



The heart of the matter

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Executive summary

Novartis takes matters of the heart very seriously. We know that each year almost 17 million people around the globe die of heart-related illnesses. Many others suffer heart attack or stroke, with devastating and life-changing effects on well-being, inter-personal relationships, and productivity.

Many of the causes of heart-related disability and death – stroke, heart attack, congestive heart failure, and end-stage renal disease – share a common cause: high blood pressure (hypertension). It is well recognized that control of hypertension can prevent, not just delay the onset of, many of these serious conditions. Yet many people continue to live with the hypertension “time bomb” either because they are unaware they have it or, if they know they have it, they are either not treated for it or the medications they receive fail to lower their blood pressure enough to reach safe levels.

The good news is that better diagnosis, medical advances, new medications, and changes in diet, exercise and smoking habits have resulted in a trend toward fewer deaths and less illness due to cardiovascular disease. But Novartis believes that is not enough. That is why we have devoted considerable resources to finding better ways to control blood pressure, efforts that have yielded a new class of antihypertensive medications which acts at an early stage of hypertension and may also reduce heart attacks. Through our Corporate Citizenship program, we have developed the BP Success Zone, a comprehensive program that includes information, action plans, and practical tools to help people reach healthy blood pressure goals.

Proper blood pressure control can avoid premature death, increase life expectancy, reduce illnesses, allow better quality of life, and yield tremendous cost savings. Novartis is proud of the tangible and wide-ranging socioeconomic value of its medications to individuals as well as society at large.

The heart of the matter

At Novartis, our mission is to focus our medical knowledge and expertise on the heart of the matter. Right now our resources are focussing on the matter of the heart.

In 50 short years, heart disease has become the major issue of public health. Until the end of the first half of the 20th century, infectious diseases had been the leading causes of death, especially among the young. But improvements in public health, nutrition, and the introduction of antibiotics led to a significant decline in death rates.

By the 1960s, as life expectancy increased, it was chronic conditions affecting the middle-aged and the elderly that were raising concerns worldwide. Cardiovascular disease became the leading killer in the developed world, while cancer followed a distant second (Figure 1).

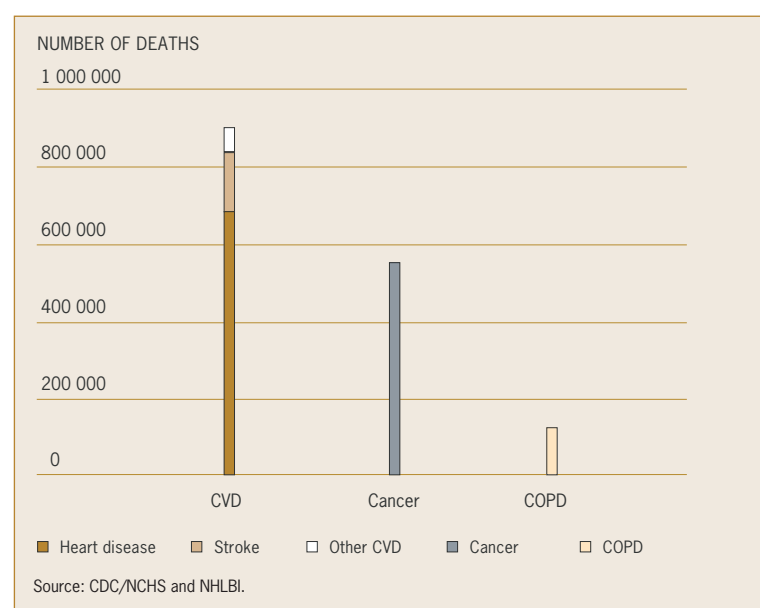


FIGURE 1: THE THREE LEADING CAUSES OF DEATH IN THE US IN 2003

The good news is that, during the second half of the 20th century, life expectancy continued to increase as deaths from cardiovascular disease fell, thanks to better diagnosis, medical advances, long-term use of medicines plus lifestyle changes such as healthier diets, increased exercise and a reduction in smoking.

But Novartis knows that the bad news is 16.7 million people around the world still die of cardiovascular disease each year, accounting for 29% of all deaths globally (Figure 2). By 2020, heart disease and stroke are projected to become the leading causes of both death and disability throughout the world, with the number of deaths expected to reach 20 million per year by 2020 and more than 24 million per year by 2030.

