BACKGROUND
Medication adherence is particularly poor among patients with chronic rheumatic diseases and can result in negative outcomes.

AIM
To develop and pilot test a patient navigator intervention to improve adherence to oral disease-modifying antirheumatic drugs (DMARDs) among recent initiators with chronic rheumatic diseases.

METHODS
Study Site & Patient Population
BWH Arthritis Center
Spanish and English speaking patients
Enrollment from December 2013 to April 2015

Patient Identification
Adults >18 years with a systemic rheumatic disease who started a DMARD within 6 months
Self-referral, rheumatologist referral, or identification by electronic medical record review

Patient Navigator Identification and Training
Three college-educated research assistants, one bilingual in Spanish
Training provided in basic rheumatic diseases, motivational interviewing and DMARD pharmacology
Meetings with rheumatologists, social workers, psychiatry department leadership, financial counselor, clinic administrators and outpatient pharmacists to understand hospital resources and gaps

Patient Tracking & Qualitative Analysis
Patients contacted by phone or in person 1-4 times/month depending on need
Baseline surveys (e.g. Morisky Medication Adherence Scale), and needs assessments conducted by navigators in person or by phone
All call encounters were thoroughly documented
To analyze the call notes, 5 team members independently reviewed the documentation to categorize issues raised by participants and subsequent navigator actions
Once key themes were agreed upon, members independently coded call notes and differences were adjudicated by the team

RESULTS

Table 1. Demographics of enrolled patients

<table>
<thead>
<tr>
<th>Category</th>
<th>Total N= 88</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years SD)</td>
<td>56.1±16</td>
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<tr>
<td>Gender: Male vs Female</td>
<td>Male 79 (90%) vs Female 9 (10%)</td>
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<tr>
<td>Ethnicity: Hispanic vs Non-Hispanic</td>
<td>Hispanic 61 (69.3%) vs Non-Hispanic 27 (30.7%)</td>
<td></td>
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<tr>
<td>Insurance: Medicaid vs Medicare vs Self-Pay vs Other</td>
<td>Medicaid 26 (30%) vs Medicare 25 (29%) vs Self-Pay 6 (7%) vs Other 10 (11%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Categories of patient issues and subsequent navigator actions related to medication adherence

<table>
<thead>
<tr>
<th>Categories of Patient Issues</th>
<th>Total N= 88</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse effects (e.g. alopecia, rash, gastrointestinal side effects)</td>
<td>30 (34%)</td>
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<tr>
<td>Challenges with medication acquisition (e.g. refills and prior authorizations)</td>
<td>18 (21%)</td>
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<tr>
<td>Concerns about medication effectiveness (e.g. onset of action)</td>
<td>26 (30%)</td>
<td></td>
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<tr>
<td>Lack of knowledge about medications or diagnosis</td>
<td>18 (20%)</td>
<td></td>
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<tr>
<td>Need for social support (e.g. expression of depressive symptoms)</td>
<td>12 (14%)</td>
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<tr>
<td>Financial/Insurance difficulties obtaining medications (e.g. high co-payments, billing errors)</td>
<td>10 (11%)</td>
<td></td>
</tr>
<tr>
<td>Interruptions in medication use (e.g. surgery, infections)</td>
<td>8 (9%)</td>
<td></td>
</tr>
<tr>
<td>Navigator Actions</td>
<td>N (%)</td>
<td></td>
</tr>
<tr>
<td>Facilitation of patient-doctor communication (e.g. notified rheumatologists of patients symptoms or concerns)</td>
<td>29 (33%)</td>
<td></td>
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<tr>
<td>Medication or diagnosis education (e.g. explained side effects, described expected timing of medication effects, helped manage side effects)</td>
<td>26 (30%)</td>
<td></td>
</tr>
<tr>
<td>Development of individualized strategies to improve adherence (e.g. pillboxes, text messages, set-up of automatic refills, magnet reminders)</td>
<td>16 (18%)</td>
<td></td>
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<tr>
<td>Assistance with financial and insurance issues (e.g. referral to financial counselor, interactions with insurance companies)</td>
<td>10 (11%)</td>
<td></td>
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<tr>
<td>Coordination of care (e.g. helped patients obtain referrals to other specialties)</td>
<td>8 (9%)</td>
<td></td>
</tr>
<tr>
<td>Provision of social and emotional support</td>
<td>7 (8%)</td>
<td></td>
</tr>
<tr>
<td>Facilitation of expedited mental health referrals</td>
<td>6 (7%)</td>
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</tbody>
</table>

Figure 1. A magnet was developed based on a patient’s suggestion and distributed to participants to improve adherence

Figure 2. Navigator action plan flowchart

STRENGTHS
Patient navigators successfully:
- established a rapport with rheumatologists and patients
- facilitated communication between patients and providers
- identified medication errors
- worked with pharmacies, insurance companies and the financial counselor to ensure that medications were obtained
- recognized and addressed mental health issues
- communicated adverse events
- coordinated care across BWH divisions
- uncovered issues affecting adherence not discussed during routine clinical appointments

NEXT STEPS/FUTURE DIRECTIONS
- Determine the impact of the patient navigator intervention on oral DMARD adherence, mental health and disease activity
- Assess patient and physician satisfaction
- Understand the cost-effectiveness, sustainability and scalability of a patient navigator intervention to improve medication adherence

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