# Medication Adherence in Special Populations: The Role of the Clinical Pharmacist at UHP's Center for Healthy Aging

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Urban Health Plan, Inc.

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# Urban Health Plan, Inc.


- Founded by Dr. Richard Izquierdo in 1974
- Network of FQHCs
  - 10 sites: 8 in South Bronx; 1 Corona Queens; 1 Central Harlem
  - 10 School-based Health Centers
  - 3 administrative sites
- 2017: 86,000 patients; close to 400,000 visits
- Over 900 employees and providers
- Joint Commission accredited
- NCQA Level 3 Recognition Patient Center Medical Home

# Center for Healthy Aging

•The Fan Fox and Leslie R. Samuels Foundation provided grant support for our Center for Healthy Aging (CFHA)

•The CFHA provides comprehensive services to the frail elderly, those 80 or over or any patient with a neurological and/or cognitive diagnosis.

<u>CFHA Model in Brief:</u>

•Compassionate, comprehensive care using an interdisciplinary team: PCP, PA, palliative care MD, nurse coordinator, LPN, MAs, social worker, nurse care manager, case manager, pharmacist

•Proactive screenings used to identify and address risk factors including fall risk screening, activities of daily living, depression, mini cognitive, nutritional, etc.

•Team based care planning meetings for patients with complex needs

•Clinical quality focus

# Protocols and Policies

- As part of the Team Based Care Model within the CFHA, a clinical pharmacist provides medication management services in collaboration with the PCP.

**Criteria for Clinical Pharmacy Services**

**Inclusions:**

- CFHA patients with multiple chronic diseases not meeting therapeutic goals and/or have difficulty with medication adherence.

