

Measuring the Quality of Personalized Medicine: A Review of the Current Approach and Vision for the Future



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Background

Personalized medicine is an evolving field that uses genetic testing and an individual's medical history, circumstances, and preferences to develop targeted approaches to treatment. It is sometimes referred to as precision medicine.

Accurately measuring the quality of personalized medicine is vital for informing patient decision-making, improving the quality of care, and holding providers accountable through value-based payment (VBP) arrangements. However, quality measurement of personalized medicine presents challenges compared to conventional medicine. In this study, we review existing oncology quality measures to identify challenges with measurement in precision medicine, and recommend new approaches to address these challenges. Oncology was chosen as an example given that 7 in 10 oncology drugs in development are personalized medicines, but the findings are applicable across conditions.

Methods

Approach: Quality measure databases were searched to identify measures related to personalized medicine in oncology in two major categories: (1) measures related to genetic testing and treatment tailored to genetic test results and (2) measures related to person-centered approaches to care in oncology. Recommendations were developed based on findings and semi-structured stakeholder interviews.

Sources: The National Quality Forum (NQF) Quality Positioning System (QPS), the Agency for Healthcare Research and Quality's (AHRQ) National Quality Measures Clearinghouse (NQMC), and the Centers for Medicare & Medicaid Services (CMS) Measures Inventory

Measure Examples

Title: Hematology: Myelodysplastic Syndrome (MDS) and Acute Leukemias: Baseline Cytogenetic Testing Performed on Bone Marrow (NQF: 0377)

Program use: Quality and Resource Use Reports (QRUR) & Merit-Based Incentive Payment System Program (MIPS)

Title: Breast Cancer: Hormonal Therapy for Stage I (T1b)-IIIC Estrogen Receptor/Progesterone Receptor (ER/PR) Positive Breast Cancer (NQF: 0387)

Program use: QRUR & Oncology Care Model (OCM)

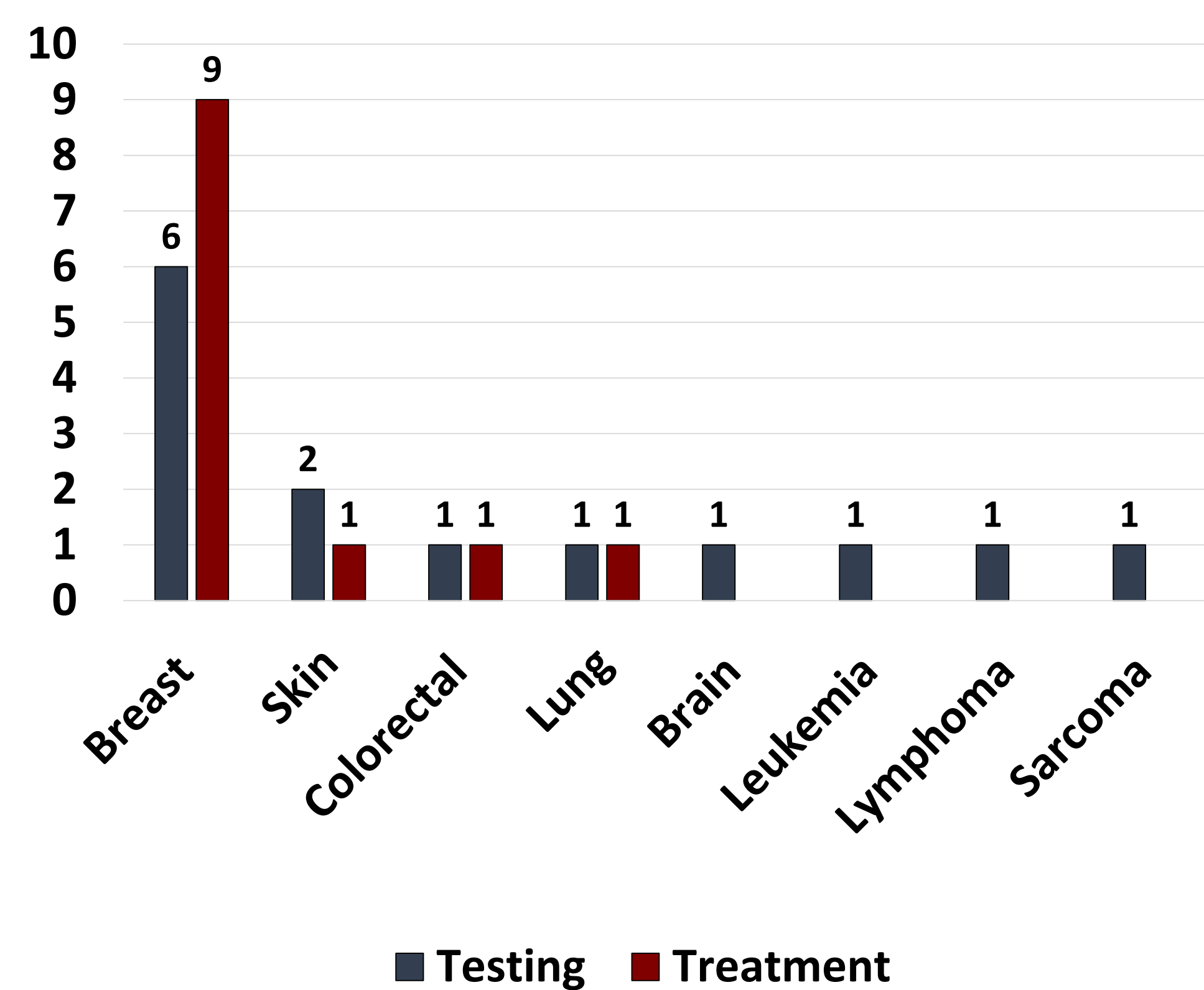
Title: Patient-Reported Assessment of Communication & Shared decision making for interventional oncology procedures (CMS:3284)

