

CLINICAL VIGNETTE

Geriatric Screening Patterns in Subspecialty Clinics

Tamara Bininashvili, MD, Justin D. Pearlman, MD, PhD

Introduction

Increased attention is directed to the growing elderly population ≥ 65 years and their prevalence of geriatric problems. Healthcare professionals may need to change practices to meet the needs of this expanding population. The so-called "Silver Tsunami" describes the expected impact of the aging baby boomers on age distribution of patients, raising concern about preparedness of the healthcare community. Primary Care and Geriatric clinicians cannot be the only caregivers for this community. Subspecialty clinics should expect an increase in the number of elderly patients as well, raising our interest to investigate their preparedness to care for this growing, special-needs community. Geriatric issues have significant impact on physician care plans. We examined medical records from a public teaching hospital in Kern County, California, and noted trends in the number of geriatric visits within a two-year period. We found most elderly patients are evaluated like any other patient and geriatric problems are not screened systematically. In regions where the numbers of geriatricians are too low to address geriatric needs, it has been suggested that physicians apply a screening tool to cover the most common geriatric, age-related issues.

Method

We examined the evaluation of geriatric patients in three county subspecialty clinics in Kern County, California; Cardiology, Pulmonary and Gastroenterology, from May 2011 until May 2013. We tallied total numbers and percentage of patients 65 years of age and older, seen each month over the two-year period (Table 1). We plotted the percentage of elderly patients visiting the three clinics over five months to observe temporal patterns (Figure 1). We reviewed physician notes, using the hospital's computerized medical record system to identify documented geriatric issues and referrals for specific geriatric concerns. We concentrated on common geriatric concerns: polypharmacy, physical and mental impairments, physical trauma due to negligence or elderly abuse, emotional trauma, continence status, home safety, end of life concerns and depression (Table 2). We utilized the Beer's

Drug Criteria to examine common medication side effects and drug interactions. Issues documented in the record are listed in Table 3. The referral tag in Table 3 illustrates the percent of referrals made by the subspecialists for identified geriatric issues. Significance of trends assessed by linear regression in Figure 1 is displayed in Table 4.

Results

All three clinics saw decreasing numbers of geriatric patients within the 2-year time frame, as illustrated by the linear regression (Figure 1). The linear regression in Figure 1 showed a significant drop in geriatric patients (F-ratios with $p < 0.05$).

We found little documentation of geriatric issues in the subspecialty clinics (Table 3). Polypharmacy was documented less than 0.1%. The percentage of geriatric patients in whom impairments were documented as addressed was moderate ($42 \pm 5\%$, mean \pm standard error), while geriatric specific issues of trauma, continence and depression were addressed much less often (0.2%, 18%, and 8% respectively). The infrequent documentation includes both the current examination as well as review of prior evaluations by primary care.

The trend in documented screening geriatric issues in all three clinics was similar, with several minor differences. The majority of physician notes in all three clinics suggested only partial evaluations of most geriatric issues. Documentation of screening for impairment ranged from 34-51%, mostly incomplete evaluations consisting of quick neurologic exams or rare hearing or vision checks. Continence evaluations ranged from 14-21%, consisting of review of systems items about hesitancy, frequency and dysuria. Most depression screens were also minimal, including changes in sleep, normal affect or denied suicidal thoughts. Depression screens ranged from 5-14% in the three clinics and the overall referral rate for geriatric issues identified during visits was only $1\% \pm 0.5\%$ (mean \pm standard error). Most patients were managed thoroughly for their specialty issues and

were referred back to primary care for concerns not covered in the subspecialty visit.

Discussion

We found a decreasing percentage of geriatric patients in our subspecialty clinics during the 2 year period despite the postulated increase. Possible explanations include changes in insurance coverage presaged by the Affordable Care Act, which may already be shifting referral patterns. Elderly may also ignore symptoms as part of the normal aging process. There is also possible physician bias minimizing intervention for geriatric issues. Improper communication, depression and the combination of physical and mental impairment may be barriers in attaining appropriate information to evaluation of geriatric issues during subspecialty or even primary care encounters.

When a geriatric age patient presents to a subspecialty clinic, there are a list of age-specific concerns that can affect care, including comorbidities and functional and cognitive impairments. Comorbidities increase with age and we were surprised that these were not documented in the subspecialty clinics. Subspecialists do not have to manage geriatric issues but increased awareness of geriatric issues may facilitate appropriate referrals for geriatric issues.