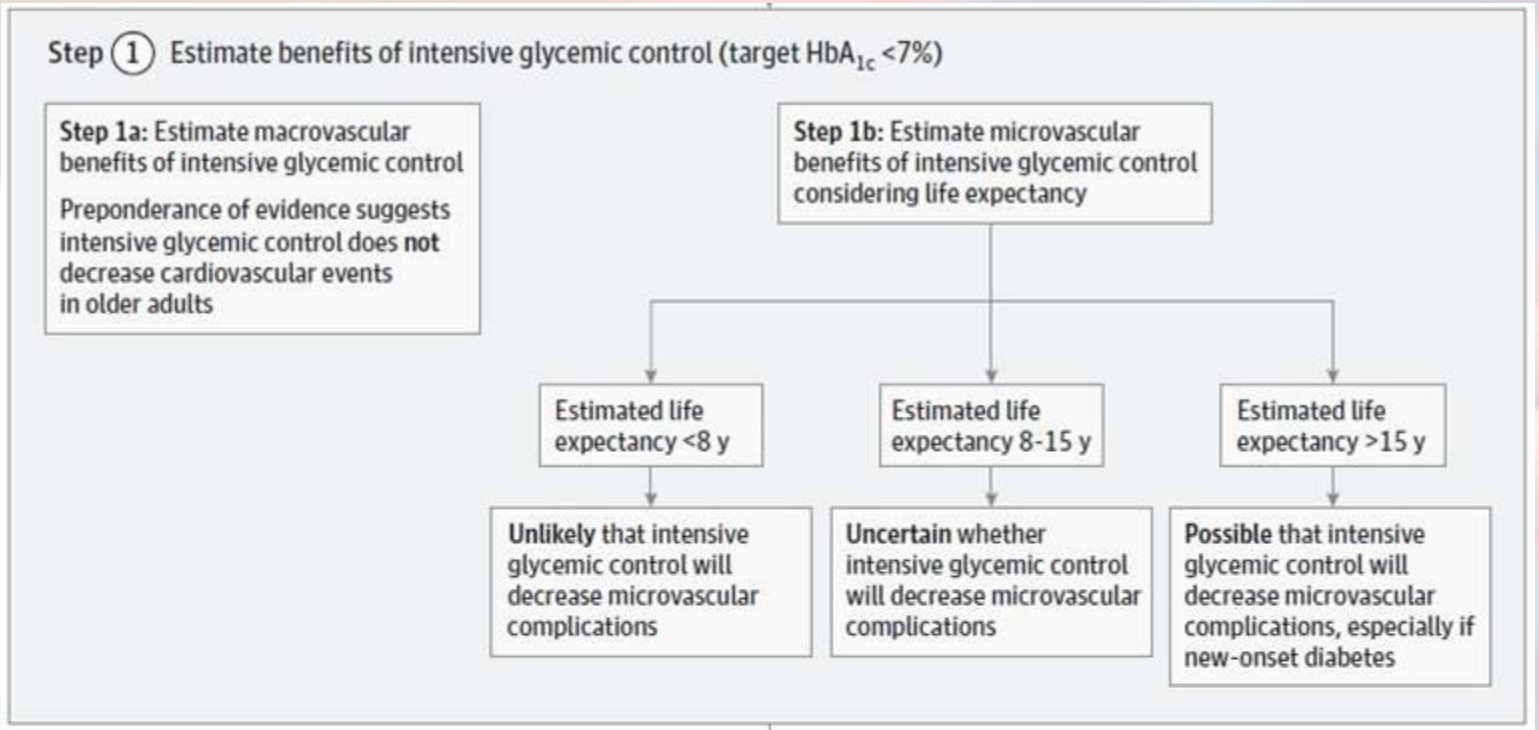
**Procedures:**

- The provider will identify CFHA patients who would benefit from medication therapy management and refer those patients to the clinical pharmacist to be seen prior to the visit with the provider.

**Responsibilities:**

- The provider is responsible for identifying CFHA patients that are candidates for clinical pharmacy services.
- Clinical pharmacists are responsible for assessing compliance, side effects at each visit and documenting in the pharmacist section in the EHR.
- All disease state assessment, recommendations, monitoring, and goals are to be documented in the EHR.
- All notes are to be completed by the clinical pharmacist for provider review on the day of the visit

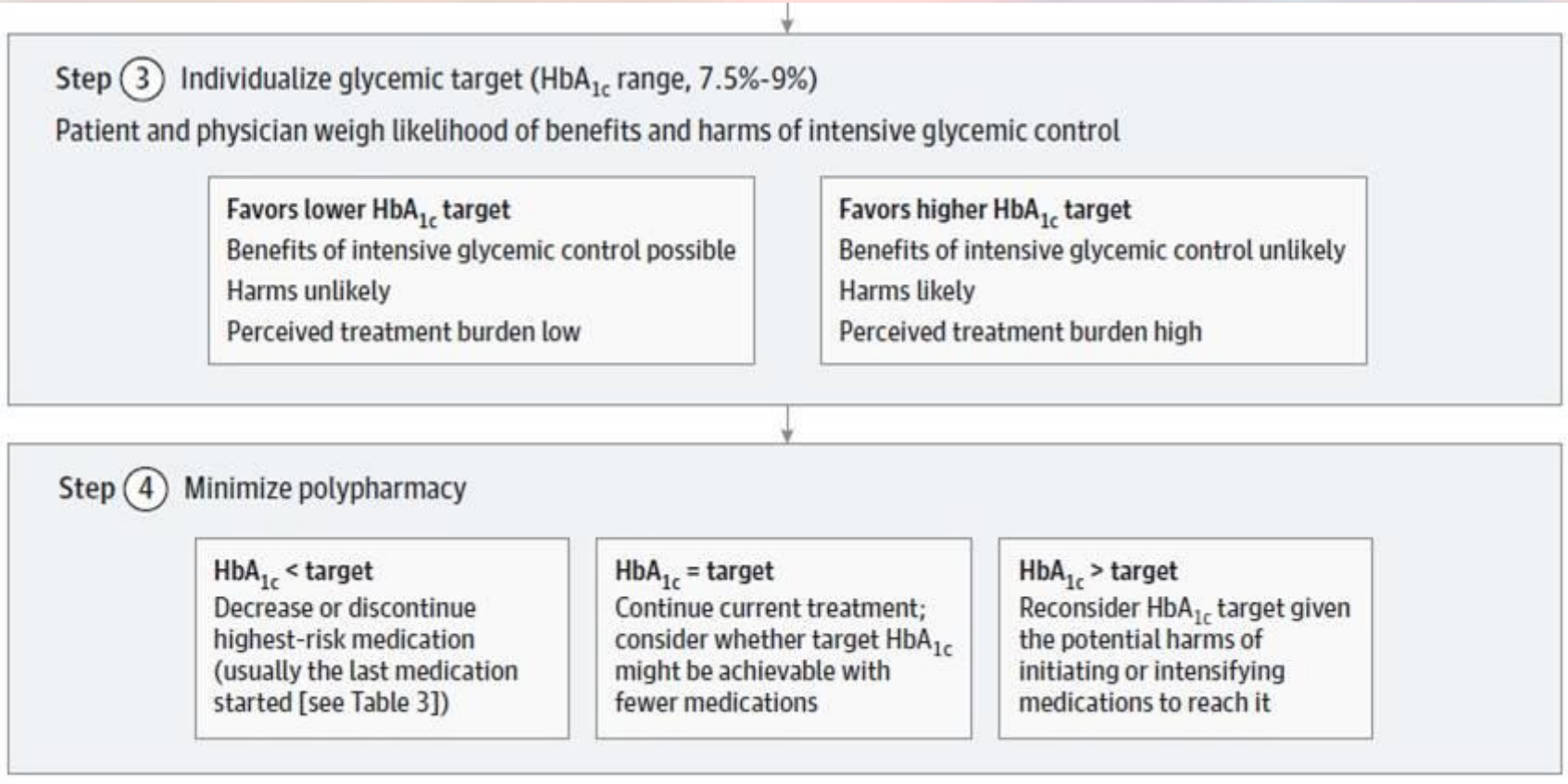
# Algorithms use for diabetes and/or HTN related care




