Majid Fotuhi built his first brain out of wood and foam. It was the best way, he thought, to help his fellow students at Harvard grasp how complex and beautiful the organ is. Fotuhi hired a pair of art-school students for the summer of 1993, and millimeters at a time, they sketched a dead human’s brain that Fotuhi schlepped back and forth between the neuroanatomy lab and the art studio across campus. By the time classes started that fall, they had turned their sketches into a 5-ft.-high replica that hinged open to reveal hundreds of discrete parts, including some purple blood vessels and a peach-colored cortex.

Decades later, Fotuhi, now a neurologist who specializes in the prevention of Alzheimer’s disease, remains intent on the organ. “It’s not this mysterious black box sitting up there, disconnected,” he says. “It’s tightly, tightly connected to the rest of the body, and you can take care of it the same way you can take care of your teeth.” Fotuhi has long believed that doing just that—taking care of the brain as well as you take care of the rest of your body—can stave off cognitive decline. For most of his career, that thinking put him in the minority; neurologists, stumped by Alzheimer’s, have focused their efforts on trying to find a cure for the disease.

They have made progress, but doctors do not yet have a reliable way to treat dementia with drugs. At this rate, Alzheimer’s disease and other dementias are expected to cost the U.S. $1 trillion in health care costs by 2050.

That projection is dire, but a glut of new research presented at the Alzheimer’s Association International Conference in July suggests that a path paved by reasonable lifestyle choices—including exercise and targeted brain
Sister Mary, a tiny, social nun born in that plaques and tangles are sometimes confusion and memory loss—there is thought to be a cause of early-onset Alzheimer's disease. It suggested that the excessive buildup of amyloid in the brain is logical when you think about it. “The brain is a sea of blood vessels, Fotuhi says, and because neurons require a lot of oxygen to fire properly, the neurons become thirsty for oxygen.

Because heart disease is the No. 1 killer of Americans, doctors and researchers have focused their advice on heart health for the past 30 years, and today the rates of death from heart disease and stroke have been decreasing. But now, beginning to see a link outside the lab between stronger hearts and healthier minds.

One study, published in the New England Journal of Medicine dug into data from 5,405 people ages 60 and older who are part of the Framingham Heart Study, which has tracked dementia in its participants since 1975. Over the 30 years of data analysis, they found that people in with at least a high school diploma fell by 44%.

“They think heart-disease risk factors have a big effect on brain health,” says Dr. Kristine Yaffe of the University of California, San Francisco, who is a leading researcher on predictors of dementia. “Lifestyle factors are so important, even with risk factors, that’s why the hippocampus by 2%—the equivalent of reversing cognitive loss by about two years. This was a three-month boot camp that costs $6,000 to $7,000, depending on insurance coverage. People learn how to exercise, meditate, eat a Mediterranean diet, have side effects, and they’re good for the rest of the body too. So why wouldn’t you make lifestyle changes?”

Scientists like Fotuhi like to point out that plaques and tangles are sometimes found in the brains of people who don’t have symptoms of dementia. Researchers in this camp often cite a study about Sister Mary, a tiny, social nun born in 1892 who had a thunderous laugh and taught English until just a few years ago. In a 2015 article published in the journal Alzheimer’s Research, the authors of the Hypertension study and a neuropsychologist who spent much of his 50-year research career at the National Institutes of Health. The link between the heart and the brain is logical when you think about it. “The brain is a sea of blood vessels,” Fotuhi says, and because neurons require a lot of oxygen to fire properly, the brain uses 20% of the blood pumped by the heart. “For that reason, anything that decreases the blood flow to the brain. When people have hypertension, obesity or Type 2 diabetes, the blood vessels don’t work as well, the flow isn’t as good, and the neurons become thirsty for oxygen.

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