Among the geriatric patients seen in subspecialty clinics, record review suggests that none of the basic geriatric issues were fully addressed. Lowest screening rates were for polypharmacy, issues with trauma (physical and emotional) and referral rates by the subspecialists for specific geriatric issues (Table 3). Polypharmacy is a common concern due to a lower threshold for side effects and drug interactions. Geriatric issues that were incompletely screened included missing ADL dependence, fall risk and impaired hearing and vision. Screening for ADL dependence could provide clinicians with useful information about geriatric impairments. Dependence screening involves simple questioning about the patient's ability to participate in daily tasks such as bathing, dressing, toileting, and housekeeping. The number of action plans, addressing or referring issues was substantially lower than we expected for this population.

Conclusion

We found a gradual decrease in geriatric patients visiting subspecialty clinics during the two year study period (May 2011-May 2013). We found a paucity of documented evaluations of common geriatric concerns. Geriatric impairments that were noted were documented incompletely and superficially, rarely resulting in referrals. Increased awareness of and efficient screening for geriatric issues in subspecialty clinics may improve quality of care.

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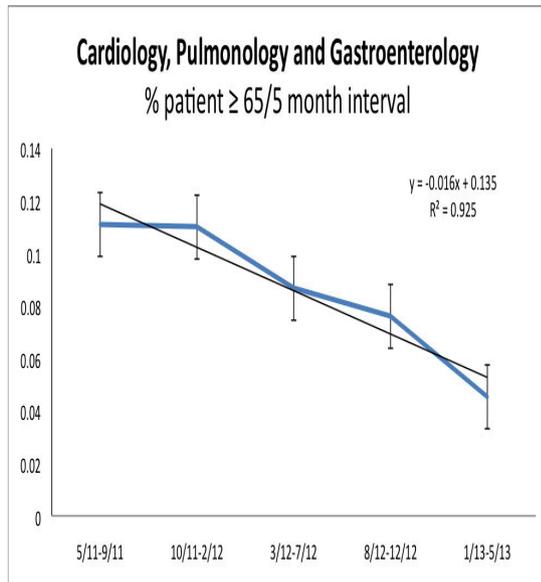
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Tables and Figures

Table 1: Geriatric Patients visiting Subspecialty Clinics from May 2011-May 2013

| Cardiology | | | Pulmonology | | | Gastroenterology | | |
|---------------|-----------------|-----------------|---------------|-----------------|-----------------|------------------|-----------------|-----------------|
| TIME FRAME | AGE ≥ 65 (#) | AGE ≥ 65 (%) | TIME FRAME | AGE ≥ 65 (#) | AGE ≥ 65 (%) | TIME FRAME | AGE ≥ 65 (#) | AGE ≥ 65 (%) |
| 5/2013 | 3 | 3 | 5/2013 | 2 | 2.5 | 5/2013 | 3 | 1.6 |
| 4/2013 | 6 | 4.5 | 4/2013 | 4 | 6.8 | 4/2013 | 8 | 3 |
| 3/2013 | 2 | 1.6 | 3/2013 | 2 | 4.2 | 3/2013 | 11 | 4.9 |
| 2/2013 | 6 | 4.7 | 2/2013 | 6 | 7.8 | 2/2013 | 8 | 4 |
| 1/2013 | 6 | 5.7 | 1/2013 | 6 | 7.3 | 1/2013 | 11 | 7.1 |
| 12/2012 | 9 | 8 | 12/2012 | 8 | 9.3 | 12/2012 | 10 | 6.1 |
| 11/2012 | 8 | 6.7 | 11/2012 | 12 | 12.8 | 11/2012 | 7 | 2.8 |
| 10/2012 | 10 | 7.3 | 10/2012 | 6 | 6.5 | 10/2012 | 10 | 5.5 |
| 9/2012 | 14 | 12.4 | 9/2012 | 7 | 7.7 | 9/2012 | 7 | 5.3 |
| 8/2012 | 13 | 9.5 | 8/2012 | 10 | 8.8 | 8/2012 | 13 | 5.4 |
| 7/2012 | 4 | 3.4 | 7/2012 | 9 | 8.3 | 7/2012 | 8 | 5.2 |
| 6/2012 | 4 | 3.7 | 6/2012 | 14 | 14.3 | 6/2012 | 17 | 7.9 |
| 5/2012 | 15 | 11.3 | 5/2012 | 13 | 13.8 | 5/2012 | 14 | 7.3 |
| 4/2012 | 7 | 8 | 4/2012 | 6 | 6 | 4/2012 | 12 | 8.6 |
| 3/2012 | 9 | 11.8 | 3/2012 | 13 | 13 | 3/2012 | 10 | 7.5 |
| 2/2012 | 12 | 10.7 | 2/2012 | 20 | 15.6 | 2/2012 | 23 | 10.6 |
| 1/2012 | 17 | 16.3 | 1/2012 | 4 | 9.6 | 1/2012 | 29 | 11.2 |
| 12/2011 | 16 | 11.9 | 12/2011 | 11 | 7.6 | 12/2011 | 25 | 12.2 |
| 11/2011 | 17 | 17.9 | 11/2011 | 6 | 4.2 | 11/2011 | 16 | 6.6 |
| 10/2011 | 15 | 11.5 | 10/2011 | 18 | 12.2 | 10/2011 | 20 | 7.1 |
| 9/2011 | 21 | 13.8 | 9/2011 | 15 | 10.2 | 9/2011 | 23 | 9.1 |
| 8/2011 | 11 | 9.6 | 8/2011 | 5 | 6.4 | 8/2011 | 29 | 10.6 |
| 7/2011 | 31 | 22.8 | 7/2011 | 13 | 16.7 | 7/2011 | 11 | 8.5 |
| 6/2011 | 18 | 13.6 | 6/2011 | 4 | 5 | 6/2011 | 20 | 8.8 |
| 5/2011 | 5 | 12.5 | 5/2011 | 5 | 10.9 | 5/2011 | 9 | 8.2 |