Step 2 Estimate harms of intensive glycemic control

| Potential harms of intensive glycemic control | Factors that increase likelihood of harm | Factors that decrease likelihood of harm |
|---|---|---|
| Hypoglycemia | Age >80 y | Age ≤80 y |
| | Cognitive impairment | Cognitively intact |
| | Longer duration of diabetes | Shorter duration of diabetes |
| | Treatment with insulin | Treatment with diet or metformin |
| Other adverse events, including drug-drug and drug-disease interactions | Polypharmacy | Diet therapy or oral monotherapy |
| High treatment burden | Insulin therapy | Oral monotherapy |
| | Complex regimen | Simple regimen |

# Algorithms use for diabetes and/or HTN related care (cont.)




- Currently following ADA guidelines, in particular to deprescribe medications to reduce risk of hypoglycemia
- Nurses consult with clinical pharmacist if patients are in for BP follow up and patient is not at goal
- Nutritionist meets with pre-diabetic patients and diabetic patients not at goal
- Pharmacists assist in education of insulin administration and side effects management

# Medication Adherence Strategy

- Medication adherence is encouraged by the Clinical Pharmacist
- Clinical Pharmacists prioritize seeing the patient at point of care for medication review if patient is:
  - Transition of care
  - Initial visit (even if referred internally)
  - 6 months follow up
- Care team uses motivational interviewing:
  - Addressing intentional vs. non-intentional adherence
  - Addressing side effects
  - Addressing the social determinants of health
- Staff training:
  - Education is provided by in-house clinical pharmacist
    - Last year clinical pharmacist gave a presentation on deprescribing to medical staff
  - Providers continuing educations are held monthly
  - Nurses education is held monthly

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01/26/2018

Jacinto Casas, DO

## Current Medications

**Taking**

- Levemir FlexPen 100 units/mL solution 20 units subcutaneously every day at bedtime
- Januvia 25 mg tablet 1 tab(s) orally once a day
- levothyroxine 175 mcg (0.175 mg) tablet 1 tab(s) orally once a day
- gabapentin 100 mg capsule 1 cap(s) orally 2 times a day
- aspirin 81 mg delayed release tablet 1 tab(s) orally once a day
- Metoprolol Tartrate 25 mg tablet 1 tab(s) orally 2 times a day
- Lipitor 10 mg tablet 1 tab(s) orally once a day
- tamsulosin 0.4 mg capsule 1 cap(s) orally once a day
- ferrous sulfate 325 mg delayed release tablet 1 tab(s) orally once a day
- acetaminophen 500 mg tablet 1 tab(s) orally every 6 hours PRN pain
- calcitriol 0.25 mcg capsule 1 cap(s) orally once a day
- Advair Diskus 500 mcg-50 mcg powder 1 puff(s) inhaled 2 times a day
- Ventolin HFA CFC free 90 mcg/inh aerosol with adapter 2 puff(s) inhaled 4 times a day

