Munich RE

The 2017 Clinical Practice Guidelines for Hypertension

New criteria but little change in current risk

What underwriters should know

- Hypertension is now considered to be present when the systolic blood pressure is 130 mmHg or greater and/or the diastolic blood pressure is 80 mmHg or greater.
- Those who are hypertensive by the new guidelines but at low risk for developing cardiovascular disease within ten years should not be treated with medication until their blood pressure exceeds 140 mmHg systolic and/or 90 mmHg diastolic (which is similar to prior recommendations).
- There will be no increase in either mortality or morbidity due to the establishment of the new blood pressure guidelines. There may be some improvement in high risk groups but this likely would not be expressed for many years.

The American College of Cardiology and The American Heart Association published the new "2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults" on November 13, 2017. The new guidelines propose lower thresholds for diagnosing and lower goals for treating hypertension than the previous recommendations of 2003, especially for individuals at high risk for adverse future cardiovascular events. Hypertension is now defined as a systolic blood pressure 130 mmHg or greater and/or a diastolic blood pressure 80 mmHg or greater. Applying the new guidelines, 46 percent of United States adults (103.3 million) are now hypertensive, up from 32 percent (72.2 million) under the prior classification.[1] The prevalence of hypertensive men under the age of 45 will triple and prevalence for similar-aged women will double. It is now recommended that individuals in this newly defined hypertensive range be treated with life style modification and, in some cases, medication.[2]

On the same day that the new guidelines were published, articles outlining the proposed changes appeared in the national media. The New York Times noted that "the change is due largely to convincing data from a federal study published in 2015" in the New England Journal of Medicine. This study, called Sprint, showed that lowering systolic blood pressures below 120 mmHg in individuals at high risk for future cardiovascular events decreased the incidence of heart attacks, heart failure and strokes by one third and the risk of death by nearly one quarter. On November 14, the Wall Street Journal noted that the new guidelines "lower the threshold for who is considered at risk of complications from the condition" of high blood pressure.

Such a change in medical practice guidelines concerning one of the major factors used in determining both mortality and morbidity risk has, naturally, raised concerns in the insurance industry. Questions have been raised about how the new blood pressure guidelines might impact the mortality and morbidity of in-force blocks of business, the mortality assumptions of future business, preferred underwriting guidelines and automated underwriting programs.

The Sprint study definitely contributed to the development of the new guidelines. Results from this study, published in the New England Journal of Medicine in November 2015,[3] showed that reducing systolic blood pressures below the level of 120 mmHg in individuals at high risk for future adverse cardiovascular events resulted in significantly lower rates of such fatal and nonfatal events in addition to death from any cause. Although these results are attention grabbing, certain aspects of the Sprint study need to be clarified to best assess their significance.

The Sprint study was not done on a general population group and certainly not on a group representative of insurance applicants. The study was composed of individuals who were non-diabetics, 50 years and older (mean age = 68 years), who had systolic blood pressures ranging from 130 to 180 mmHg, and who were at increased risk for a future cardiovascular event. Increased risk was defined as the presence of current clinical or subclinical cardiovascular disease (other than stroke), chronic renal failure, a 15 percent or greater likelihood for an adverse cardiovascular event to occur over the next ten years as defined by the Framingham risk algorithm, or if a study subject was 75 years of age or more. So, to start with, these individuals were older, many with poorly controlled hypertension and already with increased risk for an adverse future cardiovascular event. The study subjects were randomized into two groups for antihypertensive treatment, one intensively treated (aiming for systolic blood pressures less than 120 mmHg) and one treated in standard fashion (aiming for systolic blood pressures less than 140 mmHg).

The study was stopped earlier than planned (after an average follow up of only 3.26 years) because of an obvious divergence in survival between the two groups. The risk for death in the intensively treated group was found to be less than half that of the standard treatment group. Obviously, this strongly supports more intensive treatment of elevated blood pressure in those at risk for adverse future cardiovascular events. This is why treatment recommendations are now based on such future risk estimations. The new guidelines recommend that those currently diagnosed with cardiovascular disease (CVD) or diabetes or having a ten year risk for developing CVD of at least ten percent should be treated with lifestyle modification and antihypertensive medication when their systolic blood pressure is 130 mmHg or higher and/or their diastolic blood pressure is 80 mmHg or higher with the goal of bringing these measurements below 130 and 80 mmHg respectively. It is recommended that those having a lower risk for development of CVD not be treated with antihypertensive medication until their blood pressure is above 140 / 90 mmHg – not unlike the prior guidelines. The main group affected by the new guidelines is the group having higher risk for future adverse cardiovascular events and the development of CVD.

However, when one compares the mortality of the two groups in the Sprint study to the mortality of a similar general population, results demonstrate mortality ratios below 100 percent for both groups with the intensively treated group having mortality significantly below that of the standard treatment group. To summarize, this study was not comprised of a representative general population but rather of a group at high risk for future adverse cardiovascular events. The study subjects were older and many had significant health problems. The duration of the study was relatively short and, although there was a mortality difference between the intensively treated and standard treatment groups (the intensively treated group experienced roughly half the mortality of the standard treatment group), there was no increase in mortality relative to the general population for either treatment group. What the Sprint study suggests is that elderly hypertensives having additional risk factors for development of CVD may have better than expected mortality if treatment effectively keeps their systolic blood pressures under 120 mmHg. If this result is confirmed by other studies, it may be that individuals in this situation may actually receive credit for an optimal treatment result.

The new guidelines may likely increase awareness of the significance of hypertension and foster healthier life style decisions. In some cases, they will result in individuals being prescribed medication where they would not have under the prior guidelines. However, there is no ultimate increase in mortality or morbidity due to hypertension as a result of these new guidelines; there may be some future improvement in high risk groups treated under the new guidelines but this likely would not be expressed for many years. It follows that no adjustments in the pricing of in force blocks of business will be required at this time. No changes in ratings for mortality or morbidity for underwriting paradigms for hypertension need be made (this is true for preferred criteria and automated underwriting paradigms as well). In the future, as noted above, in some successfully treated high risk individuals there may be consideration for awarding a credit, but first it would be prudent to collect more supportive evidence from additional similar studies.

Key Points

- Application of the new hypertensive guidelines will increase the prevalence of hypertension from 32 percent to 46 percent of all United States adults. Increases in prevalence will be noted especially in those less than 45 years of age.
- Those currently diagnosed with cardiovascular disease or diabetes, or having a ten year risk for developing cardiovascular disease of at least ten percent, who are also found to be hypertensive by the new guidelines should be treated with lifestyle modification and antihypertensive medication.
- The new hypertension guidelines at this time will not require adjustments in mortality assumptions for in force blocks of business or for changes in underwriting rating paradigms, including preferred criteria, concerned with mortality or morbidity risk due to hypertension.

References

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3. The Sprint Research Group, A Randomized Trial of Intensive versus Standard Blood-Pressure Control, *NEJM* 2015;373(22):2103 – 16.

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