Figure 1: Percentage of patient ≥ 65 years of age (y-axis) vs. 5 month intervals (x-axis) visiting the three subspecialty clinics combined from May 2011 to May 2013.



| Issues | Explanation | Method of Screening |
|---------------------------------|--|--|
| Cognition | Dementia or issues with memory | MMSE ³ |
| Urinary Incontinence | Frequency, diuretic use, history of UTIs, interference with daily activities | H and P |
| Balance/Instability (Fall Risk) | Ambulation safety, rising from chair without utilization of hands | PE |
| Polypharmacy | 4 + medications (including herbal and OTC), same MOA, not lowest effective dose, interactions. | Beer's Criteria |
| Visual Acuity | Loss of near, central or peripheral vision. Eye pain. | Vision test/Read medication labels ¹⁰ |
| Auditory Acuity | Loss of high-frequency range | Whisper test ⁴ |
| Hypothyroidism | Fatigue, lack of concentration, dry skin | PE and TSH ¹¹ |
| Poor Nutrition | Changes in weight and appearance | PE |
| Advanced Directives | Is patient interested in documentation? | History |
| Elder Abuse/ Neglect | Fear or neglect | H and P |
| Herpes Zoster (Shingles) | Painful, vesicular rash in dermatomal distributions | PE |
| Constipation | Possibly due to dehydration, volume depletion, poor nutrition, drugs, hypothyroidism or inactivity | H and P |
| Arthritis | Joint pain and changes | H and P |
| Depression | Five or more symptoms: sleep, interest, guilt, energy, concentration, appetite, psychomotor changes or suicide | History |
| No Social Support | Patient without family/support or poor home safety and no emergency contacts | History |
| Dependence | Is the patient partially dependent or fully dependent? | History of needing assistance with ADL ¹¹ |

- * MMSE: Mini Mental Status Exam
- * MOA: Mechanism of Action
- * TSH: Thyroid Stimulating Hormone
- * H and P: History and Physical
- * PE: Physical Exam
- * ADL: Activities of Daily Living
- * Superscript numbers correspond to references on the Bibliography page

Table 3: Modalities screened in each subspecialty clinic (listed as percentages) with Standard Errors (SEE)

| Modalities | Cardiology | Pulmonology | Gastroenterology | Total of 3 Clinics | SEE |
|-------------------|------------|-------------|------------------|--------------------|------|
| Polypharmacy | 0% | 0.4% | 0% | 0.1% | ±0.1 |
| Impairments | 41% | 51% | 34% | 42.0% | ±4.9 |
| Trauma/Loss | 0% | 0% | 0.6% | 0.2% | ±0.2 |
| Continence status | 14% | 21% | 18% | 17.7% | ±2.0 |
| Depression | 14% | 5% | 5% | 8.0% | ±3.0 |
| Referrals | 2% | 0.4% | 0.6% | 1.0% | ±0.5 |

Table 4: P-values for the negative regression illustrated by the reduction of geriatric patients in subspecialty clinics

| Clinic | Significance by F-ratio |
|------------------|-------------------------|
| Sum of 3 Clinics | 0.01 |
| Cardiology | 0.02 |
| Pulmonology | 0.19 |
| Gastroenterology | 0.01 |