Reportable Actionability Versus Pragmatic Actionability: Implementing Precision Medicine at Three Large Health Systems

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BACKGROUND

Precision medicine (PM) molecular panel (MP) testing labs report actionable findings with associated targeted therapies (including immunotherapies). However, the “reported actionability”, or associated treatment recommendations provided by MP testing labs, are often not realized as “pragmatic actionability”, or delivering these recommended treatments in the real world setting. The Syapse platform was leveraged to explore the concordance among PM MP therapy recommendations and subsequent drug treatment orders by clinicians at Aurora Health Care (AHC), Henry Ford Health System (HFHS), and Hoag Memorial Hospital Presbyterian (HMHP).

METHODS

Structured de-identified clinical history, pathology, radiology, and treatments were obtained from the Syapse platform, sourced from health system databases. Subsequent treatment order was defined as the medication order placed at any time after MP testing. MP refers to somatic NGS-based testing performed at a CLIA-certified commercial lab where the test report contains annotations including treatment recommendations. Syapse integrates structured MP test results via a direct real-time feed with MP labs along with associated therapy and clinical trial recommendations. MP test results are normalized into a standard ontology, or data model, allowing for comparisons across multiple health systems and multiple labs.

RESULTS

At AHC, HFHS, and HMHP, we identified 996 patients who received MP testing between 2014 and 2018. Table 1. Syapse database query identified 748 patients who received MP testing and had a medication order placed after testing.

METHODS (cont.)

Table 2. Syapse Precision Medicine Platform

CONCLUSIONS

The translation of reported actionability to pragmatic actionability was consistent across all 3 health systems. Of all 996 MP reports in the initial sample, only 17.5% resulted in a treatment order which matched a MP report recommendation. The match rate of individual therapy recommendations to ordered therapies was consistent between targeted therapies (4%) and chemotherapies (5%). There were no significant rate differences in actionability between the two molecular testing vendors examined.

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