medical education (CME) courses in order to retain licensure. To date, no state requires physicians to take Continuing Medical Education courses in nutrition. However, New York has a pending bill which would create such a requirement.²⁰ If passed, the bill would require that practicing physicians in New York State complete six hours of CME every two years on the subjects of nutrition and diet-related disease.²¹ The District of Columbia has a similar bill pending,²² and California law encourages, but does not require, physicians to take nutrition-related CMEs.²³ Additionally, regulations in the District of Columbia require that, beginning in 2020, physicians and other health professionals complete at least 10% of their required total continuing education hours in topics identified as “public health priorities,”²⁴ one of which is nutrition and obesity prevention.²⁵

WHY NEW YORK SHOULD ACT

New York has long demonstrated a strong commitment to public health and preventive

health, along with view that nutrition and healthy food access are vital to public health and worthy of public investment. For example, New York State launched the New York Healthy Food & Healthy Communities (HFHC) Fund in 2010, a \$30 million business financing program to encourage fresh food retail investment in underserved areas throughout the state.²⁶ Additionally, NYC created the Food Retail Expansion to Support Health (FRESH) program in 2009 to expand access to affordable, healthy grocery stores.²⁷ FRESH provides zoning and tax incentives that encourage building or renovating grocery stores in NYC.²⁸ Since its inception, the program has encouraged the creation of 980,000 square feet of new or renovated grocery store space in the city.²⁹ NYC has also created the innovative Pharmacy to Farm Prescription program, a first-of-its-kind program which allows pharmacists to “prescribe” fruits and vegetables to low-income New Yorkers with high blood pressure.³⁰ The program allows New Yorkers with “prescriptions” through the program to receive \$30 a month in coupons redeemable for fruits and vegetables at any of the city’s 142 farmers markets.³¹

New York is also a leader and innovator in medical education. For example, the University of Rochester School of Medicine and Dentistry pioneered the “Double Helix” curriculum, which combines basic science and clinical medicine starting from each student’s first year of medical education to provide students with extensive experience in patient care at the UME level.³² New York surpasses all other states in terms of the number of physicians it trains: New York has the most medical schools of all states in the U.S.,³³ and it is home to the most residents.³⁴ In total, New York trains approximately 11% of the nation’s medical students and 17% of its residents.³⁵ The state is home to 17 public and private medical schools, including 4 State University of New York (SUNY) schools, 1 City University of New York (CUNY) school, and 2 osteopathic medical schools.³⁶ At the GME level, New York hosts 68 institutions that sponsor 569 specialty GME programs and 763 subspecialty programs.³⁷

Although the state has made a demonstrated commitment to health, New York has still experienced the large burden of diet-related diseases. 27.6% of adults in New York are obese, and 62.7% are either overweight or obese.³⁸ Over a third of the state’s children are overweight or obese, and the rate of childhood obesity has tripled over the past three decades.³⁹ Cardiovascular diseases are the leading causes of death in New York, killing almost 59,000 of the state’s residents each year.⁴⁰ Diabetes is also the state’s most rapidly growing chronic disease, affecting 1 out of 12 New Yorkers.⁴¹ New York thus has a strong incentive to take further preventive measures to address the rising prevalence and cost of diet-related diseases.

New York is thus well-positioned to provide a national model and make a nationwide impact by investing in nutrition education for physicians. This investment would align with the state’s demonstrated commitment to the health of its residents and to leading innovation in the field of medical education. An investment in nutrition education for physicians could also result in significant long-term cost savings, because well-trained medical professionals can better assist patients in preventing and managing diet-related diseases.⁴²

The people of New York would benefit significantly from ensuring that physicians trained in the state are equipped with basic knowledge of nutrition. The majority of physicians who undertake their residency in New York practice in the state⁴³ and many New York medical school graduates also choose to practice in the state; thus, changing the medical education offered in New York will ensure competency for many of the state’s physicians. Physicians equipped with basic knowledge about diet will be able to recognize when and how nutrition can optimize health outcomes for patients, provide meaningful referrals to dietitians and nutrition professionals when necessary, communicate appropriate and practical preventive health guidance, and provide evidence-based

nutrition advice in response to patient questions.⁴⁴ These changes can improve the health outcomes, and ultimately the lives, of New York patients.

POLICY OPPORTUNITIES

Most of the following recommendations are adapted from the FLPC's September 2019 *Doctoring our Diet* report.⁴⁵ A number of recommendations suggested in that report are not included here, as they are more appropriate for the federal government or private actors.⁴⁶ Rather than focusing on those suggestions, this report suggests changes that the New York State or NYC governments can undertake unilaterally. It should also be noted that UME and GME programs can and should make changes to their individual institutions without any policy changes; this issue brief, however, focuses on the policy changes that can be made by public actors.

A. Funding and Financial Incentives

Governments at all levels have a strong incentive to support nutrition education because they generally bear much of the costs associated with diet-related illness.⁴⁷ New York, in particular, pays for increased health care costs largely through Medicaid. New York's Medicaid program cost \$75.9 billion in fiscal year 2020, a significant increase over the past decade from \$53.4 billion in 2011.⁴⁸ The fiscal year 2020 program cost includes \$26.3 billion paid by New York State and over \$8.4 billion by local governments, with the rest paid by the federal government.⁴⁹ The rapid increase in Medicaid costs has been a major contributor to New York State's budget crisis: Medicaid accounts for over a third of the \$6.1 billion budget deficit the state faces for fiscal year 2021.⁵⁰

Training health professionals in diet and nutrition can help to reduce health care costs in the long term, as well-trained medical professionals can better assist patients in preventing and managing diet-related diseases by including nutrition

assessments during patient exams, offering accurate basic nutrition advice, or providing referrals to dietitians. Further, as the practice of screening patients for food insecurity increases as recommended by professional organizations or required by state policies, conversations about diet and nutrition are becoming more common between patients and providers, necessitating training for physicians themselves to provide appropriate guidance. Providing new financial resources for this training may be challenging, especially when the change requires developing new grants or allocating incentive payments. However, small investments up front to reduce larger health care costs in the long term can provide a strong justification for new spending.

There are four main ways that New York could use its financial leverage to encourage physician and health professional training programs to increase education about diet and nutrition: first, New York can **condition Medicaid funding** of GME programs on meeting nutrition education benchmarks; second, New York can **condition other GME program funding** on meeting nutrition education benchmarks; third, New York can **offer grants** to UME and GME programs to create or improve nutrition education content; fourth, New York can **provide financial incentives to public UME and GME programs** based on nutrition education benchmarks.

While changes to Medicaid GME funding would be enacted by changing the New York Department of Health's Medicaid state plan, the latter three changes could occur through the legislative appropriation process at the state or city level. In New York State, the budget process starts with the executive branch.⁵¹ The Governor seeks and coordinates requests from state agencies, then compiles the requests into a comprehensive budget proposal, which the New York State Legislature (hereinafter State Legislature) modifies and enacts into law.⁵² The NYC budgeting process similarly begins with the Mayor, who presents a preliminary budget that outlines his priorities and goals for the

city.⁵³ After the New York City Council (hereinafter City Council) analyzes and formally responds to the preliminary budget, the Mayor releases a revised Executive Budget, which is then subject to negotiations between the City Council and the Mayor until they reach consensus a final budget.⁵⁴ Thus, at both the state and city level, recommended changes could be spearheaded by either the executive or the legislative branch.

