Assessed for eligibility based on database (n=1,160)

- Breast cancer and another primary cancer (n=407)
- Family history of breast cancer (≥2 relatives) (n=210)
- Bilateral breast cancer (n=207)
- Breast cancer diagnosed at < 40 years old (n=336)

Excluded for unavailable blood samples

- Breast cancer and another primary cancer (n=157)
- Family history of breast cancer (≥2 relatives) (n=41)
- Bilateral breast cancer (n=150)
- Breast cancer diagnosed at < 40 years old (n=252)

Finally analyzed by NGS assay (n=496)

- Breast cancer and another primary cancer (n=250)
- Family history of breast cancer (≥2 relatives) (n=169)
- Bilateral breast cancer (n=57)
- Breast cancer diagnosed at < 40 years old (n=84)
- Two or more risk factors (n=64)

S1 Fig. Consort diagram for selecting patients.