**Not-Taking/PRN**

- Levemir FlexPen 100 units/mL solution 50 units subcutaneously once a day at bedtime, Notes: dose decreased to 20 units at bedtime @ Sara Neuman SNF
- atorvastatin 20 mg tablet 1 tab(s) orally once a day (at bedtime), stop date 01/26/2018, Notes: dose decreased to 10mg @ Sara Neuman
- isosorbide mononitrate 60 mg tablet, extended release 1 tab(s) orally once a day (in the morning), Notes: Dose decreased @ Sara Neuman to 30mg daily
- NovoLog FlexPen 100 units/ml solution 10 units before breakfast; 10 units before lunch; 10 units before dinner subcutaneously TID, Notes: dose changes to sliding scale @ Sara Neuman
- Vitamin D2 50,000 intl units capsule 1 cap(s) orally once a week, Notes: stopped @ Sara Neuman
- Spiriva 18 mcg capsule 1 ea inhaled once a day, Notes: stopped @ Sara Neuman
- hydrochlorothiazide 25 mg tablet 1 tab orally once a day, Notes: stopped @ Sara Neuman
- lisinopril 20 mg tablet 1 tab(s) orally once a day, Notes: stopped @ Sara Neuman
- ranitidine 150 mg capsule 1 cap(s) orally once a day
- Lancets 30g Super Thin, 100 TID
- test strips for glucometer xx misc as directed xx TID AC
- Alcohol Pads 100CT as directed xx tid
- Albuterol Sulfate 2.5 mg/3 mL (0.083%) solution 3 mL inhaled every 6 hours
- ketoconazole topical 2% cream 1 app applied topically once a day
- Medication List reviewed and reconciled with the patient

## Reason for Appointment

1. F/S - PATIENT NEED TO HAVE LAB WORK DONE - SEE NCM MILAGROS FOR MISSING APP
2. Travel history: No, I have not traveled outside the United States within the last 4 weeks.

## History of Present Illness

Pharmacy:

Mr. [redacted] an 81 yo male. He was admitted to [redacted] 2/2 gross hematuria (12/1/17-12/20/2017), transferred to [redacted] nursing home and then transferred to [redacted] Nursing home (12/20/17-1/22/18). The following prescriptions were given post discharge on 1/22/18:

- Levemir 20 units at bedtime
- Januvia 25 mg daily
- Gabapentin 100mg 1 cap BID
- Imdur 30mg 1 tab daily
- Aspirin 81mg
- Metoprolol 25mg BID
- Synthroid 175mcg 1 tab daily
- Lipitor 10mg daily
- Flomax 0.4 1 cap daily
- Ferrous sulfate 325mg 1 tab daily
- Calcitriol 0.25 mcg daily
- Advair 500/50 1 puff twice daily
- Tamiflu 75mg x 10 days

***Summary of medication changes***

#NEW:

- Calcitriol 0.25 mcg daily
- Advair 500/50 1 puff twice daily
- Tamiflu 75mg x 10 days
- Januvia 25 mg daily
- Gabapentin 100mg 1 cap BID

#DOSE CHANGE:

- Levemir dose decreased from 50 units to 20 units at bedtime
- Novolog decreased to sliding scale, patient reports he has not used this medication for past 2.5 months
- Atorvstatin dose decreased from 20mg daily to 10mg daily
- Isosorbide 60mg daily to 30mg daily

#DISCONTINUED:

- HCTZ
- Lisinopril
- Spiriva
- Vitamin D 50000 units

Reviewed medications with patient

- Patient will continue to use Avanti Pharmacy
- Patient c/o persistent pain despite acetaminophen use
- Reports pain was controlled with Tramadol (it was given @ nursing home but patient not discharged with medication)
- Additionally continues to have s/sx of GERD, request refill on ranitidine.