Condition Medicaid Funding for GME on Meeting Nutrition Education Benchmarks

GME programs are good targets for policy initiatives because they are reliant on government funding. The federal government is the largest provider of GME funding, contributing nearly \$15 billion annually, mostly through Medicare.⁵⁵ Although New York does not direct those funds, the second-largest source of funding for GME is Medicaid,⁵⁶ a joint federal-state program.⁵⁷ The federal government does not require states to support GME programs with Medicaid dollars,⁵⁸ but in 2018, forty-two states (including New York) and the District of Columbia allocated a portion of their Medicaid funds to GME.⁵⁹ There is no federal guidance for Medicaid GME payments, so states have significant flexibility in designing and administering their Medicaid GME payments.⁶⁰

In 2018, \$1.69 billion of New York Medicaid dollars funded GME programs—the most of any state.⁶¹ New York spent about 30% of the national total of state Medicaid GME payments.⁶² New York Medicaid payments to GME come solely from state general revenue.⁶³ However, in 16 other states, local government contributions to Medicaid provide financing for GME payments.⁶⁴

While New York spends a substantial amount of Medicaid funds on GME programs, it does not ensure that these programs provide training on diet and nutrition. However, Medicaid enrollees are severely impacted by diet-related diseases. It is estimated that at the national level up to 11.8% of Medicaid enrollees have heart disease, 27.4% have hypertension, and 12.7% have diabetes.⁶⁵ In New

York, heart disease is the leading cause of death among Medicaid enrollees.⁶⁶ Additionally, hypertension is ranked among the top ten causes of death for Medicaid beneficiaries in the state, despite the fact that it does not make list for non-enrollees.⁶⁷ Physicians without training on diet and nutrition are thus ill-equipped to meet the needs of Medicaid enrollees. Moreover, Medicaid enrollees would benefit from seeing physicians who are trained to screen for food insecurity and provide referrals to nutrition assistance programs when necessary, as well as respond to basic nutrition questions. Accordingly, New York should use its Medicaid funds that support GME programming to ensure that GME programs train physicians to prevent and treat illnesses linked to diet among Medicaid enrollees.

Through its Medicaid program, New York State makes a substantial investment in GME that could be leveraged to increase nutrition education in GME programs. New York can tie its Medicaid GME funding to meeting nutrition education-related benchmarks. New York could make this change, for example, by setting a higher fixed rate of GME program support for teaching hospitals that ensure that their residents receive training in nutrition. It could then designate a supervisory body to certify the GME programs that meet this benchmark. Especially in states like New York that educate the most residents and fellows, such a change could have a significant impact on the overall physician population.

A number of organizations have similarly proposed that Medicaid GME payments be tied to performance benchmarks. In 2012, the Institute of Medicine (now the National Academy of Medicine) convened a committee on the governance and financing of GME and concluded that government GME funding should be based on performance metrics. These metrics have not yet been developed.⁶⁸ In 2013, a special commission convened by the Massachusetts Secretary of Health and Human Services released a report recommending increasing Massachusetts' funding

for GME and tying that funding to performance benchmarks such as the training of physicians in specialties with physician shortages, retention rates of physicians within the state, and other “quality measures.”⁶⁹ Additionally, in 2018 the U.S. Government Accountability Office released a report recommending that the Secretary of Health and Human Services coordinate with the relevant federal agencies to evaluate the programs that fund GME training on metrics such as cost-effectiveness.⁷⁰

In order to change its Medicaid GME funding strategy, New York’s State Department of Health could amend the state’s Medicaid state plan, with an eye towards changes that would be budget neutral. Each state specifies the nature and scope of its Medicaid program through its state plan, a formal document that serves as a contract between the state and the federal Centers for Medicare and Medicaid Services (CMS) that ensures that the state is compliant with the requirements for receiving federal Medicaid funds.⁷¹ States can change their state plans, such as to update their provider payment methodology, by proposing amendments and receiving approval from CMS.⁷² The Department of Health could propose this amendment to the CMS on its own, or it could do so based on the instruction of legislation passed by the State Legislature.

This amendment to the state plan could be designed to be budget neutral or potentially even provide a net cost savings to New York. As mentioned above, long-term health care costs are likely to decrease when doctors are well-equipped to answer patient questions and provide referrals to patients at risk of diet-related diseases. This is especially true for Medicaid-related health care expenditures, as Medicaid enrollees are severely impacted by diet-related diseases.⁷³ Beyond the long-term health care savings, the state plan amendment could be budget neutral by counterbalancing any increases in GME payments to teaching hospitals that meet nutrition benchmarks with slightly-reduced payments for the

teaching hospitals that do not meet the benchmarks.

Condition Other GME Funding on Meeting Nutrition Education Benchmarks

As an alternative to placing performance benchmarks on Medicaid funding of GME, New York State or NYC can appropriate additional funds to GME programs through alternative methods and then condition that funding on nutrition education benchmarks. For example, Minnesota funds GME through its Medical Education and Research Cost (MERC) trust fund, which is funded by a per-pack cigarette tax, in addition to a carveout of funds from its state and federal Medicaid funds.⁷⁴ Texas has created a number of programs to fund GME in targeted ways through the Texas Higher Education Coordinating Board (THECB),⁷⁵ such as a \$157 million grant program to encourage the expansion of GME programs in the state.⁷⁶ New York can fund GME programs using similar methods.

New York State could also amend its Health Care Reform Act (HCRA) to ensure that its pooled funds distribute payments to GME programs, and then create incentives through those funds. Under HCRA, New York levies a tax on in-state commercial insurers and puts the funds into “public goods pools” that are intended to make distributions that subsidize hospitals for indigent care and fund other health care initiatives.⁷⁷ One of the HCRA pools is a “professional education pool” designated to fund GME programs.⁷⁸ Until 2009, pool administrators made distributions from this pool to GME programs. While some distributions were made to all GME programs that met reporting requirements,⁷⁹ other supplemental distributions were made regularly to GME programs that met certain desired objectives, such as “increasing training of minorities” and “improving the quality of training programs.”⁸⁰ These supplemental distributions were administered using formulas developed in consultation with the New York Council on Graduate Medical Education (COGME).⁸¹

Due to budgetary challenges, the professional education pool has been left empty since 2009.⁸² Nearly 80 percent of HCRA tax revenues are now used to pay for the state's share of Medicaid.⁸³ HCRA funds provide about 18 percent of New York State's contribution to the state's Medicaid program, replacing expenditures that would normally come from the state's General Fund.⁸⁴ HCRA revenues indirectly support GME programs because they fund Medicaid (which in turn provides funding for GME). However, it is unclear exactly how much HCRA funding ultimately goes to GME programs.⁸⁵ This indirect form of support is a deviation from the original intent of HCRA to use pool distributions to "guarantee a level of financial support"⁸⁶ to GME programs.

To ensure that HCRA taxes fund GME programs as initially contemplated by the statute, the State Legislature could amend HCRA to specifically mandate that a fixed percentage or dollar amount of HCRA tax revenues must be directly distributed to GME programs each year. The amendment could then specify that meeting nutrition education benchmarks is one of the factors to be considered in determining which GME programs receive supplemental distributions.⁸⁷

Create a Nutrition Education Grant Program for UME and GME Programs

New York may prefer to invest in a grant program aimed at increasing nutrition education for physicians. Such a grant program could provide funds for UME and GME programs that invest in nutrition curriculum, nutrition-related research, or the hiring and training of nutrition education faculty. Compared to other financial incentives, grants would infuse money in a more targeted manner towards a smaller number of programs. The programs receiving these grants would ideally become models for other programs on how to build their own nutrition education infrastructure. While grants may be difficult to fund due to the current budgetary challenges, the scale of the grant program could be tailored to New York's current financial resources.

A number of grant programs have been created by other governments and private actors to encourage innovations in medical education. For example, Texas has created a grant for GME programs that provide training to trauma care physician residents and fellows.⁸⁸ New York State or NYC could design a similar grant that would go specifically to medical schools that offer nutrition education, or residency programs in relevant GME specialties such as pediatrics that offer training in nutrition counseling. A national model is the American Medical Association's Reimagining Residency Initiative, which provides \$15 million of total grant funding to UME and GME programs to support projects that "provide meaningful and safe transitions" from UME to GME.⁸⁹

The City Council or State Legislature could create a grant program through their annual budgeting processes or through independent legislation. This would not be the first time New York has authorized grant funding to improve medical education: in order to encourage palliative care education, in 2007 New York's Palliative Care Education and Training Act authorized the New York State Department of Health to award grants to UME and GME programs on a competitive basis.⁹⁰ The grant funds were intended to be used, for example, to recruit faculty with expertise in palliative care and pay start-up costs incurred teaching palliative care at hospitals and non-hospital settings.⁹¹ Thus, the State Legislature has already demonstrated its willingness to use grants to encourage UME and GME programs to teach desired curricula.

