

# Diagnosing and Treating Patients Using ATCOR Central Pressure Analysis

Health Economics and Global Impact

## HIGHLIGHTS

Diagnosing and treating patients using central pressure analysis may result in approximately \$56 billion in annual savings

**SphygmoCor® XCEL** monitoring may decrease the number of patients on prescription drugs by 16% (due to over treatment, BP Guide Study) for an annual savings of \$1.65 billion.

Based on data from the World Health Organization, "1.13 billion people have hypertension (elevated blood pressure), a serious medical condition that significantly increases the risks of heart, brain, kidney and other diseases."

Hypertension may lead to cardiovascular disease (CVD) and the American Heart Association stated that "CVD is the leading global cause of death, accounting for more than 17.3 million deaths per year in 2013, a number expected to grow to more than 23.6 million by 2030". The World Health Organization estimates that "9.4 million of these deaths are due to complications of hypertension. It is thought to account for approximately 45% of deaths due to heart disease and 51% of deaths due to strokes."

## Latest Projections on the Prevalence of CVD in U.S. to grow to 45% of the population:

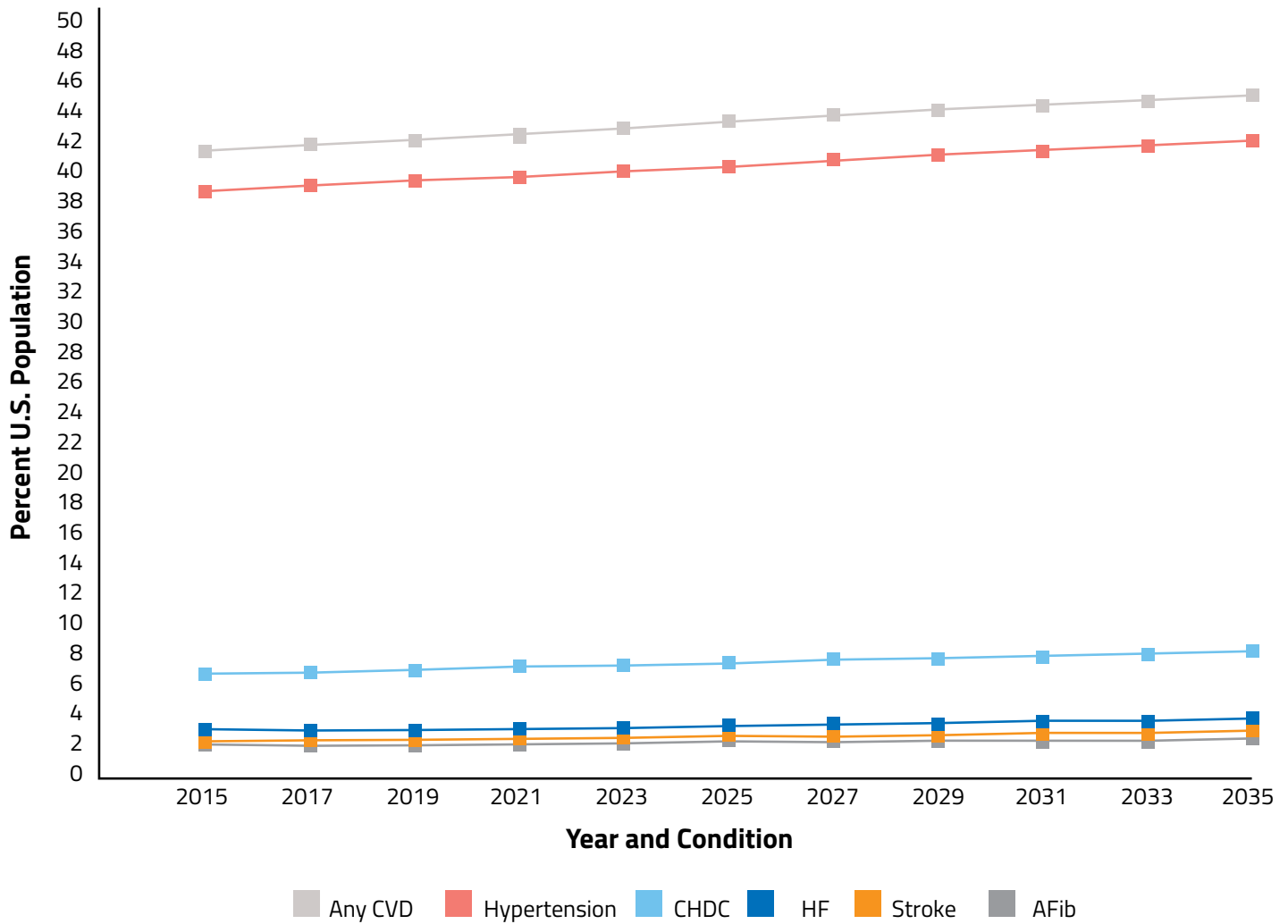
In 2015, 41.5 percent (102.7 million) of the U.S. population had at least one CVD condition:

