

## A Deficiency of Nutrition Education in Medical Training

We do not need to wait for more studies on nutrition and health. Although additional research will add refinements to current knowledge, we need more action on what we already know.

A 2013 report on the state of US health identified dietary factors as the single most significant risk factor for disability and premature death.<sup>1</sup> Despite the wealth of knowledge linking food and health, nutrition receives little attention in medical practice. The reason stems, in large part, from the severe deficiency of nutrition education at all levels of medical training to be described in this commentary.

The Lyon Mediterranean Diet Heart Study,<sup>2</sup> published in 1999, showed a 72% reduction in cardiovascular events attributed to diet (an effect approximately twice that of most statin trials). A whole foods, plant-based diet low in refined carbohydrates and animal products has been proven to reverse coronary heart disease<sup>3</sup> and confer potent protection against type 2 diabetes<sup>4</sup> and cancer.<sup>5</sup>

How has this knowledge affected medical education? A recent survey of medical schools revealed an average of fewer than 20 hours over 4 years devoted to nutrition education<sup>6</sup>—most of which occurs in the early years when basic science courses are taught, typically with little apparent connection to human diets or common diseases.

Nutrition education is in even shorter supply after medical school graduation. A 2013 document from the Accreditation Committee of Graduate Medical Education

specifies detailed requirements for specialty training in cardiovascular disease. Training must include, for example, performance of 10 cardioversions, interpretation of 150 echocardiograms, and participation in 100 cardiac catheterizations.<sup>7</sup>

However, in this 34-page accreditation document for cardiology trainees, there is no mention of a requirement for nutrition education. And in a 35-page Accreditation Committee of Graduate Medical Education document for Internal Medicine residency training, from which many doctors go on to serve as primary care physicians, the word “nutrition” is absent.<sup>8</sup>

Accordingly, physicians frequently lack substantive nutrition knowledge and counseling skills necessary to successfully guide their patients. A recent study found that only 14% of resident physicians believed they were adequately trained to provide nutritional counseling.<sup>9</sup> Paradoxically, patients believe otherwise. A survey of the public conducted by the American Dietetic Association in 2008 showed that 61% consider doctors to be “very credible” sources of nutrition information.<sup>10</sup>

### TRAINING CHALLENGES

Recently published practice guidelines on managing patients with stable ischemic heart disease state, “The initial approach to all patients should be focused on eliminating unhealthy behaviors, such as smoking, and effectively promoting lifestyle changes that reduce cardiovascular risk, such as increasing weight loss, physical activity, and adopting a healthy diet.”<sup>11</sup>

But how are physicians to implement these guidelines without adequate training in nutrition? With the epidemic of obesity and related chronic disease now burdening our health care system, it is past time to start taking nutrition education seriously.

### MODELS FOR THE FUTURE

Examples of initiatives targeted at physicians to enhance nutrition education include the ongoing Nutrition in Medicine project at the University of North Carolina at Chapel Hill, which provides free web-based nutrition curriculum for both medical students and practicing physicians.<sup>12</sup> The University of Arizona Center for Integrative Medicine also has developed both fellowship<sup>13</sup> and residency<sup>14</sup> online

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curricula with extensive nutrition content; the residency curricula is currently used in 47 residency programs.

A novel strategy to enhance physician knowledge and motivation for nutrition counseling is through experiential learning that includes a “hands-on” cooking experience. A 3.5-day program, Healthy Kitchens, Healthy Lives, that combines nutrition-related lectures and “hands-on” cooking sessions was successful at 3-month follow-up in changing physicians’ dietary practices and their propensity to offer nutritional counseling.<sup>15</sup>

Poor reimbursement also has been cited as an obstacle to more widespread interest by physicians in nutrition education and counseling. A signal of shifting incentives is evident by a recent decision to provide Medicare coverage for a program of “intensive cardiac rehabilitation” using diet and lifestyle to reverse heart disease.<sup>16</sup>

## RECOMMENDATIONS

Improvement in the nutrition literacy of physicians needs to begin in medical school or possibly earlier. A nutrition course might be an appropriate pre-med requirement, with content that is arguably more relevant to future physicians than organic chemistry.<sup>17</sup> Once in medical school, in addition to the current nutrition curriculum largely confined to the first 2 years, education in clinical nutrition and lifestyle counseling should be integrated into the clinical phase of medical school, along with a formal assessment process.

In the later stages of physician training, accreditation requirements in all specialty and subspecialty physician training programs should include meaningful didactic and clinical training in nutrition. Nutrition education in subspecialty training programs could ideally reinforce general principles of nutrition and emphasize aspects of particular relevance in each discipline. Certifying examinations need to be modified to emphasize that nutrition education is no longer a garnish but is now served as a main course.

In recognition of the need to maintain ongoing competency in nutrition science, a longitudinal curricula in nutrition is important. Continuing medical education should prominently include topics in nutrition research and instruction on how to critically evaluate new findings.

Of course, physicians are but one element of the much larger ecosystem needed to promote health and wellness through nutrition. The optimal approach will involve a team effort including a wide range of health professionals and coaches, and public health initiatives need to support sensible food industry policies.

By emphasizing the powerful role of nutrition in medical training and practice, we stand to dramatically reduce suffering and needless death—not to mention the colossal cost savings. The annual cost of cardiovascular disease in the United States was recently estimated at \$315 billion.<sup>18</sup> Imagine the savings if, as the data suggest, we could reduce the risk of vascular events by at least one third with widespread adoption of proven nutritional strategies.

Although we have much to learn about the optimal diet for each individual and how best to deliver nutritional counseling, we need no more studies to know that we must take nutrition education seriously—immediately. It is the low-hanging fruit of health care. We have had the knowledge we need for some time; what we need now is the will to put it into practice.

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