Provide Financial Incentives to Public Schools

New York is home to four State University of New York (SUNY) medical schools and one City University of New York (CUNY) medical school.⁹² The four SUNY medical schools also sponsor 231 GME programs⁹³—a significant portion of the state's 569 GME programs.⁹⁴

Incentives to New York's public schools could be impactful because they improve the education of

graduates likely to practice in the state, they set an example for private medical schools in the state to follow, and also because they can set an example that states across the country can follow with respect to their own public medical schools. The training offered at New York's public schools disproportionately affects the treatment that New York patients receive. The majority of physicians who undertake their graduate medical education in New York go on to practice in the state.⁹⁵ Additionally, 81.85% of students enrolled in New York State's public UME programs are from the state of New York,⁹⁶ so it is likely that many alumni of those programs return to New York to practice even if they attend GME programs out of state.

In fiscal year 2020, New York State allocated approximately \$342 million to the four SUNY public medical schools⁹⁷ and an undesignated portion of its \$181 million appropriation to the City College of New York went to CUNY Medical School.⁹⁸ Through its annual appropriations process, New York State could offer its public schools a small monetary incentive on top of existing funding for complying with certain conditions in their programs, such as providing a baseline amount of nutrition education. To make an even stronger statement, New York State could require the public schools to offer a certain baseline level of nutrition education in order to receive *any* state funds. Given the massive amount of state funds infused into the public schools, any curricular requirement would be certain to be implemented. Curricular change at the SUNY and CUNY medical schools would ensure a large proportion of New York-trained physicians understand the importance of diet and nutrition to overall health.

NYC does not provide appropriations for its public medical school, as it only provides funding for CUNY community colleges and the two-year programs offered in the CUNY baccalaureate degree programs.⁹⁹ To create an incentive for CUNY School of Medicine, the City Council could appropriate funds to the school and condition those funds on

meeting designated nutrition education benchmarks.

B. Recognition Incentives

Beyond financial incentives, New York can play a symbolic or signaling role in encouraging health professional training programs to provide nutrition education opportunities. Although they are less likely than financial incentives to spur significant curricular changes in UME and GME programs, the recommendations in this section come at little cost to New York and thus could more easily be accomplished.

There are three symbolic incentives that New York can undertake: **passing a resolution** urging physician and health professional training programs to provide nutrition education, **creating recognition awards** for UME and GME programs that innovate in the field of nutrition education, and **creating a curricular challenge** to incentivize investments in nutrition education.

Pass a Resolution

Resolutions are not binding, but express an opinion of the sentiment of one or both branches of a legislative body.¹⁰⁰ For example, in recent years the City Council adopted a resolution that calls upon the State Legislature to fund programs that would improve the care of sickle cell disease patients,¹⁰¹ and a resolution that urges the New York State Office of Temporary and Disability Assistance to expand eligibility for Supplemental Nutrition Assistance (SNAP) to public college students.¹⁰² The City Council's website speaks highly of the impact of resolutions, explaining that "resolutions allow the Council to express a collective voice of the City, and can play an important role in the development of law and public policy throughout New York State and across the nation."¹⁰³

The State Legislature or the City Council could pass a resolution urging medical schools and GME programs in the state to offer nutrition education. A resolution addressing the importance of nutrition education for health professionals could send a

meaningful signal to medical schools. The resolution could begin by using statistics to highlight the lack of nutrition education at all levels of medical education, explaining the impact of this lack of education on patient care and health care costs in New York, and reminding health professional training programs of the various ways in which New York provides them with funds. With this foundation in place, the resolution could then urge health professional training programs to require nutrition education, call for policy changes like the ones recommended in this issue brief, and call upon the New York state government to raise awareness of the responsibility of health care professionals to promote healthy diets.

Create Recognition Awards for Programs that Invest in Nutrition Education

The New York State Department of Health could provide an award of recognition, either monetary or non-monetary, for health professional training programs that innovate in providing excellent nutrition education to their trainees. The Department of Health already engages in recognition programs to encourage private actors to meet its policy goals. For example, as part of a Department initiative to reduce medically unnecessary cesarean sections, in 2015 the Department of Health provided a “Quality Improvement Award” to the 42 birthing hospitals that engaged in fewer than three scheduled cesarean sections for no medical reason.¹⁰⁴

New York City’s Department of Health and Mental Hygiene could similarly offer recognition awards. The Department also has a history of policy-oriented recognition awards, such as the Excellence in School Wellness Award, which recognizes elementary schools that “are making an effort to create healthy school environments and a culture of wellness.”¹⁰⁵

In designing a nutrition education recognition award, the departments can look to a number of models. The U.S. Department of Health and Human Services offers “Health Care Innovation Awards” of

between \$1 million and \$30 million to organizations that “implemented the most compelling new ideas to deliver better health, improved care and lower costs to people enrolled in Medicare, Medicaid and Children’s Health Insurance Program (CHIP), particularly those with the highest health care needs.”¹⁰⁶ From 1998 to 2005, the National Heart, Lung, and Blood Institute, in coordination with the National Institute of Diabetes, created a “Nutrition Academic Award” that recognized 21 medical schools that integrated nutrition education within their curriculum.¹⁰⁷ Additionally, the Association of American Medical Colleges (AAMC) has created a number of awards programs for UME and GME programs.¹⁰⁸ An example award is the AAMC Curricular Innovation Award, which give awards of \$2,500 each to medical education programs that provide “innovative pain, substance use, and addiction training.”¹⁰⁹ New York can create a similar award program for innovation in nutrition education.

Issue a Nutrition Education Challenge

Alternatively, the New York State Department of Health or the NYC Department of Health and Mental Hygiene could create a “challenge” to encourage UME and GME programs to place greater emphasis on nutrition education. The departments could issue a challenge to in-state UME and GME programs to commit to increasing their nutrition-related curricula and programs. Programs that accept the challenge would then report on their progress and receive technical assistance from the department overseeing the program. With an appropriation from the State Legislature or City Council, the departments could issue a small monetary prize to all the programs that achieve the desired level of training in nutrition education.

An example of a challenge program in another context is the EPA Food Recovery Challenge, in which organizations or businesses make a pledge to improve their sustainable food management practices and submit to the EPA the results of their activities.¹¹⁰ Participant organizations seek to “prevent and divert wasted food in their

operations.”¹¹¹ Upon pledging, the EPA provides participants with access to data management software and technical assistance to help them quantify and improve their practices. The participants keep track of their progress and later submit their annual reports to the EPA. Through this program, a number of organizations and businesses made notable progress in their food waste reduction. The EPA recognizes organizations which have made exceptional progress through the challenge with recognition awards each year.¹¹²

C. Technical Assistance

Developing and implementing new educational programs can be time-consuming and expensive, but the burden of this work is greatly diminished if physician and health professional training programs are able to adapt or replicate successful nutrition education programs from other sites. New York can play a key role in helping schools to identify and connect with such programs. Specifically, the State Legislature can create an office within the Department of Health to improve nutrition-related programs and curricula in health professional training programs. The office would provide research and technical assistance to health professional training programs. Similarly, the City Council could create such an office within the city’s Department of Health and Mental Hygiene.