|                                 |              |
|---------------------------------|--------------|
| <b>High Blood Pressure</b>      | 96.1 million |
| <b>Coronary Heart Disease</b>   | 16.8 million |
| <b>Stroke</b>                   | 7.5 million  |
| <b>Congestive Heart Failure</b> | 5.8 million  |
| <b>Atrial Fibrillation</b>      | 5.2 million  |

In 2035, the number of Americans with CVD is projected to rise to 131.2 million - 45 percent of the total U.S. population. This means additional increases of:

|                                 |              |
|---------------------------------|--------------|
| <b>High Blood Pressure</b>      | 27.1 million |
| <b>Coronary Heart Disease</b>   | 7.2 million  |
| <b>Stroke</b>                   | 3.7 million  |
| <b>Congestive Heart Failure</b> | 3.0 million  |
| <b>Atrial Fibrillation</b>      | 2.0 million  |

## Projected Prevalence of Stated Disease (2015-2035)



**In 2016, CVD cost America \$555 billion. By 2035, the cost will skyrocket to \$1.1 trillion.**

### Projections - CVD Medical Costs Through 2035

|                            | Current              | 2035                 |
|----------------------------|----------------------|----------------------|
| High Blood Pressure        | \$68 billion         | \$154 billion        |
| CHD                        | \$89 billion         | \$215 billion        |
| CHF                        | \$18 billion         | \$45 billion         |
| Stroke                     | \$37 billion         | \$94 billion         |
| Afib                       | \$24 billion         | \$55 billion         |
| Other                      | \$83 billion         | \$187 billion        |
| <b>Total Medical Costs</b> | <b>\$318 billion</b> | <b>\$749 billion</b> |

Costs include: physician, hospital, prescription drugs, etc.

### Projections - CVD Indirect Costs Through 2035

|                            | Current              | 2035                 |
|----------------------------|----------------------|----------------------|
| High Blood Pressure        | \$42 billion         | \$67 billion         |
| CHD                        | \$99 billion         | \$151 billion        |
| CHF                        | \$11 billion         | \$19 billion         |
| Stroke                     | \$30 billion         | \$49 billion         |
| Afib                       | \$7 billion          | \$11 billion         |
| Other                      | \$48 billion         | \$71 billion         |
| <b>Total Medical Costs</b> | <b>\$237 billion</b> | <b>\$368 billion</b> |

Costs include: lost work days, lost earnings, etc.

## **Personalized & Precise Non-Invasive Central Blood Pressure Hypertension Management from ATCOR**

The **SphygmoCor® XCEL** is the industry standard for performing non-invasive central arterial pressure (cBP) waveform analysis and measuring arterial stiffness, providing critical information that cannot be obtained from a brachial blood pressure measurement.

cBP has been shown to predict cardiovascular outcomes more closely than brachial blood pressure. This information is essential in advancing the management of hypertensive and pre-hypertensive patients as it can have a considerable impact on treatment decisions. In fact, a significant number of patients may be under and over-treated (under and over-estimation of risk) when only their brachial blood pressure is considered.

The fact that cBP more closely reflects cardiovascular risk than brachial BP is not controversial and is stated consistently in over 1400 publications. The predictive superiority of cBP over brachial BP is primarily due to the closer proximity of the ascending aorta to the target organs.

### **Potential Health Economics Impact of SphygmoCor® XCEL**

There are approximately 1.1 billion hypertensive patients worldwide that result in 17.5 million deaths due to CVD in 2012, with 9.4 million of these deaths due to hypertension. Monitoring cBP along with brachial BP may result in improved risk assessment and earlier intervention resulting in potentially a 10% impact or approximately 1 million lives saved annually.

In 2016, the total costs for CVD were \$555 billion (direct and indirect costs, American Heart Association). Applying the same rationale as above, diagnosing and treating patients using central pressure analysis may result in approximately \$56 billion in annual savings.

In the U.S. in 2015, there were 706 million prescriptions for antihypertensive drugs with an annual cost of \$10.3 billion (IMS Health, National Prescription Audit, Dec 2015). **SphygmoCor® XCEL** monitoring may decrease the number of patients on prescription drugs by 16% (due to over treatment, BP Guide Study) for an annual savings of \$1.65 billion.