Introduction
The use of efficient scheduling systems is needed to maximize healthcare outcomes and minimize costs in outpatient, non-emergent settings; however, clear and consistent procedures do not exist. Often patient records are not transferred, patients are unaware of their correct settings; however, clear and consistent procedures do not exist. Often.

Purpose
The purpose of this quality improvement project was to evaluate the effectiveness of utilizing a nurse navigator to improve scheduling accuracy, efficiency and patient access in an outpatient urology clinic.

Aims
• To increase patient access to care
• To increase clinic efficiency and patient flow
• To increase provider satisfaction scores by 10 percent, measured by post-intervention survey

Methods
A pre-post quality improvement project was conducted at a single site, located in the Mid-Atlantic region of the United States.

Measures
The primary outcomes measures were:
1) Number of patients scheduled with the wrong specialist based on diagnosis and/or visit type
2) Number of adult urology patients of the two urologists seen on scheduled clinic days at the clinic of interest
3) Number of patients missing records at clinic visit
4) Identified patients with incomplete tests and/or imaging
5) Number of patients requiring follow up by phone or discharge to PCP

A secondary measure was provider satisfaction.
• A 5-question survey was developed to determine provider satisfaction pre- and post-intervention.
• Responses were rated on a 7-point Likert scale with a possible range of 3 to 21, with 21 representing highest level of satisfaction.

Results
A chi-squared test was used to assess the effect of implementing a nurse navigator on scheduling inefficiency measures.

Table 1: Data collection characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Baseline data collection phase</th>
<th>Intervention data collection phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May-July, 2018</td>
<td>September-December, 2018</td>
</tr>
<tr>
<td>Providers involved in the project</td>
<td>12 12</td>
<td></td>
</tr>
<tr>
<td>Weeks data collected</td>
<td>12 12</td>
<td></td>
</tr>
<tr>
<td>Clinic days</td>
<td>15 15</td>
<td></td>
</tr>
<tr>
<td>Patients seen in clinic</td>
<td>218 213</td>
<td></td>
</tr>
<tr>
<td>Patients seen by Provider 1</td>
<td>128 138</td>
<td></td>
</tr>
<tr>
<td>Patients seen by Provider 2</td>
<td>92 75</td>
<td></td>
</tr>
</tbody>
</table>

A chi-squared test was used to assess the effect of implementing a nurse navigator on scheduling inefficiency measures.

Table 2: Scheduling Inefficiency Indicators. Baseline and Intervention Data Comparison over 12-months

<table>
<thead>
<tr>
<th>Measures</th>
<th>Number of Patients at Baseline (n=234)</th>
<th>Number of Patients at Intervention (n=234)</th>
<th>P&lt;value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing Records</td>
<td>21 (9%)</td>
<td>6 (3%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Incomplete Lab Imaging Tests</td>
<td>30 (14%)</td>
<td>5 (2%)</td>
<td>0.01</td>
</tr>
<tr>
<td>Require FU for Plan of Care</td>
<td>60 (28%)</td>
<td>33 (15%)</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Summary
• Utilization of a nurse navigator in an outpatient clinic reduced the frequency of scheduling inefficiencies compared to baseline.
• No significant effect was observed for patients identified as low-risk and eligible for follow-up by phone or with their PCP.
• Patient and provider preferences, as well as clinic characteristics are potential explanations for this finding.
• Currently, scheduling processes must be designed based on the specific conditions of each organization.
• Future research should focus on discovering a streamlined process that organizations can utilize despite variations in clinic characteristics.

Conclusion
Overall, there are many variables that impact the accuracies and efficiencies with patient scheduling. specialties clinic has unique challenges, due to high physician costs, increasing patient referrals, and the need for timely access to care. While there was improvement of efficiency measures with utilization of a nurse navigator, additional research is needed to find a streamlined approach that can be utilized by diverse settings to create a more efficient scheduling system.

Table 2 shows comparing the proportion of patients pre-intervention and post-intervention, utilizing a nurse navigator resulted in a significant reduction of patients:
1) Scheduled with the wrong specialist based on diagnosis and/or visit type
2) Identified patients with missing records
3) With incomplete tests and/or imaging
4) Requiring follow up to complete their plan of care

A new scheduling system was implemented, whereby a nurse navigator, prior to patients' scheduled clinic visits:
1) Identified patients scheduled with the wrong specialist based on diagnosis and/or visit type
2) Identified patients who were low risk and eligible for either follow up by phone or discharge to PCP
3) Identified patients with missing records
4) Identified patients with incomplete imaging/tests needed prior to clinic visit

A new procedure for gathering patient health histories was also implemented as part of the intervention to increase clinic flow and provider satisfaction.
• Urology check-in staff were educated pre-intervention to administer a kidney stone specific health history questionnaire to new patients for completion prior to the clinical encounter.

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