Either a state or local office would be dedicated to researching existing nutrition-related curricula, establishing or publicizing core competencies in nutrition for medical schools and various GME subspecialties, and disseminating information on best practices in nutrition education to UME and GME programs. It could circulate data on the impact of including diet and nutrition in the medical curriculum, so as to encourage UME and GME programs to invest in nutrition education. It could also act as a clearinghouse that shares information about existing initiatives and curricular offerings. For example, it could compile and share a regularly updated guide on nutrition curricula. At the federal level, the NIH has already developed a *Nutrition Curriculum Guide for Training Physicians* to capture

the efforts of medical nutrition educators from 21 medical schools that received grants for nutrition education under the Nutrition Academic Award Program, though this guide is now nearly twenty years old.¹¹³

As an alternative to creating an office, the State Legislature could direct an advisory group to manage physician nutrition education resource centers that would provide technical assistance to UME and GME programs. New York’s Palliative Care Education and Training Act provides a model for this change.¹¹⁴ The Act created the New York State Palliative Care Education and Training Council and tasked the Council with assisting the New York State Department of Health in designating regional or statewide palliative care “practitioner resource centers.”¹¹⁵ These resource centers are intended to “act as a source of technical information and guidance for practitioners on the latest palliative care strategies, therapies and medications.”¹¹⁶ The legislation also provides for the Council to assist the Department of Health in contracting with nonprofit organizations to establish the resource centers.¹¹⁷ The State Legislature could similarly direct an advisory body made up of physicians, UME and GME program leaders, and leaders of the New York State Academy of Nutrition and Dietetics¹¹⁸ to work with the Department of Health to create resource centers on nutrition education.

D. Licensing Requirements

The state of New York also has a unique role in shaping the education of physicians in the state via its educational requirements for licensure. The Office of the Professions, housed in New York State’s Department of Education, is the state regulatory body that licenses New York physicians.¹¹⁹ It can require training in nutrition and nutrition counseling as a **one-time requirement for physicians’ initial licensure**, and also require physicians in the state to take nutrition education courses **regularly as part of their continuing medical education**.

Create First-Time Licensure Training Requirements

A small change that could be useful in ensuring that physicians have baseline knowledge of nutrition education would be to require a one-time training in nutrition and diet for first-time full licensure in the state. The Department of Education has made a similar one-time training requirement regarding the identification and reporting of child abuse.¹²⁰

Create CME Requirements

Currently, New York physicians must reapply for their license every two years, but they are not required to take any CME.¹²¹ However, they are required to attend a training related to infection control every four years.¹²² Adding a CME requirement that must be completed every renewal period is a powerful way to ensure that health care professionals receive the most up-to-date and accurate nutrition information to guide patients. Frequent continuing education is especially valuable in the field of nutrition, as nutrition science and dietary guidelines are frequently evolving.

Creating nutrition education CME requirements could also create a positive domino effect, highlighting the importance of nutrition education for population health and generating CME curricular content that may be adopted throughout the country. Innovative CME programs related to nutrition, such as the Healthy Kitchens, Healthy Lives CME conference of the Harvard T.H. Chan School of Public Health and The Culinary Institute of America¹²³ or the online self-paced nutrition course offered by the Gaples Institute,¹²⁴ could see increases in scope and scale if they experience increased demand from New York physicians.

New York could be the first state in the nation to require physicians and other health care professionals to complete nutrition CME courses for re-licensure in the state: a bill currently pending in the New York State Assembly, Bill A07695, would require that practicing physicians in New York State complete six hours of CME every two years about nutrition and diet-related illnesses.¹²⁵ Momentum for similar action is already growing in California¹²⁶

and Washington, D.C.¹²⁷ By passing this legislation, New York has a timely opportunity to act as a model for these and other states considering similar policy action. Alternatively, the New York Department of Education could amend its regulations to make this change.

CONCLUSION

This issue brief represents an array of policy options for New York State and NYC to increase the type and amount of nutrition education provided to physicians and physicians-in-training in the state. To address the epidemic of chronic, costly, and preventable diet-related diseases in New York, physicians must be prepared to understand and counsel on nutrition as a critical health care tool. This guide encourages greater action to promote physician competency and training on nutrition and diet-related diseases, through both voluntary initiatives and mandatory policies administered by decision-makers at the state and city level. Increased nutrition education for health care professionals at every stage of their career can ultimately improve outcomes for individual patients, advance population health, conserve public funds, and change the health care landscape for the better.

APPENDICES

Appendix A: Number of GME Programs Sponsored by New York Public Schools

Medical School	Number of GME Programs ¹²⁸
University at Buffalo Jacobs School of Medicine and Biomedical Sciences	67
Renaissance School of Medicine at Stony Brook University	65
SUNY Upstate Medical University	49
SUNY Downstate Medical Center (Formerly known as The State University of New York Health Science Center at Brooklyn)	50
Total: 231	

Appendix B: New York State Appropriations by Medical School

School	University System	New York State Appropriations, FY 2020
University at Buffalo Jacobs School of Medicine and Biomedical Sciences	SUNY	\$128.17 million ¹²⁹
Renaissance School of Medicine at Stony Brook University	SUNY	\$126.97 million ¹³⁰
SUNY Upstate Medical University	SUNY	\$36.86 million ¹³¹
SUNY Downstate Medical Center (Formerly known as The State University of New York Health Science Center at Brooklyn)	SUNY	\$50.06 million ¹³²
		Total: \$342.06 million ¹³³

ENDNOTES

- ¹ Emily M. Broad Leib et al., *Doctoring Our Diet: Policy Tools to Include Nutrition in U.S. Medical Training*, HARVARD LAW SCHOOL FOOD LAW AND POLICY CLINIC 15-23 (Oct. 2019), https://www.chlpi.org/wp-content/uplo.ads/2013/12/Doctoring-Our-Diet_-September-2019-V2.pdf.
- ² *People with Certain Medical Conditions*, CTRES. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html> (July 30, 2020).
- ³ *Health Equity Considerations and Racial and Ethnic Minority Groups*, CTRES. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html> (July 24, 2020).
- ⁴ See, e.g., Caroline E. Childs et al., *Diet and Immune Function*, 11 NUTRIENTS 1933, 1993 (2019).
- ⁵ See, e.g., Cindy W. Leung & June M. Tester, *Association Between Food Insecurity and Diet Quality Varies by Race/Ethnicity: An Analysis of National Health and Nutrition Examination Survey 2011-2014 Results*, 119 J. ACAD. NUTRITION & DIET 1676, 1676 (2019).
- ⁶ Broad Leib *supra* note 1 at 15-23.
- ⁷ See, e.g. *Leading Causes of Death*, CTRES. FOR DISEASE CONTROL & PREVENTION (Mar. 17, 2017), <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>.
- ⁸ See, e.g., Marion L. Vetter et al., *What Do Resident Physicians Know About Nutrition? An Evaluation of Attitude, Self-Perceived Proficiency, and Knowledge*, 27 J. Am. C. Nutrition 287, 287 (2008) (finding that only 14% of practicing physicians report feeling qualified to offer nutritional advice to their patients); see also Marigold Castillo et al., *Basic Nutrition Knowledge of Recent Medical Graduates Entering a Pediatric Residency Program*, 28 INT'L J. ADOLESCENT MED. & HEALTH 357, 357 (2016) (study assessing the basic nutritional knowledge of fourth-year medical/osteopathic school graduates entering a pediatric residency program and finding that, on average, the incoming interns answered only 52% of the eighteen questions correctly).
- ⁹ See Stephen Devries et al., *A Deficiency of Nutrition Education in Medical Training*, 127 AM. J. MED. 804, 804 (2014).
- ¹⁰ See Stephen Devries et al., *A Deficiency of Nutrition Education and Practice in Cardiology*, 130 AM. J. MED. 1298 1298 (2017).
- ¹¹ See Kelly Adams et al., *The State of Nutrition Education at US Medical Schools*, 2015 J. BIOMEDICAL EDUC. 2 (2015).
- ¹² See *Standards, Publications, & Notification Forms*, LIAISON COMMITTEE ON MED. EDUC., <http://lcme.org/publications/> (last visited Apr. 2, 2020) (housing LCME's standards from current and past years).
- ¹³ See Elsa Spencer et al., *Predictors of Nutrition Counseling Behaviors and Attitudes in US Medical Students*, 84 AM. J. CLINICAL NUTRITION 655, 659 (2006).
- ¹⁴ Ironically, those terms are only present in sections discussing the residents' own health and wellbeing. For example, the Specialty Requirements for GME in Pediatrics require GME programs and their sponsoring institutions to address well-being for residents and fellows by creating "policies and programs that encourage optimal resident and faculty member well-being," including a "healthy diet." ACCREDITATION COUNCIL FOR GRADUATE MED. EDUC., ACGME PROGRAM REQUIREMENTS FOR GRADUATE MEDICAL EDUCATION IN PEDIATRICS 52, (2019), https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/320_Pediatrics_2019.pdf?ver=2019-06-18-155134-967.
- ¹⁵ This report will not focus further on Step and Board examinations, although it should be noted that incorporating more nutrition-focused questions in Step and Board examinations could be a way to address nutrition education for physicians. Inserting nutrition-related test questions into these exams would likely prompt both UME and GME programs to change their curricula to include more coverage of nutrition education in order to ensure their students will be successful on these exams. However, New York would not be able to independently alter the requirements or guidelines to include nutrition competency, as the content of these exams is controlled by nongovernmental accrediting or testing bodies: the National Board of Medical Examiners (NBME), the Federation of State Medical Boards (FSMB) co-sponsor the Step examinations, and the member boards of the American Board of Medical Specialties (ABMS). See *Bulletin*, U.S. MED. LICENSING EXAMINATION, <https://www.usmle.org/bulletin/welcome/> (last visited Apr. 2, 2020); *Board Certification Standards*, AM. BD. OF MED. SPECIALTIES (2020), <https://www.abms.org/board-certification/board-certification-standards/>.
- ¹⁶ Robert F. Kushner et al., *Obesity Coverage on Medical Licensing Examinations in the United States: What is Being Tested*, 29 TEACHING & LEARNING MED. 123, 123-24 (2017).
- ¹⁷ See *Bulletin*, *supra* note 15.
- ¹⁸ See *Board*, *supra* note 15.
- ¹⁹ See *id.*.
- ²⁰ See Bill A07695, N.Y. State Assembly (N.Y. 2019), <https://nyassembly.gov/leg/?bn=A07695&term=&Summary=Y&Actions=Y&Votes=Y&Memo=Y&Text=Y>.
- ²¹ *Id.*