Is patient recently discharged from an institution?
: *no*
Does patient have enough income to pay for food and rent?
: *Yes*
Is patient/family homeless or at risk for losing permanent housing?
: *No*
Does patient live alone and need social support?
: *No*
Does patient have any functional barriers or cultural beliefs that would affect their care?
: *No*
Does patient have active Health Insurance?
: *Yes*
Can patient obtain medications and medical equipment as needed?
: *Yes*
Does patient have difficulty traveling to medical appointments?
: *No*
Does patient want to appoint a health care proxy to make medical decisions in case they are unable to do so? N/A for minors
: *No*
Is patient currently feeling unsafe in the home?
: *No*
Are you exposed to second hand smoke?
: *No*
How many times a day do you brush your teeth? (N/A for under 6 months old)
: *2*
Did you see a dentist in the past 6 months? (N/A under 6 mos old)
: *Yes*
In the past month, have you or your family had difficulty in obtaining food?
: *No*
How many times a week do you exercise?
: *never*
Are you or family members under psychiatric treatment at this time?
: *No*
Do you or any family members regularly use alcohol, or prescription or O-T-C?
: *No*
Religion or spiritual belief?
: *other*
Household occupants
Children: *1*
Adults: *2*
Where were you born?
Location: *Guatemala*
(12 and above) Sexual Orientation:
Do you identify as: *straight (not lesbian or gay)*
(12 and up) Gender Identity
Do you identify as: *female*

Sexual History:

Sexual History Had sex in the past 12 months (vaginal, oral, or anal)?: No, Have you ever had an STD?: No, LMP:: n/a.

Alcohol:

Alcohol Screen: (18 and above)
Points: *0*
Interpretation: *Negative*
DAST (18 & over)
Total Score: *0*
Interpretation: *No problems reported*

## Gyn History

Periods : n/a.
Sexual activity not currently sexually active.
Last pap smear: Don't remember.
Last mammogram date 07/2015.

Laundry: *(0)All laundry must be done by others*
Mode of transportation: *(1)Arranges own travel via taxi but does not otherwise use public transportation*
Responsibility for own medication: *(0)Takes responsibilty if medication is prepared in advance in separate dosages*
Ability to handle finances: *(1)Manages day-to-day purchases but needs help with banking, major purchases, etc*
TOTAL SCORE: *3*

Cognitive:
Mini-Cog Score: *1-2 recalled words + abnormal CDT (positive for cognitive impairment)*

77 yo female patient with PMH of HTN, DM, Hypothyroidism, patient had a car accident many years ago and after that with gait unstability, chronic pain. Patient came as a new patient at CFHA, she was previously seen in adult medicine and is followed by Endocrine for her DM and Hypothyroidism. Patient noted being unable to perform ADL 2/2 pain and needs assistance. Patient also noted itchiness in legs and back for a long time. She has urinary incontinence for the last 2 months and is using diapers, was told in the past to have prolapse and surgery was offered but never done.

Pharmacy:

