Frailty Screening in Outpatient Geriatric Clinic: A Quality Improvement Project

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Conflict of Interest

• The authors have no financial conflicts of interest to disclose concerning the presentation.
Setting

• East Carolina University (ECU) Monk Geriatric Center provides primary and consultative care to elders in Eastern North Carolina, HPSA 20

• From 8/1/2020 - 7/31/2021, 2993 patients were seen in our clinic, and frailty was charted in only 18 patients (0.6%)
Project Aims

1) Implement a practical screening process, to diagnose frailty in 10% of patients (reflecting national average) in 7 months at ECU Monk Geriatric Center.

2) Increase targeted referrals (PT/OT, nutrition, or home health) for frailty by 10% in a 7 months period

3) Determine if fear of falls increases or decreases after frailty diagnosis and education
Frailty Screening Protocol

<0.8m/s is 99% sensitive, 0.99 NPV, 64% specific, PPV 0.26. As such, great for screening or nonambulatory.

Confirmatory Testing (FRAIL)

<0.8m/s, or nonambulatory
Gait Speed Screening

• “Walk as fast as you can, as safely as you can.”

• Use usual assistive device

• Timed by CMA with stopwatch
Diagnostic: FRAIL Scale

Fatigue, Resistance, Ambulation, Illnesses, Loss of Weight

• Score
  – 0 = Robust
  – 1-2 = Pre-frail
  – 3 = Frail

• Pros
  – Easy to administer, subjective
  – Does not require face to face
  – Well validated

• Cons
  – Not validated in disabled people
  – Focus on subjective information

• Patient’s fear of falls (Likert 1-5) also assessed at this point

The International Association of Nutrition and Aging
If FRAIL positive:

1. Added diagnosis (ICD10 R54)
2. Individualized interventions
3. Provided caregiver/patient educational handout

- **Fatigue**
  - Depression
  - OSA
  - Hypothyroidism
  - Vitamin Deficiency
  - Anemia
  - Hypotension/ orthostasis

- **Resistance**
  - Sarcopenia:
    - Exercise
    - Protein supplement

- **Aerobic**

- **Illness**
  - Polypharmacy
  - Co-morbidities

- **Loss Of weight**

"MEALS ON WHEELS" mnemonic
Data Analysis

• Screened a total of 592 patients
  – Average Age 79yrs ± 8yrs
    • Youngest 65yo
    • Oldest 107yo
  – Gender
    • Male 28%
    • Female 72%
Aim 1: Improve frailty diagnosis to 10%

Unique Patients (2467) 8/21-3/22
- 592 Screened
- 1875 not screened

Walk Screen
- 328 Negative
- 264 Positive

FRAIL diagnostic
- 103 Frail (17%)
- 92 Pre-Frail
- 15 Robust
- 54 Missed
Aim 1: Improve frailty diagnosis to 10%

<table>
<thead>
<tr>
<th>Dates</th>
<th>Claims</th>
<th>Unique MRN's</th>
<th>No prior claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/2020-8/2021</td>
<td>30</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>8/2021-3/2022</td>
<td>141</td>
<td>99</td>
<td>93</td>
</tr>
</tbody>
</table>

18/2993 patients (0.6%) vs 99/2467 (4%)
Aim 2: Increase targeted referrals for frailty by 10% in a 7 months period

<table>
<thead>
<tr>
<th></th>
<th>Not referred</th>
<th>Referred</th>
<th>Home Health</th>
<th>PT/OT Outpatient</th>
<th>Nutrition</th>
<th>Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robust n=15</td>
<td>74%</td>
<td>26%</td>
<td>0%</td>
<td>22%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>Pre-Frail n=92</td>
<td>67%</td>
<td>33%</td>
<td>9%</td>
<td>23%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Frail n=103</td>
<td>47%</td>
<td>53%</td>
<td>19%</td>
<td>23%</td>
<td>3%</td>
<td>7%</td>
</tr>
</tbody>
</table>
## Aim 2: Increase targeted referrals for frailty by 10% in a 7 months period

Frail patient receiving any referral:
44% during pre-study phase vs 72% during QI

<table>
<thead>
<tr>
<th></th>
<th>Persons Coded for Frailty</th>
<th>Persons getting any Referral</th>
<th>Count of any referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-study</td>
<td>18</td>
<td>8 (44%)</td>
<td>24</td>
</tr>
<tr>
<td>8/1/2020 - 7/31/2021</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QI phase</td>
<td>99</td>
<td>71 (72%)</td>
<td>309</td>
</tr>
<tr>
<td>8/1/2021 - 3/1/2022</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Aim 3: Determine if fear of falls increases or decreases after frailty diagnosis

The 10 frail patients that had 3 month follow up data had lower mean fear of falls (FOF) and lower frail scores

<table>
<thead>
<tr>
<th>FRAIL (n=10)</th>
<th>mean FOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOF pre-screen</td>
<td>3.0</td>
</tr>
<tr>
<td>FOF follow up</td>
<td>2.6</td>
</tr>
<tr>
<td>FRAIL pre-screen</td>
<td>3.5</td>
</tr>
<tr>
<td>FRAIL follow up</td>
<td>3.0</td>
</tr>
</tbody>
</table>
Sensitivity/Specificity Analysis

- 99 patients with negative screens received FRAIL testing for Walk screen sensitivity/specificity analysis

<table>
<thead>
<tr>
<th>FRAIL test</th>
<th>Our Study</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>105</td>
<td>90</td>
</tr>
<tr>
<td>-</td>
<td>9</td>
<td>90</td>
</tr>
</tbody>
</table>

- PPV 50%
- NPV 91%
- 92% sensitive
- 46% specific

- PPV 26%
- NPV 99%
- 99% sensitive
- 64% specific
Observation: Fear of Falls to Frailty Correlation

Mean Fear of Falls (1-5 Likert Scale)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean Fear of Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative walk test</td>
<td>1.5</td>
</tr>
<tr>
<td>Positive walk test</td>
<td>2.5</td>
</tr>
<tr>
<td>Robust</td>
<td>1.0</td>
</tr>
<tr>
<td>Prefrail</td>
<td>2.0</td>
</tr>
<tr>
<td>Frail</td>
<td>3.0</td>
</tr>
</tbody>
</table>
Project Design

- Literature review
- Clinic Background Data
- Screening and diagnosis instruments
- No IRB Approval Required

Implementation 8/1/21

- Placement of tape on floor
- Protocol implementation
- Feedback and improvement of protocol

Education

- Grand rounds: Frailty Screening and diagnosis
- Creation of EPIC Smartphrase for patient/caregiver education

Data Compilation

- Data Gathering and analysis of data from 8/1/21 to 3/1/22
- Referral Evaluations

Next Steps

- Continue Follow up Data
- Increase Exercise Prescriptions
- Increase Nutrition Referrals
- Focus on pre-frail prevention
- Expand project to other departments

Project Timeline
Clinical Staff Feedback

How did it affect rooming?
"It didn't affect the rooming process"

What makes it hard to implement?
"Sometimes forgetting to do it"

What did you learn?
"A lot of our patients are afraid of falling”
“Emphasizing need for physical activity”

What did you like?
"It quantifies something that has been subjective“
“Seeing how fast our patients could be!”
Thank you

• Special thanks to Priscilla Mackey, Alyssa Adams, and Dr. “Skip” Cummings for assistance with data retrieval and analysis.

• Thanks to our wonderful clinic staff