- ²² See Continuing Nutrition Education Amendment Act of 2019, Council of D.C. B23-0360 (D.C. 2019).
- ²³ CAL. BUS. & PROF. CODE §2191(a), (d) (West 2018).
- ²⁴ See Bd. of Med., *Continuing Education Requirements*, DC HEALTH, <https://dchealth.dc.gov/node/120612> (last visited Apr. 2, 2020).
- ²⁵ See Dep't of Pub. Health, *Public Note: Identifying Public Health Issues for Continuing Education*, D.C. REG. (Nov. 1, 2019), https://dchealth.dc.gov/sites/default/files/dc/sites/doh/service_content/attachments/10%25%20CE%20-%20Public%20Notice%20-%2066%20DCR%2014518-14519.pdf.
- ²⁶ See *New York: State & Local Policy Efforts*, HEALTHY FOOD ACCESS, <https://www.healthyfoodaccess.org/new-york> (last visited Apr. 6, 2020).
- ²⁷ N.Y.C. MAYOR'S OFF. OF FOOD POLICY, FOOD METRICS REPORT 2019 24-25 (2019), <https://www1.nyc.gov/assets/foodpolicy/downloads/pdf/Food-Policy-Report-2019.pdf>.
- ²⁸ *Id.*
- ²⁹ *Id.*
- ³⁰ See *Pharmacies Partner With Health Department to "Prescribe" Fruits and Vegetables to Low-income New Yorkers With High Blood Pressure*, N.Y.C. (Jul. 17, 2019), <https://www1.nyc.gov/site/doh/about/press/pr2019/pharmacy-to-farm.page>; see also Nicole Anderson, *Allowing Pharmacists to "Prescribe" Produce to Help Lower Blood Pressure*, CTRS. FOR DISEASE CONTROL (Sep. 24, 2019), <https://www.cdc.gov/publichealthgateway/field-notes/2019/ny-blood-pressure.html>.
- ³¹ *Id.*
- ³² See *Why Choose Rochester?*, U. OF ROCHESTER MED. CTR., <https://www.urmc.rochester.edu/education/md/admissions/why-rochester.aspx> (last visited Apr. 6, 2020).
- ³³ See, e.g., *United States Medical Schools*, MED. SCHOOL HEADQUARTERS, <https://medschoolhq.net/map-of-medical-schools-in-the-us/> (last visited Apr. 6, 2020).
- ³⁴ See ASS'N OF AM. MED. COLLS., MEDICAID GRADUATE MEDICAL EDUCATION PAYMENTS: RESULTS FROM THE 2018 50-STATE SURVEY 33 (2019) [hereinafter 50-State Survey], https://store.aamc.org/downloadable/download/sample/sample_id/284/.
- ³⁵ See *Medical Education and Physicians in the Workforce in New York State*, ASSOCIATED MED. SCHOOLS OF N.Y., <https://amsny.org/initiatives/medical-education/> (last visited Apr. 6, 2020).
- ³⁶ See *id.*
- ³⁷ See *Graduate Medical Education Totals by State*, ACCREDITATION COUNCIL FOR GRADUATE MED. EDUC. (Apr. 1, 2020), <https://apps.acgme.org/ads/Public/Reports/ReportRun>.
- ³⁸ *Obesity Prevention*, N.Y. DEP'T OF HEALTH (Feb. 2020), <https://www.health.ny.gov/prevention/obesity/>.
- ³⁹ *Id.*
- ⁴⁰ *Priority Area: Physical Activity and Nutrition*, N.Y. Dep't of Health (Dec. 2015), https://www.health.ny.gov/prevention/prevention_agenda/physical_activity_and_nutrition/.
- ⁴¹ *Id.*
- ⁴² A shift at the population level toward improving diet, as measured by a 20% increase in the healthy eating index or Mediterranean diet score, could save \$16.7 billion to \$31.5 billion. Savings would come from reduced costs to address cardiovascular disease, cancer, diabetes, Alzheimer's disease, and hip fractures. See Carolyn G. Scrafford et al., *Health Economic Evaluation Modeling Shows Potential Health Care Cost Savings with Increased Conformance with Healthy Dietary Patterns among Adults in the United States*, J. ACAD. NUTRITION & DIETETICS (Dec. 24, 2018), [https://jandonline.org/article/S2212-2672\(18\)30461-1/fulltext](https://jandonline.org/article/S2212-2672(18)30461-1/fulltext); see also Broad Leib, *supra* note 1, at 15.
- ⁴³ 51% of students who completed residency training in New York from 2009 through 2018 are currently practicing in the state. See *Report on Residents 2019 Table C6: Physician Retention in State of Residency Training, by State*, ASS'N OF AM. MED. COLLS. (2019) [hereinafter Report on Residents], <https://www.aamc.org/data-reports/students-residents/interactive-data/report-residents/2019/table-c6-physician-retention-state-residency-training-state>.
- ⁴⁴ See Broad Leib, *supra* note 1, at 3.
- ⁴⁵ *Id.* at 3.
- ⁴⁶ For example, the accrediting bodies for UME and GME can change their requirements for program accreditation. Additionally, the National Board of Medical Examiners, the Federation of State Medical Boards, and the American Board of Medical specialties can amend medical step and board exams to include nutrition-related test questions, so as to encourage students to study nutrition in preparation for the exams. Lastly, the federal government can leverage its significant Medicare funding of GME programs in order to incentivize or effectively require GME programs to provide nutrition education. See *id.*
- ⁴⁷ Many of the leading causes of death nationwide, such as heart disease, cancer, stroke, and diabetes, have a high correlation to poor diet and nutrition. As the prevalence of diet-related diseases increases, so do health care costs, and many of these costs are paid by the government. Medicare spending has increased rapidly, rising from \$337 billion in 2005 to an estimated \$704 billion in 2018, and it is expected to reach \$1 trillion by 2020. See Broad Leib, *supra* note 1. In 2017, state and local governments spent \$294 billion, or 10% of direct general spending, on health and hospitals. See *State and Local Finance Initiative: Health and Hospital Expenditures*, URBAN INSTITUTE, <https://www.urban.org/policy-centers/cross-center->

initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/health-and-hospital-expenditures (last visited Apr. 2, 2020). Much of this spending is from Medicaid, which accounted for 19.6% of spending from state general funds in 2015. See *Medicaid's Share of State Budgets*, MEDICAID & CHIP PAYMENT & ACCESS COMMISSION, <https://www.macpac.gov/subtopic/medicaids-share-of-state-budgets/> (last visited Apr. 2, 2020). Additionally, state and local governments pay for increased health care costs via expenditures on state and local employee health, among other programs. See *State Health Care Spending Project Reports*, PEW CHARITABLE TRUSTS (Jun. 18, 2015), <https://www.pewtrusts.org/en/research-and-analysis/articles/2014/11/state-health-care-spending-projects>.

⁴⁸ NEW YORK STATE FY2021 ENACTED BUDGET FINANCIAL PLAN 95, <https://www.budget.ny.gov/pubs/archive/fy21/enac/fy21-enacted-fp.pdf>; see also BILL HAMMOND, BUSTING THE CAP: WHY NEW YORK IS LOSING CONTROL OF ITS MEDICAID SPENDING AGAIN 2 (2019), <https://www.empirecenter.org/wp-content/uploads/2019/10/Busting-the-Cap-Final.pdf>; Jesse McKinley & Luis Ferre-Sadurni, *How to Fix a \$6.1 Billion Budget Hole? Attack Health Care Spending*, N.Y. TIMES (Jan. 21, 2020), <https://www.nytimes.com/2020/01/21/nyregion/medicaid-budget-ny-cuomo.html>.

⁴⁹ See NEW YORK STATE FY2021 ENACTED BUDGET FINANCIAL PLAN *supra* note 48. Local government contributions, which include contributions from hospitals, occur through “intergovernmental transfers and certified public expenditures.” See 50-State Survey, *supra* note 34, at 5. However, local contributions to Medicaid in New York do not go towards GME—in New York, Medicaid GME funding comes solely from state general revenue. See *id.* at 15. In 16 other states, local government contributions to Medicaid go towards GME. *Id.*

⁵⁰ See Jesse McKinley & Luis Ferre-Sadurni, *supra* note 48; see also Andrew M. Cuomo, FY 2020 Mid-Year Update, <https://www.budget.ny.gov/pubs/archive/fy20/enac/fy20fp-en-myuu.pdf>.

⁵¹ See *The Budget Process*, N.Y. STATE, <https://www.budget.ny.gov/citizen/process/process.html>, (last visited Apr. 11, 2020).

⁵² See *id.*

⁵³ See *The Budget Process*, N.Y.C. CITY COUNCIL, <https://council.nyc.gov/budget/process/> (last visited Apr. 9, 2020).

⁵⁴ See *id.*

⁵⁵ Am. Coll. of Physicians, *Financing U.S. Graduate Medical Education: A Policy Position Paper*, ANNALS OF INTERNAL MEDICINE (Jul. 19, 2016), <https://annals.org/aim/fullarticle/2520466/financing-u-s-graduate-medical-education-policy-position-paper-alliance>; see also GOV'T ACCOUNTABILITY OFFICE, PHYSICIAN WORKFORCE: GAO-18-240 1 (2018). The federal government should leverage these funds to mandate that GME programs offer nutrition education, but this federal policy change is out of the scope of this issue brief.

⁵⁶ See 50-State Survey, *supra* note 34, at 3.

⁵⁷ See Gov't Accountability Office, *supra* note 55, at 1.

⁵⁸ See 50-State Survey, *supra* note 34, at 3.

⁵⁹ See 50-State Survey. *Id.* at 1. States may provide funding through fee-for-service programs, risk-based managed care programs, or both. In 2018, 41 states funded GME programs through their Medicaid fee-for-service program and 39 states apportioned funds through their Medicaid risk-based managed care programs. *Id.*

⁶⁰ CONG. RES. SERV., FEDERAL SUPPORT FOR GRADUATE MEDICAL EDUCATION: AN OVERVIEW 13 (2018), <https://fas.org/sgp/crs/misc/R44376.pdf>; see also Gov't Accountability Office, *supra* note 55, at 28.

⁶¹ See 50-State Survey, *supra* note 34, at 8.

⁶² *Id.*

⁶³ *Id.* at 15.

⁶⁴ For more information, see *supra* note 49.

⁶⁵ See JM Chapel et al., *Prevalence and Medical Costs of Chronic Diseases Among Adult Medicaid Beneficiaries*, 53 AM. J. PREV. MED. 143, 143 (2017).

⁶⁶ MARK J. SHARP ET AL., N.Y. DEP'T OF HEALTH, LEADING CAUSES OF DEATH, NEW YORK STATE 2 (2012), https://www.health.ny.gov/statistics/vital_statistics/docs/leading_causes_of_death_nys_2012.pdf.

⁶⁷ *Id.*

⁶⁸ See Kelly J. Caverzagi et al., *Proposed Performance-Based Metrics for the Future Funding of Graduate Medical Education: Starting the Conversation*, 93 ACAD. MED. 1002, 1002 (2018).

⁶⁹ Special Commission, *supra* note 34, at 5.

⁷⁰ See Gov't Accountability Office, *supra* note 55, at 50.

⁷¹ *California's Medicaid State Plan (Title XIX)*, STATE OF CALIFORNIA, <https://www.dhcs.ca.gov/formsandpubs/laws/Pages/CaliforniaStatePlan.aspx> (last visited Apr. 10, 2020).

⁷² See *State Plan*, MEDICAID & CHIP PAYMENT & ACCESS COMMISSION, <https://www.macpac.gov/subtopic/state-plan/> (last visited Apr. 10, 2020).

⁷³ It is estimated that at the national level up to 11.8% of Medicaid enrollees have heart disease, 27.4% have hypertension, and 12.7% have diabetes. See JM Chapel et al., *Prevalence and Medical Costs of Chronic Diseases Among Adult Medicaid Beneficiaries*, 53 AM. J. PREV. MED. 143, 143 (2017). In New York, heart disease is the leading cause of death among Medicaid enrollees. See MARK J. SHARP ET AL., N.Y. DEP'T OF HEALTH, LEADING CAUSES OF DEATH, NEW YORK STATE 2 (2012),

https://www.health.ny.gov/statistics/vital_statistics/docs/leading_causes_of_death_nys_2012.pdf. Additionally, hypertension is ranked among the top ten causes of death for Medicaid beneficiaries in the state, despite the fact that it does not make the list for non-enrollees. *See id.*

⁷⁴ *See MERC History*, MINN. DEP'T OF HEALTH, <https://www.health.state.mn.us/facilities/ruralhealth/merc/history.html#fund> (last visited Mar. 15, 2020) (“Currently, funds for the MERC distribution come from cigarette tax revenues, a carveout of medical education funds from the Prepaid Medical Assistance Program, and federal Medicaid matching funds obtained by the Department of Human Services”).

⁷⁵ *See Special Commission*, *supra* note 34, at 35-36.

⁷⁶ *See* TEX. HIGHER EDUC. COORDINATING BD., SUMMARY OF HIGHER EDUCATION LEGISLATION 4 (2019), <http://reportcenter.theccb.state.tx.us/training-materials/presentations/board-legislation-2019-summary/>.