Many of the causes of heart-related disability and death – stroke, heart attack, congestive heart failure, and end-stage renal disease – share one dangerous link which is high blood pressure or hypertension.

At Novartis, we recognize that control of high blood pressure can have tangible and far-reaching benefits, including longer life expectancy, reduced illness, and better

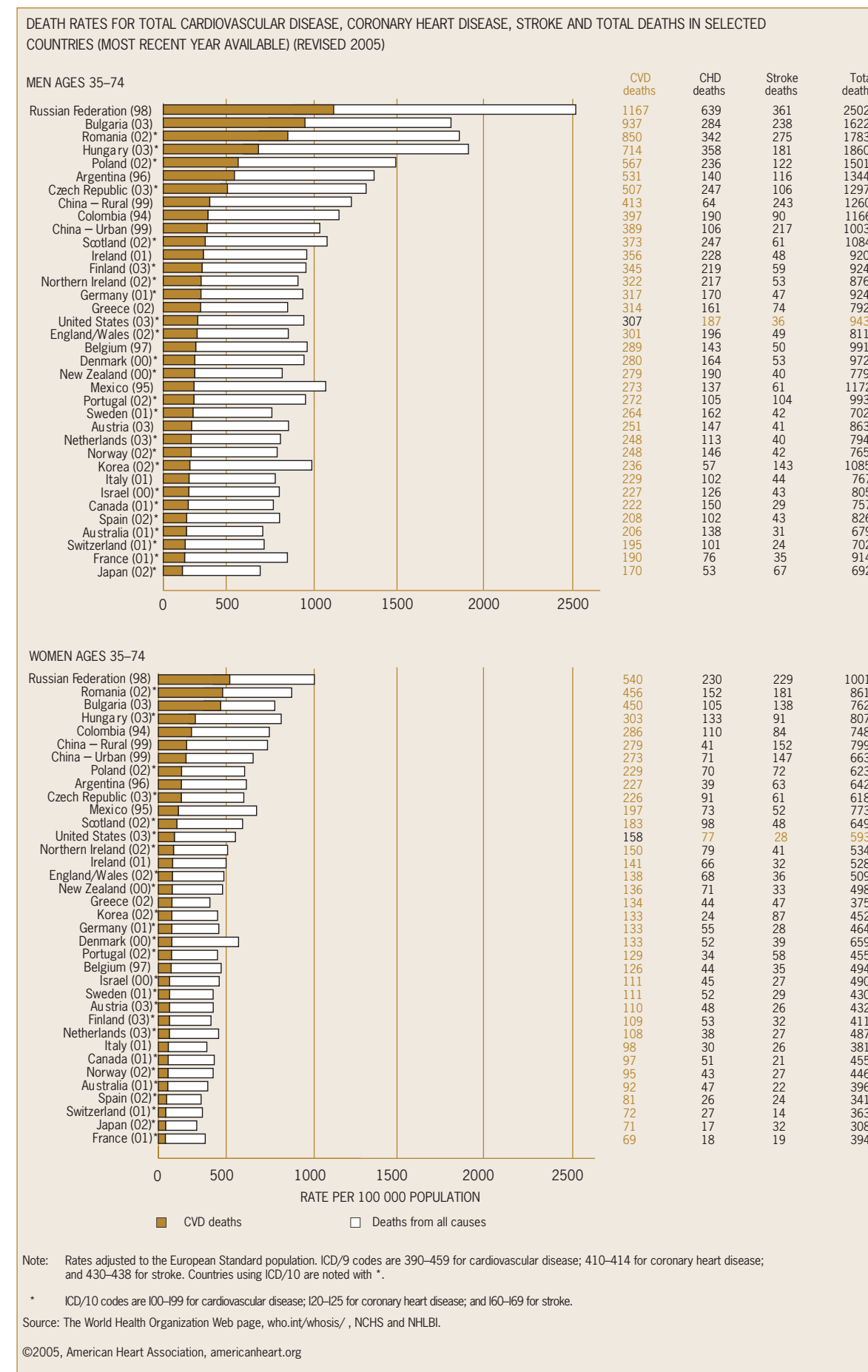


FIGURE 2: DEATH RATES FOR TOTAL CARDIOVASCULAR DISEASE IN SELECTED COUNTRIES

physical functioning with fewer disabilities. This adds value to the lives of not only patients but their families, and society at large.

