

# Study highlights genetic risk of heart failure

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Heart failure is known to be more common in certain families, but whether this familial transition is caused by genetic or lifestyle factors is not understood. By studying adoptees in relation to both their biological parents and adoptive parents, a new population study in Sweden has found that genetic heritage is the dominant factor when it comes to heart failure in these families.

"The results of our study do not mean that a person's lifestyle is insignificant to their risk of [heart failure](#), but they indicate that hereditary factors are behind 26 percent of all cases of [heart](#) failure in Sweden," explains Magnus Lindgren, specialist in family medicine and doctoral student at Lund University, who led the study.

Magnus Lindgren and his research colleagues studied Swedish-born adoptees, whom they linked to both their biological parents and their adoptive parents through the Swedish multigenerational register. A total of 21,643 adoptees, all born between 1942 and 1990, were tracked, along with their [parents](#), between 1964 and 2015 with regard to the incidence of heart failure as recorded in hospital registers in the Swedish National Patient Register.

The study found the risk of heart failure in adoptees who had at least one biological parent with heart failure to be 45 percent higher than in a [control group](#) with no biological parent suffering from heart failure. On the other hand, there was no increased risk in individuals with [adoptive parents](#) with heart failure, compared with the equivalent control group.

"The study's design enabled us to look at the overall effect of hereditary factors for heart failure. Heart failure often depends on a combination of several risk factors, whose collective effects are otherwise difficult to study," said Magnus Lindgren. "By mapping the underlying genetic factors for heart failure, we hope our results will contribute to the development of better diagnostics and new therapies."

"The occurrence of heart failure in a biological parent is a risk factor for heart [failure](#), and physicians should, where applicable, ask patients about heredity. It is important information when deciding whether further investigation is needed," concludes Magnus Lindgren.

**More information:** Magnus P. Lindgren et al, A Swedish Nationwide Adoption Study of the Heritability of Heart Failure, *JAMA Cardiology* (2018). [DOI: 10.1001/jamacardio.2018.1919](https://doi.org/10.1001/jamacardio.2018.1919)

Provided by Lund University

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