⁷⁷ *See New York State Health Care Reform Act (HCRA)*, N.Y. STATE DEP'T OF HEALTH (Nov. 4, 1996), <https://www.health.ny.gov/regulations/hcra/letters/main.htm>; *see also* BILL HAMMOND, EMPIRE CENTER, HOOKED ON HCRA: NEW YORK'S 20-YEAR HEALTH TAX HABIT 3 (2017), <https://www.empirecenter.org/wp-content/uploads/2020/03/HCRA-2020-Final.pdf>.

⁷⁸ *New York State Health Care Reform Act (HCRA)*, *supra* note 77; *see also Overview of Payor Obligations: Professional Education Pool*, N.Y. STATE DEP'T OF HEALTH, <https://www.health.ny.gov/regulations/hcra/letters/overview.htm> (last visited Apr. 24, 2020).

⁷⁹ N.Y. Pub. Health Law § 2807-m(3)(Consol., Lexis Advance through 2020 released Chapters 1-25).

⁸⁰ N.Y. Pub. Health Law § 2807-m (5), (5-a), (5-b) (Consol., Lexis Advance through 2020 released Chapters 1-25).

⁸¹ N.Y. Pub. Health Law § 2807-m (1)(e), (5), (5-a), (5-b) (Consol., Lexis Advance through 2020 released Chapters 1-25); *see also Summary of Objectives – 2008*, N.Y. DEP'T OF HEALTH (Sep. 2009),

https://www.health.ny.gov/professionals/doctors/graduate_medical_education/reform_incentive_pool/final_summary_of_objectives_2008.htm. For more information on COGME, refer to the discussion in section IV.C: Technical Assistance, *infra*.

⁸² *See, e.g., Special Commission*, *supra* note 34, at 34; *see also* BILL HAMMOND, *supra* note 83, at 7,13.

⁸³ *See id.*; *see also* Patrick Orecki, *Six Things to Know About New York State Health Care Reform Act (HCRA) Taxes*, CITIZENS BUDGET COMM'N (Mar. 5, 2020), <https://cbcny.org/research/six-things-know-about-new-york-state-health-care-reform-act-hcra-taxes>.

⁸⁴ *See* BILL HAMMOND, *supra* note 83, at 8.

⁸⁵ *See* Patrick Orecki, *supra* note 92.

⁸⁶ *New York State Health Care Reform Act (HCRA)*, *supra* note 77.

⁸⁷ HCRA designates that supplemental distributions are for GME programs that “substantially meet...training goals and objectives,” such as “increasing the number of residents training in underserved areas” and improving the quality of training programs.” N.Y. Pub. Health Law § 2807-m (5-b) (Consol., Lexis Advance through 2020 released Chapters 1-25).

⁸⁸ *See* TEX. HIGHER EDUC. COORDINATING BD., BUDGET STRATEGY DESCRIPTIONS FOR THE 2020-2021 BIENNIUM 14 (2020), <http://reportcenter.theccb.state.tx.us/agency-publication/miscellaneous/theccb-budget-strategy-descriptions-estimated-budget-for-the-2020-21-biennium/>.

⁸⁹ *AMA Reimagining Residency Initiative*, AM. MED. ASS'N, <https://www.ama-assn.org/education/improve-gme/ama-reimagining-residency-initiative> (last visited Mar. 15, 2020). Over 300 entities submitted proposals for this grant program. *Id.*

⁹⁰ N.Y. Pub. Health Law § 2807-n (2),(3) (Consol., Lexis Advance through 2020 released Chapters 1-25). The New York Legislature authorized and appropriated \$4.6 million to support the initiative, but discontinued appropriations after about four years. No grants were administered during that period. *See* phone interviews with New York medical school stakeholders, on file with authors (Fall 2017).

⁹¹ N.Y. Pub. Health Law § 2807-n (2),(3) (Consol., Lexis Advance through 2020 released Chapters 1-25).

⁹² *See Medical Education and Physicians in the Workforce in New York State*, *supra* note 35. The four SUNY medical schools are: SUNY Upstate Medical University, SUNY Downstate Medical Center (formerly known as The State University of New York Health Science Center at Brooklyn), University at Buffalo Jacobs School of Medicine and Biomedical Sciences, and the Renaissance School of Medicine at Stony Brook University. The CUNY medical school is the CUNY School of Medicine, which is part of the City College of New York. *See Medical School Admissions in New York State*, ASSOCIATED MED. SCHOOLS OF N.Y., <https://amsny.org/initiatives/medical-education/admissions/> (last visited Apr. 11, 2020).

⁹³ Refer to Appendix A: Number of GME Programs Sponsored by New York Public Schools, *infra*.

⁹⁴ *See Graduate Medical Education Totals by State*, ACCREDITATION COUNCIL FOR GRADUATE MED. EDUC. (Apr. 10, 2020), <https://apps.acgme.org/ads/Public/Reports/ReportRun>.

⁹⁵ 51% of students who completed residency training in New York from 2009 through 2018 are currently practicing in the state. *See Report on Residents*, *supra* note 42.

⁹⁶ *See Medical Education and Physicians in the Workforce in New York State*, *supra* note 35.

⁹⁷ The state does not make direct appropriations to medical schools. These numbers reflect the amounts of state appropriations that the SUNY Board of Trustees allocated to the medical schools. The numbers for Buffalo University and Stony Brook University are overinclusive, as the allocations were to the entire campus, rather than to the campus's medical schools. *See* Appendix B: New York State Appropriations by Medical School, and footnotes 129 through 133, *infra*.

⁹⁸ The appropriation is designated for the entire City College of New York campus, “including sophie b. davis biomedical program, school of medicine and worker education.” Refer to page 52 of the State Operations appropriations budget for fiscal year 2020. See Bill S1500, N.Y. Senate (N.Y. 2019) [hereinafter New York State FY 2020 Budget], <https://www.budget.ny.gov/pubs/archive/fy20/exec/approps/stateopsbudget.pdf>.

⁹⁹ See REPORT OF THE FINANCE DIVISION ON THE FISCAL 2020 PRELIMINARY PLAN AND THE FISCAL 2019 PRELIMINARY MAYOR’S MANAGEMENT REPORT FOR THE CITY UNIVERSITY OF NEW YORK, N.Y. CITY COUNCIL 1 (2019), <https://council.nyc.gov/budget/wp-content/uploads/sites/54/2019/03/042-CUNY1.pdf>; see also *CUNY’s Funding Sources*, CUNY PROFESSIONAL STAFF CONG., <https://www.psc-cuny.org/cunys-funding-sources> (last visited Apr. 11, 2020).

¹⁰⁰ See, e.g., *How to Pass a Resolution*, HUM. RIGHTS CAMPAIGN, <https://www.hrc.org/resources/how-to-pass-a-resolution> (last visited Apr. 11, 2020); *Glossary*, MASS. LEGIS., <https://malegislature.gov/StateHouse/Glossary#R> (last visited Mar. 20, 2020).

¹⁰¹ See Res. 0335-2018, N.Y. City Council (N.Y. 2018), <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3498475&GUID=AE8A7214-DC73-40DB-A2A2-7B44349119E1&Options=Advanced&Search=>.

¹⁰² See Res. 1024-2019, N.Y. City Council (N.Y. 2019), <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=4085709&GUID=01327A5A-4B65-4F37-8392-CB43D2603AE3&Options=Advanced&Search=>.

¹⁰³ See *Legislation*, N.Y.C. CITY COUNCIL, <https://council.nyc.gov/legislation/> (last visited Apr. 10, 2020).

¹⁰⁴ *New York State Department of Health Honors Birthing Hospitals for Reversing the Trend of Scheduling Early Deliveries*, N.Y. DEP’T OF HEALTH (Jan. 13, 2015), https://www.health.ny.gov/press/releases/2015/2015-01-13_scheduling_early_deliveries.htm. The awardees received a certificate of achievement and an award letter signed by the department commissioner. See Marilyn Kacica, *NYSQC and NYS IM-CollN: Collaborative Approaches to Improving Perinatal Health*, U. AT ALBANY (Mar. 23, 2015), https://www.albany.edu/cphce/nysqcpqpublic/presentation_march232015.pdf.

