1. We changed “precise contribution” to “relative contribution” in the Abstract, Background.
2. We deleted the sentence in the Abstract, Methods describing the assumed level of overdiagnosis.
3. We deleted the sentence about reaching nearly identical substantive conclusions varying the level of overdiagnosis.
4. We edited the sentence about the life-table methods to emphasize its strengths over simulation-based studies, “We used life-table methods, which require fewer assumptions than simulation-based studies, to calculate the gain in life expectancy and quantified the three constituent components of this gain:…”
5. We clarified that previous research only estimated the contribution of screening and attributed the remainder to the contribution of breast cancer treatment.
6. We split the limitations of previous work into [1] research that were vulnerable to overestimating the contribution of breast cancer treatment and [2] research that only focused on the reduction in breast cancer mortality rates and inherently ignored improvements in other cause mortality rates.

Other studies only focus on the reduction in breast cancer mortality rates rather than reductions in overall mortality rates and, thus, inherently ignored the substantial improvements in the prevention and treatment of other diseases.1,12  Thus, these studies could not quantify the contribution of screening on the increase in overall survival of breast cancer patients over time.

1. Throughout the paper, we now write “distribution of tumor sizes”.
2. We now write about the sensitivity analysis varying the overdiagnosis level, “Finally, we vary the level of overdiagnosis and re-quantify contributions to the gain in life expectancy.”
3. We now begin the description of the first step with a sentence of what this step will produce, “The first step estimates the contribution of earlier detection to gains in life expectancy (component [1]).”
4. We now define incidence-based case fatality rates immediately after writing the term for the first time, “An incidence-based case fatality rate (hereafter “fatality rates”) for a specific cohort of newly diagnosed breast cancer patients equals the ratio of the number of deaths occurring for this cohort and the total number of person-years lived by this cohort up to 10 years beyond their diagnosis (eAppendix A).16,17”

We also clarify the assumption regarding incidence-based case fatality rates in the Limitations paragraph of the Discussion. See point number X for more details.

1. We now include an appendix that provides an example of a life table and refer readers to it, “The adjusted tumor size- specific fatality rates served as the input to demographic life tables that produced tumor size-specific life expectancies in 1975 and 2002 (see eAppendix C for example of life table calculations).”
2. As with the first step, we now begin the description of the second step with a sentence of what this step will produce, “The second step estimates the contribution of advances in breast cancer treatment (component [2]) and advances in the treatment of other diseases (component [3]) on gains in life expectancy.”
3. We edited the sentence to active voice, “We then adjusted these rates for overdiagnosis.”
4. We clarify that there are separate life tables for breast cancer death and other cause death, “The adjusted tumor size- and cause-specific fatality rates served as the input to demographic life tables (one for breast cancer and the other for all other causes) that produce corresponding life-years in 1975 and 2012.
5. We now explain what the 10-year window accomplishes, “By allowing this 10-year time window between diagnosis and death, we mitigated potential lead time bias by limiting the length of time over which a death labeled as breast cancer on the death certificate would be categorized as a breast cancer death in our analysis.”

Sun et al. (2010) used survival time, rather than incidence-based case fatality rates. Rather than this difference in data, we focused on the lack of consideration of other cause mortality as the chief limitation of Sun et al.

1. We separated the sentence about the 10-year window for the incidence-based case fatality rate and the number of patients for whom we calculated incidence-based case fatality rates.
2. We clarify that tumor size is based on clinical and operative/pathological assessment, “…), tumor size determined by clinical and operative/pathological assessment (<1cm, 1-2cm, 2-3cm, 3-5cm, ≥5cm),…”.
3. We now define overdiagnosis, “Overdiagnosis is the detection of asymptomatic breast cancers that are non-growing or so slow-growing that they would never present symptomatically during a women’s lifetime.20”.
4. We now refer to annual share as annual proportion.