**Oral chemotherapy performance indicators:**  
Early results from three rounds of Quality Oncology Practice Initiative (QOPI) data.  
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**BACKGROUND**
- Use of oral chemotherapy is growing.
- March 2013 ASCO/ONS Standards address oral chemotherapy management.
- Little is known about the quality of care received when these agents are prescribed.
- Few practice-level systems are in place to ensure safe oral chemotherapy utilization.

**QUALITY MEASURES AND DATA SOURCE**
- Developed jointly by Michigan Oncology Quality Consortium (MOQC) and Michigan Society of Hematology and Oncology (MSHO) Task Force.
- Included oncologists, pharmacists, nurses, and quality specialists.
- Modified Delphi Approach.
- State-wide feedback incorporated.
- Pilot tested within Michigan, than incorporated as test measures into QOPI.
- Seventeen test measures in three domains (binary responses).
- 199 practices, 3,668 patient charts.
- Voluntary participation.
- Practice personnel abstracted data.
- Data from Spring 2012, Fall 2012. Spring 2013 Rounds.

**METHODS**
- Assessed individual and composite scores over 6 and 12 month time intervals.
- Descriptive statistics, including means, SDs, and percentages calculated for all oral chemotherapy measures and practice characteristics.
- Differences between composite measures within and across abstraction periods conducted using analysis of variance and test of trend respectively.
- Analysis of change among practices with more than 2 collection periods.
- Levene's test used to assess equality of variance between the first and last collection periods and between the 3 composite measures.

**PRACTICE CHARACTERISTICS**

**COMPOSITE MEASURES BY COLLECTION ROUND**

**COMPOSITE CHANGE WITHIN PRACTICE AND TEST OF VARIANCE**

<table>
<thead>
<tr>
<th>Composite Score</th>
<th>First Observation</th>
<th>Second Observation</th>
<th>Test of mean p-value</th>
<th>Test of variance p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan Documentation (n=70)</td>
<td>66.94 (19.13)</td>
<td>68.94 (17.96)</td>
<td>0.52</td>
<td>0.51</td>
</tr>
<tr>
<td>Patient Education (n=70)</td>
<td>52.95 (25.28)</td>
<td>55.63 (24.27)</td>
<td>0.52</td>
<td>0.63</td>
</tr>
<tr>
<td>Adherence/Toxicity Monitoring (n=69)</td>
<td>78.64 (14.36)</td>
<td>81.90 (14.13)</td>
<td>0.17</td>
<td>0.91</td>
</tr>
</tbody>
</table>

**QUALITY MEASURES**
- Treatment Plan Documentation: plan, administration schedule, lab/toxicity monitoring, frequency of visits/contacts, provided to patient.
- Patient Education: safety handling, indications, schedule and start date, missed doses, food and drug interactions, clinic contact instructions.
- Adherence/Toxicity Monitoring: start date documented, symptoms/toxicities addressed, symptoms/toxicities addressed, adherence assessed, adherence addressed.

**LIMITATIONS**
- Chart abstraction prone to bias.
- Little testing of measures for validity and reliability (however, stability over rounds suggests internal consistency).
- Voluntary nature of QOPI participation and QOPI certification may overestimate national performance in oral chemotherapy management.
- With short interval change assessment, practices may not have had the opportunity to use the data to guide improvement.

**CONCLUSIONS**
- The collection of oral chemotherapy test measures was feasible.
- Better performance on Adherence/Toxicity Monitoring than Plan Documentation or Patient Education.
- Lower scoring domains had higher variance.
- In aggregate, participation in two or more QOPI data abstraction rounds did not result in measurable improvement in the three measured domains.

**IMPLICATIONS**
- Adds direct chart abstraction data to prior clinician survey data.
- Large gaps exist in oral chemotherapy management with up to 25-50% of practices not meeting ASCO/ONS Standards.
- Variance is improvement.
- High scorers in each of 3 domains suggests improvement feasible.
- With short interval change assessment, practices may not have had the opportunity to use the data to guide improvement.
- Findings highlight opportunities in improving oral chemotherapy care, especially plan documentation and patient education.

**REFERENCES**

[3] DataFarber Cancer Institute, Boston, MA.  
[4] Stanford University Medical Center, Stanford, CA.  
[5] Dr. Mackler performed this work during her affiliation with the University of Michigan Health System and Dr. Blayney performed a portion of this work as a consultant to MOQC.