A Needs Assessment and Program Development for Implementation of a Fracture Liaison Service

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Purpose
The purpose of this quality improvement project was to:
- To conduct a needs assessment and program development for a fracture liaison service to improve secondary fragility fracture management in osteoporotic women between the ages of 50 and 85 that are enrolled within an accountable care organization (ACO).
- To incorporate a fracture liaison service evaluation with a cost-benefit analysis to evaluate the overall impact of a fracture liaison service.

Background
- Osteoporosis is a disease characterized by low bone mass and structural deterioration of bone tissue and as of 2018 it affects more than 53 million people in the United States (National Institute of Health [NIH], 2018).
- As a prior fracture is associated with an increase of 86% for a future fragility fracture, identification of the underlying osteoporosis and initiation of best evidence-based practices are critical to reduce subsequent fractures (International Osteoporosis Foundation [IOF], 2017).
- Research shows a growing interest in addressing the need for high-quality osteoporosis management with a fracture liaison service (FLS) (Aizer & Bolster, 2014).

Methods
Project design:
- A retrospective chart was completed using claims data for the convenience sampling of the inclusion criteria.
  - The chart review and measures of the project were guided by the International Osteoporosis Foundation’s Capture the Fracture’s Best Practice Framework.

Setting and Sample
- The setting for this project was completed at a primary care center ACO.
- Includes 12 independent physicians with collaborating advanced practice registered nurses and physician assistants.
- The specialties vary from internist, family, and geriatric primary care.
- The patient population enrolled in ACO are Medicare recipients.

Inclusion
- Female patient between the ages of 50 and 85 years that have experienced a fracture

Exclusion
- Fracture of finger, toe, face, or skull
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Results

<table>
<thead>
<tr>
<th>Type of Fracture</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertebral</td>
<td>3%</td>
</tr>
<tr>
<td>Hip</td>
<td>20.7%</td>
</tr>
<tr>
<td>Pelvic</td>
<td>3.4%</td>
</tr>
<tr>
<td>Humerus</td>
<td>17.2%</td>
</tr>
<tr>
<td>Radius/Ulna</td>
<td>3.4%</td>
</tr>
<tr>
<td>Tibia/Fibula</td>
<td>24.1%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

Implications for Practice
- The results of this project demonstrate the need for implementation of a Fracture Liaison Service to improve secondary osteoporosis management in women.

Discussion
- Secondary retrospective chart review findings show a lack of osteoporosis management with patients that were excluded due to DXA < 24 months of index fracture.
  - Excluded patients with a BMD indicating low bone mass (T score ≤ -2.5) with an index fracture were not appropriately managed for clinical osteoporosis.
  - Excluded patients with BMD indicating osteoporosis (T score > -2.5) with an index fracture were not appropriately managed.
- Future implications include partnering with local hospitals with community involvement and outreach education programs.

Limitations
Limitations include the small sample size due to exclusion criteria and acquired patient sample list.

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References
Available upon request.

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