

# 1 **Big data research for hypertension**

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6 In hypertension, as is the case for all other clinical disciplines, randomized clinical  
7 trials are the cornerstone for establishing evidence for treatment guidelines. However,  
8 randomized clinical trials are limited by the lack of funding, limited number of subjects who  
9 can be enrolled and insufficient length of exposure. In case of hypertension, this leads to  
10 most randomized clinical trials being performed in high risk individuals, resulting in a clear  
11 lack of generalizability. Therefore, there are numerous issues that have yet to be clarified by  
12 randomized clinical trial. The advantage of observation research is that the hypothesis  
13 generated through observation research contributes to future design and conduct of  
14 randomized clinical trials. Also, observational research allows to test hypothesis in a  
15 population that would be practically impossible to perform a randomized clinical trial. For  
16 example, a randomized clinical trial for a low risk, stage 1 hypertensive population would be  
17 impossible to perform. In Korea, the national health insurance corporation database, the  
18 national health insurance sample database and the health examination database are open to

19 researchers. We will discuss the characteristics of each database, share examples of some of  
20 the research done with this database and discuss some of the future outlooks with regards  
21 to big database research in hypertension.