MULTIGENE ASSAYS AID PHYSICIANS AND PATIENTS IN TREATMENT DECISIONS ACROSS A VARIETY OF CANCER TYPES, INCLUDING CERTAIN BREAST CANCERS.

Two multigene assays are commercially available for breast cancer: OncotypeDx (Genomic Health, Inc.) and MammaPrint (Agendia). Cancer registries began collecting multigene assay results beginning with cases diagnosed in 2010, however the completeness and accuracy of assay data documented in the registry is unknown. Multigene assay testing method and result are collected in CS Site-Specific Factors 22 (SSF22) and 23 (SSF23) in the registry abstract. Results may be documented either as a recurrence Score (RS) between 0 and 100 or as a risk group (RG) of low, intermediate, or high.

METHODS

A linkage was conducted of New Jersey breast cancer patients diagnosed between 2011 and 2015 and a database of OncotypeDx test results from Genomic Health, Inc (GHI). Information Management Services (IMS) served as broker to conduct the linkage. OncotypeDx test results were linked at the patient and tumor level. The linkage resulted in certain matches, non-matches, and uncertain matches. Special considerations were used for patients with multiple breast cancers and timing of test results. Manual review was conducted on outliers and uncertain matches (Figure 1).

RESULTS

The NJSCR identified 37,558 invasive breast cancers diagnosed among NJ residents between 2011 and 2015. An OncotypeDx recurrence score or risk group was documented in SSF23 for 7,947 (21%) of them. Of those, 6,991 (88%) successfully linked with an OncotypeDx test result from GHI confirming that the test was, in fact, performed. Review of these cases found that there was 96% agreement between the RS or RG in SSF23 and the test result from GHI (Figure 2). The causes for disagreement between SSF23 and GHI are displayed in Figure 3. The accuracy of OncotypeDx test results documented in SSF23 had steadily increased since 2011 (Figure 4), and a rise in the proportion of OncotypeDx results in the abstract versus supplemented by GHI (Figure 5) indicates increased availability of test results to abstractors.

CONCLUSION

Registrars document OncotypeDx test results in the registry abstract with a high degree of accuracy. However, while the registrar’s access to OncotypeDx test results appears to be increasing, a substantial number of cases were missing or contained non-specific or unknown test results. Linkages with laboratories performing genomic testing may be a valuable resource for validating and supplementing the registry data. Additional investigation into cases with an OncotypeDx test result in the registry abstract but with no corresponding GHI test result is warranted to determine the cause of the discrepancy. Registrars should be aware of the difference between average rate of distant recurrence expressed as a percent and recurrence score. Registrars should take care when using a physician interpretation of recurrence group in the absence of the original test result or recurrence score.

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