Beyond the medical objectives, our aim is to see the bigger picture as we work to add value to lives wherever and whenever possible. Novartis puts that mission at the core of everything it does and that is a key aspiration of its Corporate Citizenship programs.

We know that even small changes by patients can have a significant impact over time, and we help make that process work. For example, in the US, our BP Success Zone was created to educate people about high blood pressure and provide a program including medication, information, education, action plans, and tools that may help people reach their blood pressure goals, as set by their healthcare professionals.

And of course right now, we are pioneering a new class of antihypertensive medications which acts at an early stage of the problem and may also reduce heart attacks.

In the US about 1 in 3 adults have high blood pressure, and in Europe hypertension is even more prevalent, increasing the likelihood that a person will die and decreasing the number of years a person can expect to live (Figure 3). With increasing age, hypertension becomes a more common ailment – and so does coronary heart disease and stroke (Figures 4 and 5).

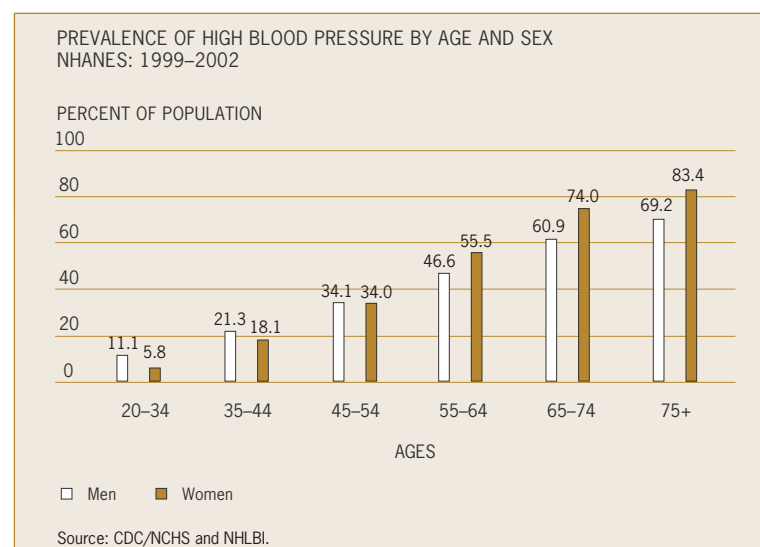


FIGURE 3: PREVALENCE OF HIGH BLOOD PRESSURE IN AMERICANS BY AGE AND SEX

Because it has no symptoms, about one third of people with hypertension in the US do not know they have the condition. Even among those who know they have high blood pressure, only 1 out of 2 patients being treated has their blood pressure level controlled sufficiently to lower the risk of heart disease or stroke – despite the availability of a wealth of effective medications.

The effects of uncontrolled hypertension on quality of life or productivity can be severe, life-changing, and persistent. After a heart attack or stroke, patients can become so disabled that they become institutionalized in nursing homes, unable to walk unassisted, or suffer depression, visual impairment or some form of paralysis (Figure 6).

What is more, the economic burden of uncontrolled hypertension is staggering with one recent estimate putting the total cost of coronary heart disease and stroke in the US at \$170 billion.