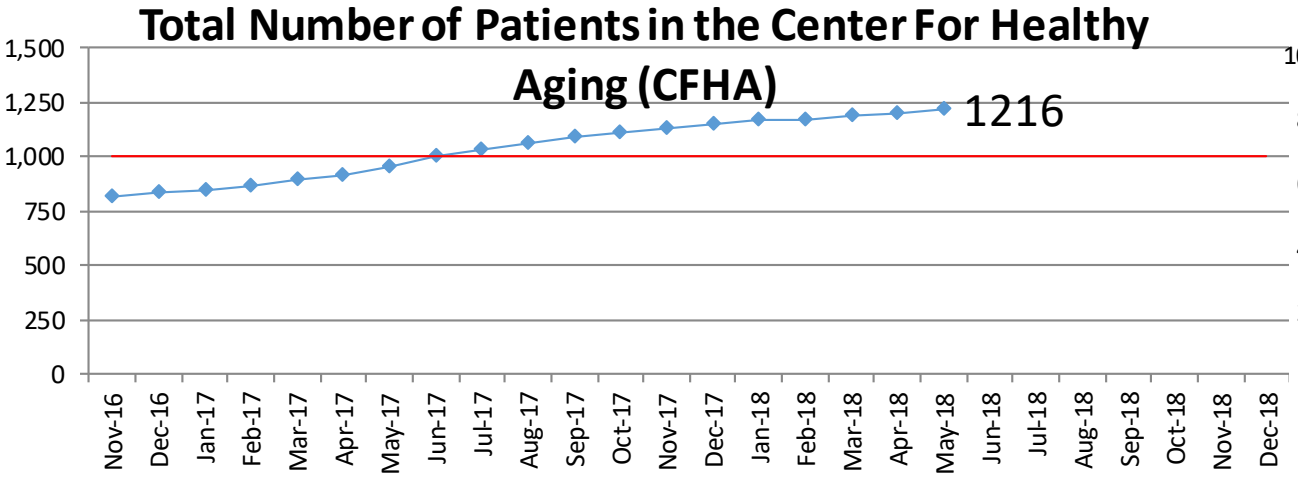
Have you missed any doses of your medication? No.
Have you experienced any side effects from your medication? Yes- hypoglycemia.
Do you have any new medication allergies? No.
Are you taking any over the counter medications or herbal su Yes- acetaminophen.
Per Giselle at pharmacy last refills include
1/18/18
-Novolog
-Levemir
-Levothyroxine
-Metformin
-Atorvastatin
-Losartan
-HCTZ
-metoprolol
-ASA
1/10/18
-Nabumetone
1/2017
mirtazepine, but not picked up
BP 162/81 HR 73
9/5/17 A1c 9.5
1/26/18 A1c 8.2
12/13/17 TSH 7.9 T4 0.85
LDLl 68 TC 141 HDL 44 TG 145
MA/Cr 1253.2
Pt here for med review on initial visit
Does not have medications with her today but reports taking all meds as prescribed except:
-mirtazepine (never picked up)
-nabumetone (cannot recall)
-also cannot recall if she is taking HCTZ, but pharmacy records suggest she is
-Pt reports she misses doses of metformin at night
Reports hypoglycemia in the morning, BG in 60s-70s
Eats cereal and feels better
A/P
DM
A1c improved, with hypoglycemic episodes
Consider reducing nighttime Levemir dose to 28 U HS
Consider reinforcing adherence to metformin
Reviewed hypoglycemia management with patient
Consider referral to nutritionist
HTN
BP elevated, consider repeat BP
Unclear if pt is on HCTZ but can increase to 25mg daily for additional BP control.

# Population Health Management/in-between care considerations

Outreach and recall for patients who overdue for care and f/u

- Social worker and Case Manager are in contact with patients in between care
- In case pharmacist is needed the case manager and nurse care manager will contact in-house clinical pharmacist for assistance via telephone encounter or in person if patient is at the clinic
- High risk patients are presented monthly at care planning meetings
- Meeting is attended by the entire care team: providers, social worker, clinical pharmacists, nurses and medical assistants

# Our Results


Total Number of Patients in the Center For Healthy Aging (CFHA)
1,500
1,250
1,000
750
500
250
0
1216
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
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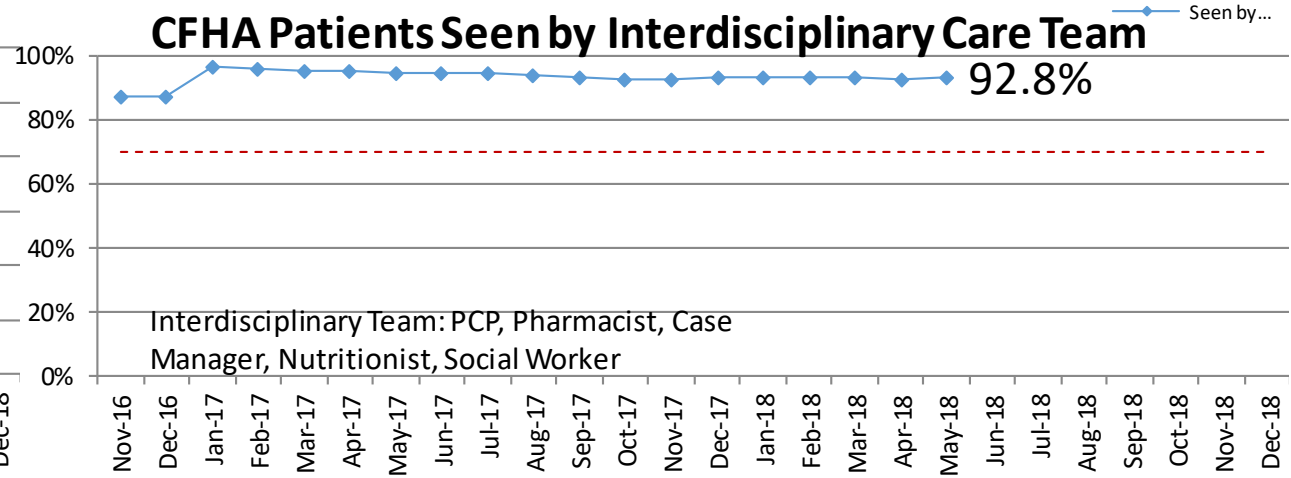
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18


