Collaborative Drug Safety Management Capable of Deprescribing Across the Healthcare System

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1 Statement of Problem

- **Medication harm of frail elders**- major public health challenge.
- **Potentially Inappropriate Medications (PIMs) harm older adults**- still used at very high rates.
- **Response to these challenges has little cross-system impact**- including Medication Therapy Management (MTM) programs not connected to primary care.
- **Medication Reconciliation not effective at de-prescribing harmful drugs**- may actually perpetuate PIMs.
- **System fragmentation endangers frail elders**- lack of integration/collaboration persists between patient, caregiver, primary care provider, pharmacy, payer, and health information exchange (HIE).

Objective

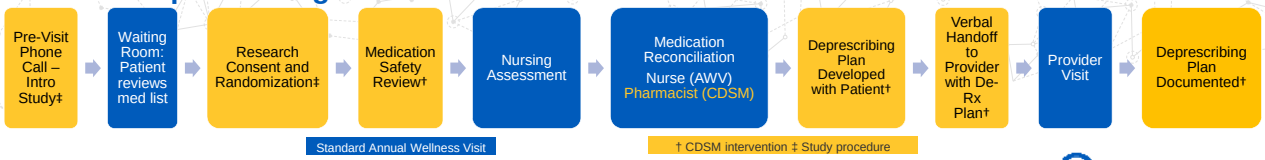
Pilot Study aims are:

1. Manualize study design aspects for a future multi-site pragmatic clinical trial;
2. Generate preliminary data to assess study feasibility;
3. Estimate the effect size.

Materials and Methods

- **Design:** Pragmatic clinical trial – patients randomized to Collaborative Drug Safety Management (CDSM) vs Usual Care
- **Setting:** Patient Centered Medical Home (PCMH) – A suburban family practice
- **Participants:** Medicare recipients aged 65+ Goal: 100 To date: 32
- **Intervention:** CDSM intervention utilizes a pharmacist in the PCMH to make medication safety assessments during the annual wellness visit, with recommendations for deprescribing made in partnership with the patient/caregiver and shared with the provider (future goal of sharing this information across the system)
- **Expected Outcome Measures:**
  - Rates of deprescribing
  - Rates of unplanned emergency department visits and hospitalization

2 CDSM Deprescribing Workflow



Results (August 18, 2017 through November 3, 2017)

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FIGURE 1 - ELIGIBLE SUBJECT DISPOSITION

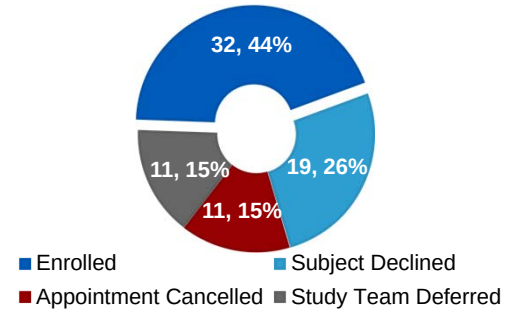

Table 1 - Baseline characteristics	Intervention (n-15)	Control (n=17)
Age – mean (range)	77 (66-87)	76 (66-90)
Sex – Female	9 (60%)	7 (41.2%)
Meds – mean(SD)	9.6 (3.2)	8.6 (6.1)
Rx	5.2 (3.2)	5.3 (4.9)
OTC	4.4 (2.4)	3.4 (2.3)
Beers' Meds - mean (range)	1.3 (0-4)	1.4 (0-6)
Subjects with Beers' Med	9 (60%)	10 (58.8%)
Beers (2) – PIM	7	10
Beers (3) – PIM Drug/Disease	6	6
Beers (4) – Caution	6	3
Beers (5) – Drug Interaction	0	1
Beers (6) – Kidney function	0	2
Recommendations Made	5	n/a

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Table 2 - Pharmacist's Time	Mean ± SD (minutes)
Preparation	5.3 (1.3)
Consultation	15.9 (4.3)
Provider Communication	4.0 (1.7)
Follow-up & Documentation	5.3 (1.3)
Total	30.9 (5.8)

Observational data:

Workflow Barriers/Facilitators

- Critical for research team to meet with the care team multiple times to convey study details and confer regarding workflow, in order to:
  1. Minimize research team disruption to the clinical practice workflow
  2. Enhance care team engagement
- Research team members should provide daily updates and reminders to care team to maximize successful patient study enrollment.

Patient-Pharmacist Interactions

- Patient concern over the high cost of medications, suggesting a potential determinant of non-adherence.
- Patients cited informal caregivers (e.g. a spouse) as more knowledgeable about patient medication lists.

5 Conclusion

Study Aim status:

1. Manualize study design - Achieved
   - Study workflow integrated into PCMH family practice site.
   - Follow-up data
     - Accessible through practice's EHR and local HIE.
2. Generate preliminary data - Partially Achieved
   - Baseline Beers list and pharmacist time.
   - Recommendation acceptance - pending
3. Estimate Effect size – Pending

Future Study Plans

A larger pragmatic cluster-randomized trial of primary care practices-

- Practices randomized to CDSM vs usual care.

Enhance CDSM intervention –

- Empower pharmacist integration in primary care (Collaborative Practice)
- Patient/caregiver medication hard stop tools (Empowerment for Successful Aging)
- Electronic systems (Health System Alerts) to disseminate de-prescribing of harmful drugs across the system.

References

1. American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc. 2015;63(11):2227-46.

Faculty Disclosure

Monte SV discloses ownership in Mobile Pharmacy Solutions.

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Figure 2 – Beers List Meds by Group