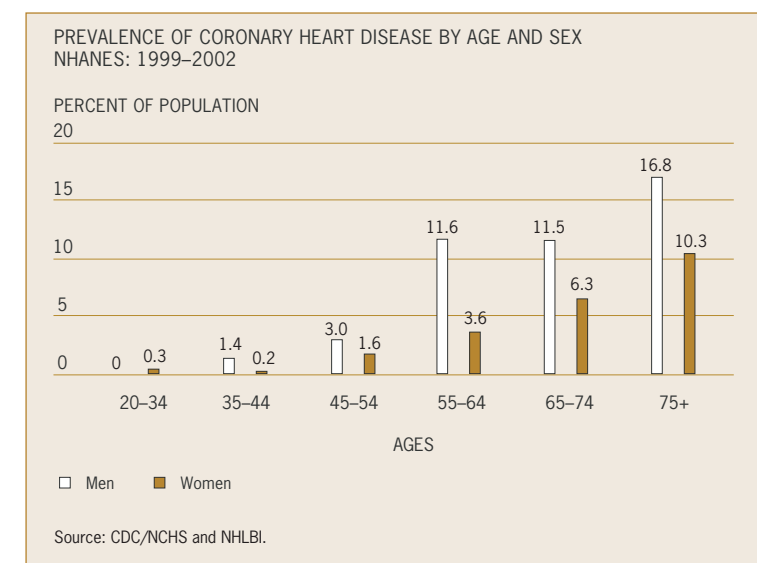


FIGURE 4: PREVALENCE OF CORONARY HEART DISEASE BY AGE AND SEX

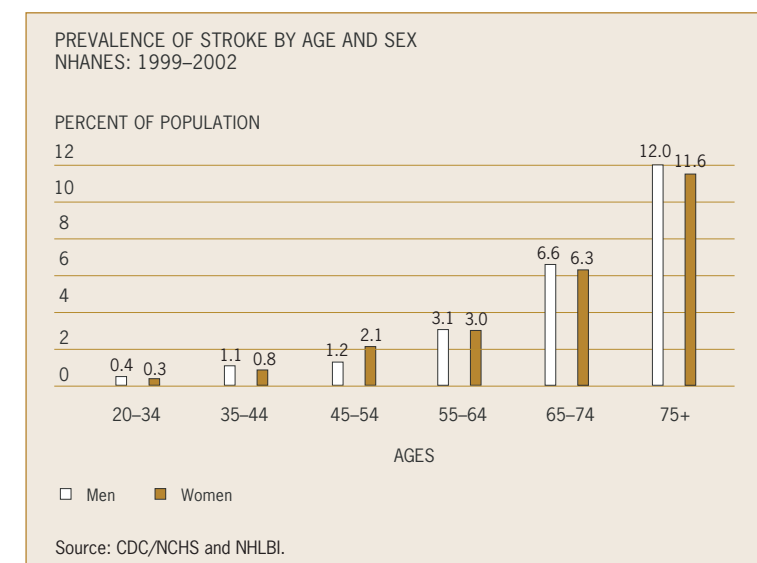


FIGURE 5: PREVALENCE OF STROKE BY AGE AND SEX

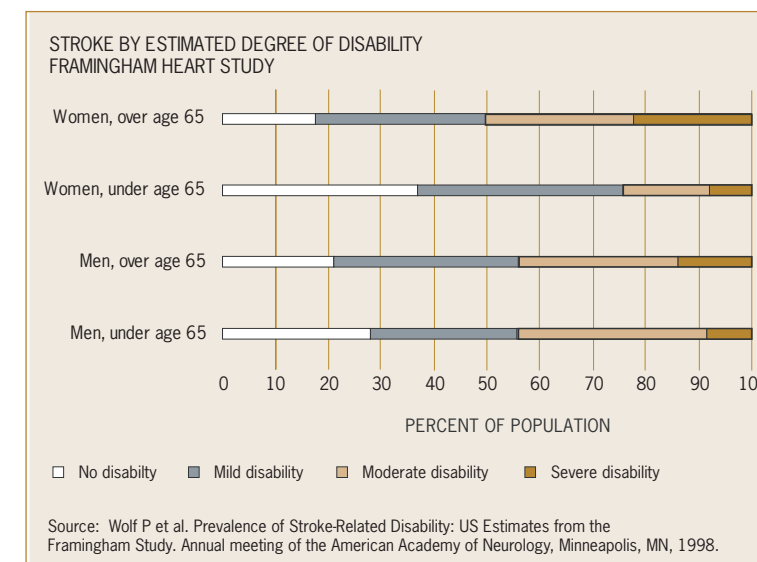


FIGURE 6: STROKE BY ESTIMATED DEGREE OF DISABILITY

We have seen that there are enormous medical, human, and economic costs. Unfortunately, as the population ages and becomes more sedentary and obese, the incidence of hypertension is rising.

Many people are unaware that their blood pressure falls within newly-established levels that categorise them as hypertensive and that even mild elevation in blood pressure can double or triple the risk of serious consequences. But it cannot be said too often that stroke, heart attack, and end-stage renal disease are preventable with tight blood pressure control, and it is here that antihypertensive medications can prove invaluable.