Program use: MIPS & Medicare Shared Savings Program (MSSP)

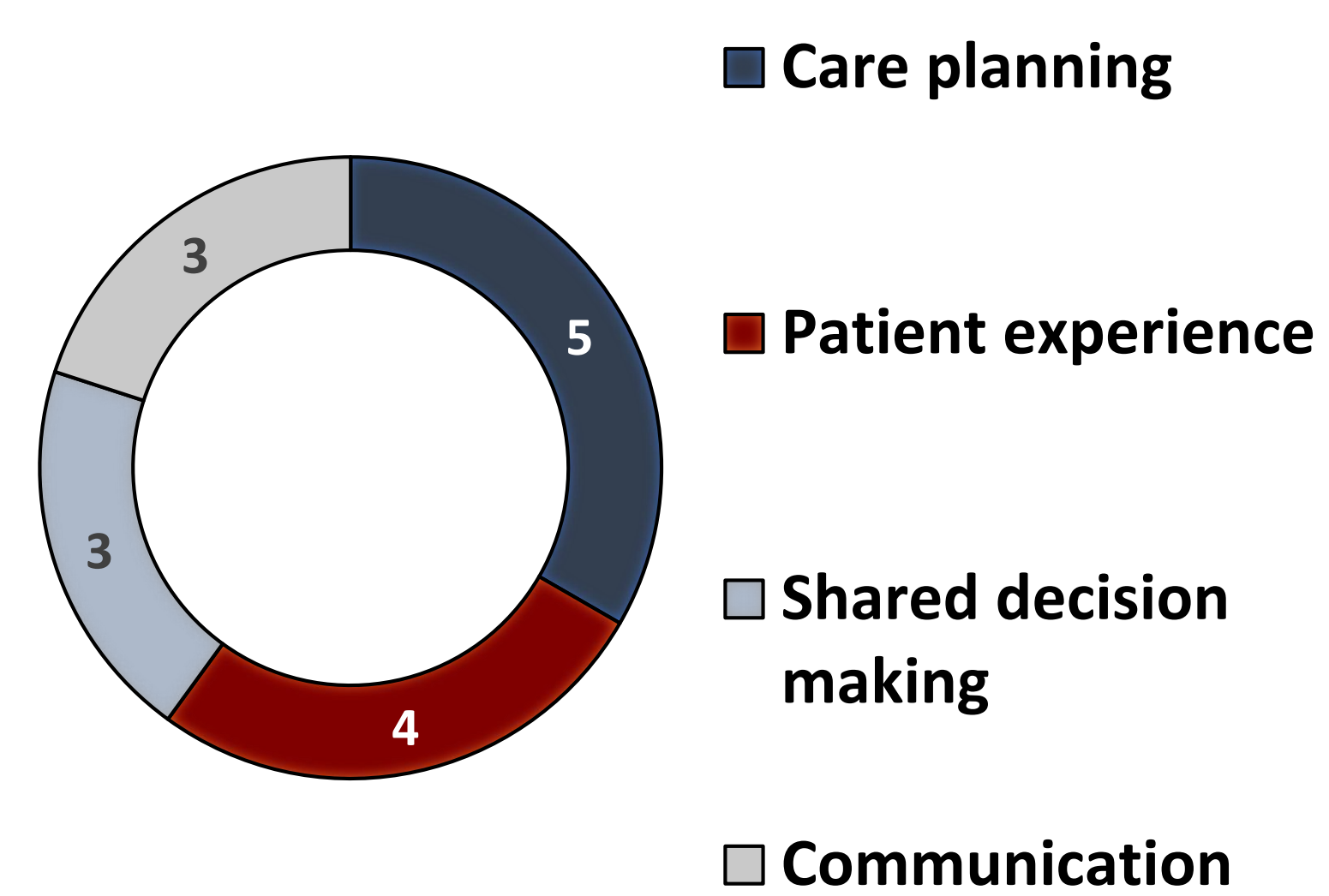
Results

There is a small, but growing, number of quality measures of personalized medicine. The 41 measures we identified were roughly evenly split between testing (14), treatment (12), and patient-centered care (15). Only 14 of the 41 measures are currently in use in CMS programs.

Testing and Treatment Measures by Cancer Type



Person-Centered Measure by Focus



Conclusions and Recommendations

Identified Issues with Current Measurement Approach

Small numbers issues make many cancer-specific measures infeasible

Lack of incorporation of patient preference and perspective

Guidelines and measures not keeping up with changes in technology and clinical practice

Recommendations for Improving Quality Measurement of Personalized Medicine

CMS and other payers should prioritize and support development of cross-cutting, patient-centered oncology measures

Continue to develop measures to promote use of appropriate genetic testing, including broader measures that apply across cancers

Incorporate allowances for patient preferences and perspectives into all genetic testing and tailored treatment measures

Develop and use measures related to patient goal setting and concordance with patient goals

Prioritize the development and use of patient-centered outcomes measures, including quality of life and patient experience, that apply across cancers

Utilize improvement activities, accreditation, clinical decision support, and other quality-related tools and programs outside of measurement

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