¹⁰⁵ See *Healthy Children/Healthy Schools*, NYC HEALTH, <https://www1.nyc.gov/site/doh/health/neighborhood-health/healthy-schools.page> (last visited Apr. 1, 2020).

¹⁰⁶ *Health Care Innovation Awards*, CTR. FOR MEDICARE & MEDICAID SERV., <https://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/> (last visited Mar. 15, 2020); see also *Health Care Innovation Awards to Provide Better Health Care and Lower Costs*, U.S. DEP’T HEALTH & HUM. SERV. (2014), <http://wayback.archive-it.org/3926/20170127185204/https://www.hhs.gov/about/news/2014/07/09/health-care-innovation-awards-to-provide-better-health-care-and-lower-costs.html>.

¹⁰⁷ See Linda Van Horn, *The Nutrition Academic Award: Brief History, Overview, and Legacy*, 83 AM. J. OF CLINICAL NUTRITION 936, 936 (2006), <https://academic.oup.com/ajcn/article/83/4/936S/4753837>

¹⁰⁸ See *AAMC Awards*, ASS’N AM. MED. COLL., <https://www.aamc.org/what-we-do/aamc-awards> (last visited Mar. 15, 2020).

¹⁰⁹ See *AAMC Curricular Innovation Awards*, ASS’N AM. MED. COLL., <https://www.aamc.org/what-we-do/aamc-awards/curricular-innovation-awards> (last visited Mar. 15, 2020).

¹¹⁰ See *Sustainable Management of Food: Food Recovery Challenge*, U.S. ENVTL. PROT. AGENCY (2019), <https://www.epa.gov/sustainable-management-food/food-recovery-challenge-frc>.

¹¹¹ See *id.*

¹¹² See *Food Recovery Challenge Results and Award Winners*, U.S. ENVTL. PROT. AGENCY (2018), <https://www.epa.gov/sustainable-management-food/food-recovery-challenge-results-and-award-winners#2018national>.

¹¹³ See Charles B. Eaton, et al., *Nutrition Curriculum Guide for Training Physicians: Practice Behavioral Skills and Attitudes Across the Curriculum*, NUTRITION ACADEMIC AWARD PROGRAM (2002), <https://www.nhlbi.nih.gov/sites/default/files/media/docs/NAA%20Nutrition%20Curriculum%20Guide.pdf>.

¹¹⁴ N.Y. Pub. Health Law § 2807-n (6) (Consol., Lexis Advance through 2020 released Chapters 1-25).

¹¹⁵ N.Y. Pub. Health Law § 2807-n (6) (Consol., Lexis Advance through 2020 released Chapters 1-25).

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ In a 2017 position paper, the national Academy of Nutrition and Dietetics stressed the importance of including nutrition education in all stages of physicians’ education. The position paper also asserted that “RDNs are in an ideal position” to provide leadership on medical school curriculum design. Lisa A. Hark & Darwin Deen, *Position of the Academy of Nutrition and Dietetics: Interprofessional Education in Nutrition as an Essential Component of Medical Education*, 117 J. Acad. Nutrition & Dietetics 1109 (2017). A regional affiliate of the Academy of Nutrition and Dietetics, the New York State Academy of Nutrition and Dietetics would likely be well suited to provide leadership on nutrition curriculum design. See, e.g., *About Us*, N.Y. STATE ACAD. OF NUTRITION & DIETETICS, <https://www.eatrightny.org/about-us> (last visited Jun. 24, 2020).

¹¹⁹ See *About the Office of the Professions*, N.Y. DEP’T OF EDUC. (Jun. 21, 2018), <http://www.op.nysed.gov/aboutop.htm>.

¹²⁰ See *License Requirements*, N.Y. DEP’T OF EDUC. (Nov. 26, 2019), <http://www.op.nysed.gov/prof/med/medic.htm>; see also *Mandated Training Related to Child Abuse*, N.Y. DEP’T OF EDUC. (Aug. 9, 2018), <http://www.op.nysed.gov/training/camemo.htm>.

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- ¹²¹ See *Physician CME Requirements*, My CME, http://media.mycme.com/documents/94/physician_cme_requirements_23287.pdf (last visited Apr. 10, 2020); see also *Continuing Medical Education: CME State Requirements*, BOARD VITALS (Dec. 17, 2018), <https://www.boardvitals.com/blog/cme-requirements-by-state>.
- ¹²² See *License Requirements*, *supra* note 120; see also *Mandated Training Related to Infection Control*, N.Y. DEP'T OF EDUC. (Aug. 9, 2018), <http://www.op.nysed.gov/training/icmemo.htm>.
- ¹²³ The Healthy Kitchens, Healthy Lives conference gathers physicians, dietitians, and other health professionals to learn up-to-date information about nutrition science as well as to understand strategies for healthful eating and cooking. The conference provides lectures, culinary demonstrations, interactive workshops, and hands-on kitchen sessions. Conference attendees can obtain continuing education credits. See *Overview*, HEALTHY KITCHENS, HEALTHY LIVES (2020), <https://www.healthykitchens.org/about>.
- ¹²⁴ Resources for Health Professionals, Gaples Institute for Integrative Cardiology, <https://www.gaplesinstitute.org/e-learning-physicians/> (last visited Aug. 6, 2020).
- ¹²⁵ See Bill A07695, N.Y. State Assembly (N.Y. 2019), <https://nyassembly.gov/leg/?bn=A07695&term=&Summary=Y&Actions=Y&Votes=Y&Memo=Y&Text=Y>.
- ¹²⁶ CAL. BUS. & PROF. CODE § 2191(a), (d) (West 2018).
- ¹²⁷ The District of Columbia has a pending bill which would require nutrition education as part of CME for physicians. See B23-0360, *supra* note 22. Additionally, the District of Columbia requires physicians and other health professionals to complete at least 10% of their required total continuing education hours in topics identified as “public health priorities,” one of which is nutrition and obesity prevention. See Dep’t of Pub. Health, *supra* note 25.
- ¹²⁸ See *List of Programs by Sponsor*, ACCREDITATION COUNCIL FOR GRADUATE MED. EDUC. (Apr. 10, 2020), <https://apps.acgme.org/ads/Public/Reports/ReportRun>
- ¹²⁹ This figure represents the amount of New York state appropriations to the SUNY system that the SUNY Board of Trustees allocated to the University at Buffalo School of Medicine and Biomedical Sciences. This number is overinclusive, as the allocation was made to the entire campus, rather than just to the medical school. See KRISTINA M. JOHNSON, APPROVAL OF 2019/20 APPROPRIATED CORE BUDGET ALLOCATIONS 7 (2019), https://www.suny.edu/about/leadership/board-of-trustees/meetings/webcastdocs/Tab11_Approval%20of%202019_20%20Appropriated%20Core%20Budget%20Allocations.pdf.
- ¹³⁰ This figure represents the amount of New York state appropriations to the SUNY system that the SUNY Board of Trustees allocated to Stony Brook University. This number is overinclusive, as the allocation was made to the entire campus, rather than just to the medical school. See *id.*
- ¹³¹ This figure represents the amount of New York state appropriations to the SUNY system that the SUNY Board of Trustees allocated to Upstate Medical. See *id.*
- ¹³² This figure represents the amount of New York state appropriations to the SUNY system that the SUNY Board of Trustees allocated to Downstate Medical. See *id.*
- ¹³³ New York State also makes appropriations to CUNY School of Medicine, although the amount of this appropriation is not clear. A fiscal year 2020 appropriation of \$181.0 million was made to the entire City College of New York, “including sophie b. davis biomedical program, school of medicine and worker education.” See New York State FY 2020 Budget, *id.* at 52. Adding in the entirety of the \$181 million would bring the total state appropriations to \$532.9 million, although this number would be an overestimate.