It is easy to forget how much the diagnosis and treatment of cardiovascular disease has changed over the last 50 years or so. In the late 1940s, a person with high blood pressure would be advised to rest, possibly undergo nerve disruption surgery or fever-inducing therapy. Some lifestyle changes might be suggested (restriction of salt and fat intake, reduction in body weight) although there was little scientific evidence to support these recommendations. Only patients who showed symptoms of hypertension would be advised to have their blood pressure and cholesterol levels checked.

By the 1970s, some significant therapeutic advances had been made in, for example, the diagnosis of cardiac disease and surgical and interventional treatments. A tremendous influx of new cardiovascular medications was seen in the period between the late 1970s and 1990s to the extent that by the end of the 20th century, 61% of patients with hypertension over the age of 40 years were receiving some type of antihypertensive medication.

The benefit of treating hypertension can translate into an average increase in life expectancy of 11 months for men and 7 months for women. If all eligible hypertensive patients in the US were treated in 2001, an estimated 86,000 premature deaths from cardiovascular disease would have been prevented. To put that into perspective, that was about twice the number of people who perished in auto accidents (Figure 7).

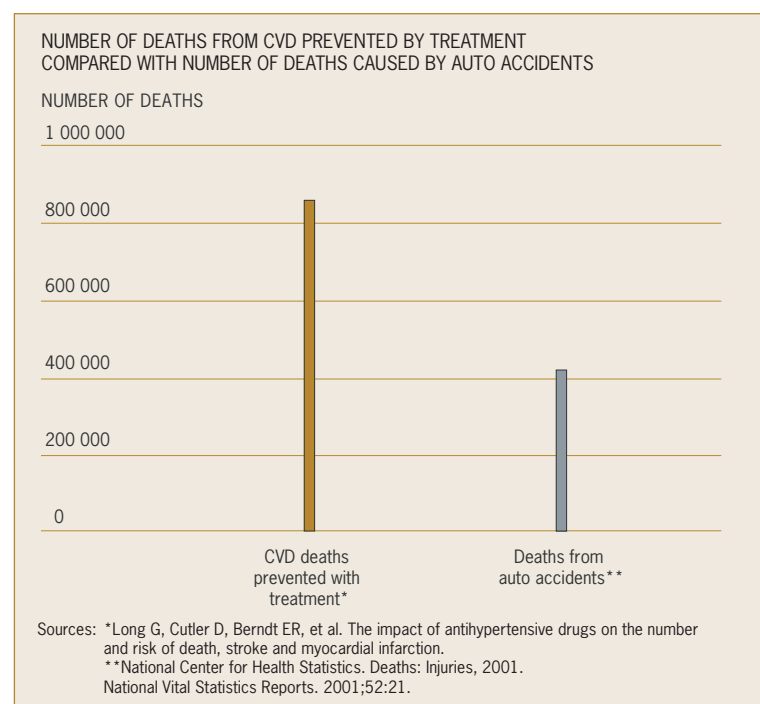


FIGURE 7: NUMBER OF PREVENTED DEATHS FROM CVD WITH TREATMENT VS. DEATHS FROM AUTO ACCIDENTS

Treatment for high blood pressure would also have eliminated about 260,000 hospitalizations for heart attack (Figure 8) and 570,000 hospitalizations for stroke (Figure 9). It is important to remember that for most people, treatment prevents – not simply delays – a heart attack or stroke.

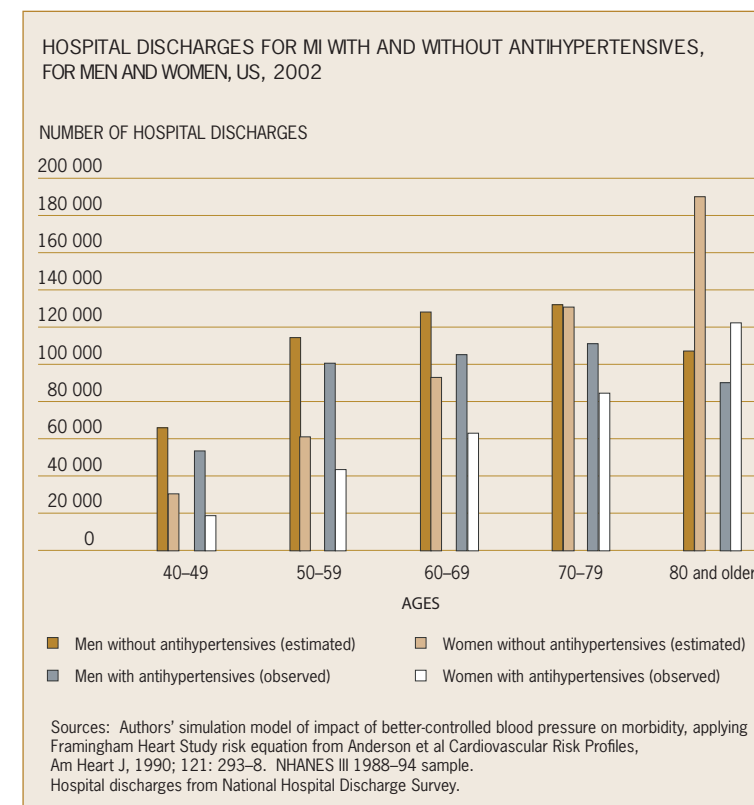


FIGURE 8: HOSPITAL DISCHARGES FOR HEART ATTACK (MI) WITH AND WITHOUT ANTIHYPERTENSIVES, FOR MEN AND WOMEN, US, 2002

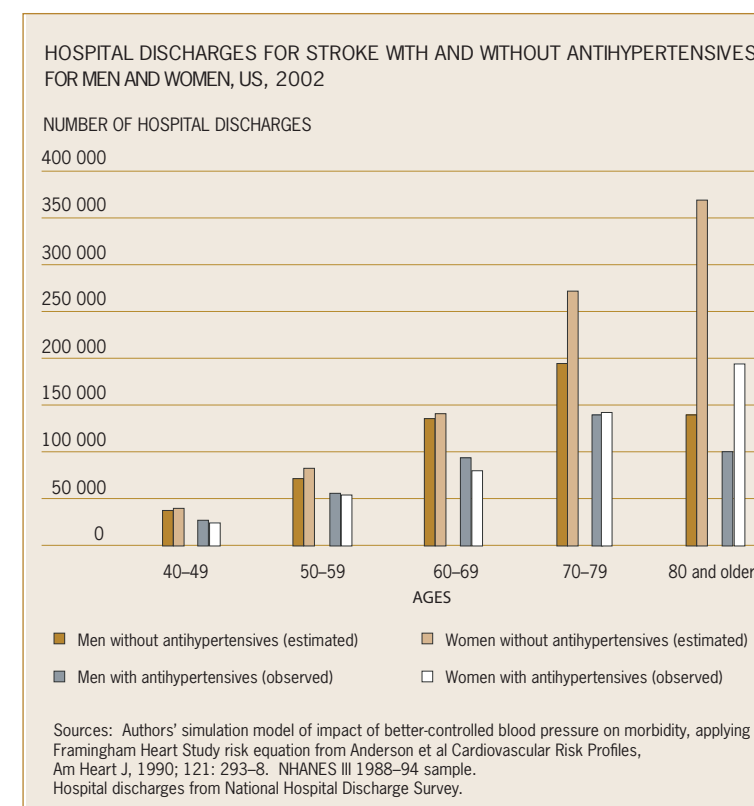


FIGURE 9: HOSPITAL DISCHARGES FOR STROKE WITH AND WITHOUT ANTIHYPERTENSIVES, FOR MEN AND WOMEN, US, 2002

Despite the progress that has been made to date in antihypertensive therapy, it remains a fact that only about one half of people of all ages with high blood pressure are currently receiving treatment – and that of these, one half of patients fail to lower their blood pressure to optimal levels. Our BP Success Zone is one attempt to grapple with that issue.

Novartis is at the forefront of continuing medical research into tackling hypertension. We know controlling high blood pressure benefits the individual and society at large through avoidance of premature death, increased life expectancy, fewer illnesses, better quality of life, and lowered costs – not to mention reducing the personal loss and immeasurable grief that these illnesses can render.

That is why we give utmost consideration to the social and economic value of our medications, seen from the point of view of patients and communities worldwide.