CFHA Patients Seen by Interdisciplinary Care Team
Seen by...
100%
80%
60%
40%
20%
0%
92.8%
Interdisciplinary Team: PCP, Pharmacist, Case Manager, Nutritionist, Social Worker
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
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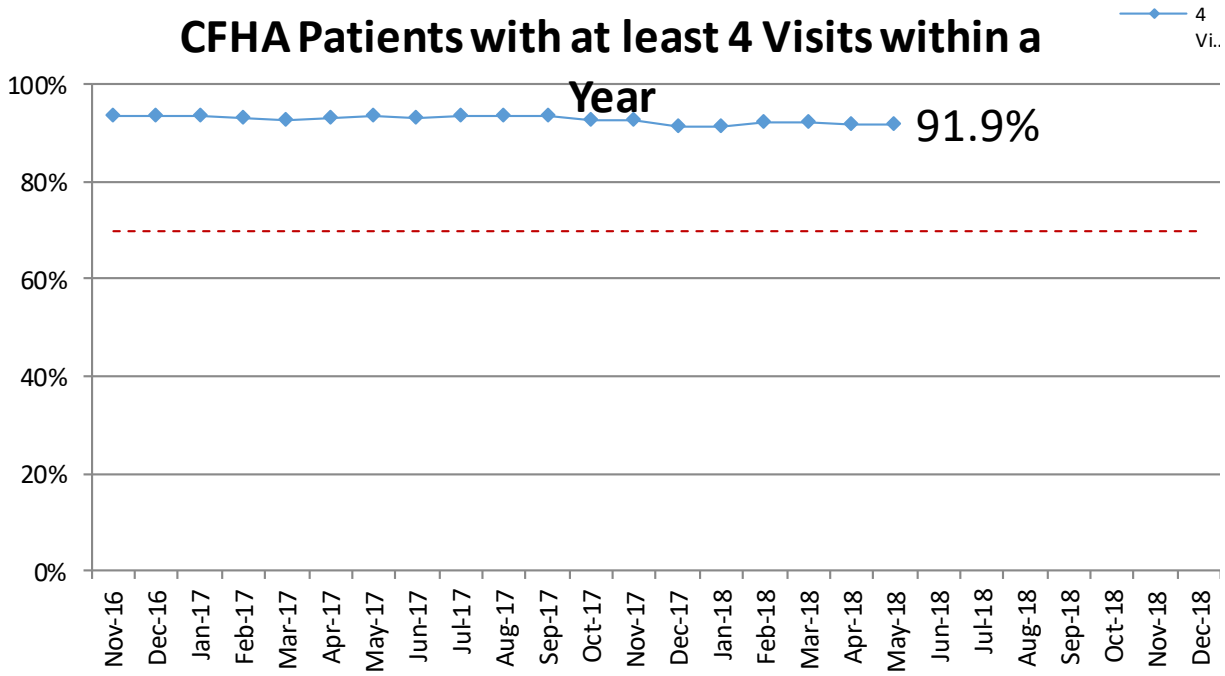
Oct-18
Nov-18
Dec-18


CFHA Patients with at least 4 Visits within a Year
4 Vi..
100%
80%
60%
40%
20%
0%
91.9%
Nov-16
Dec-16
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
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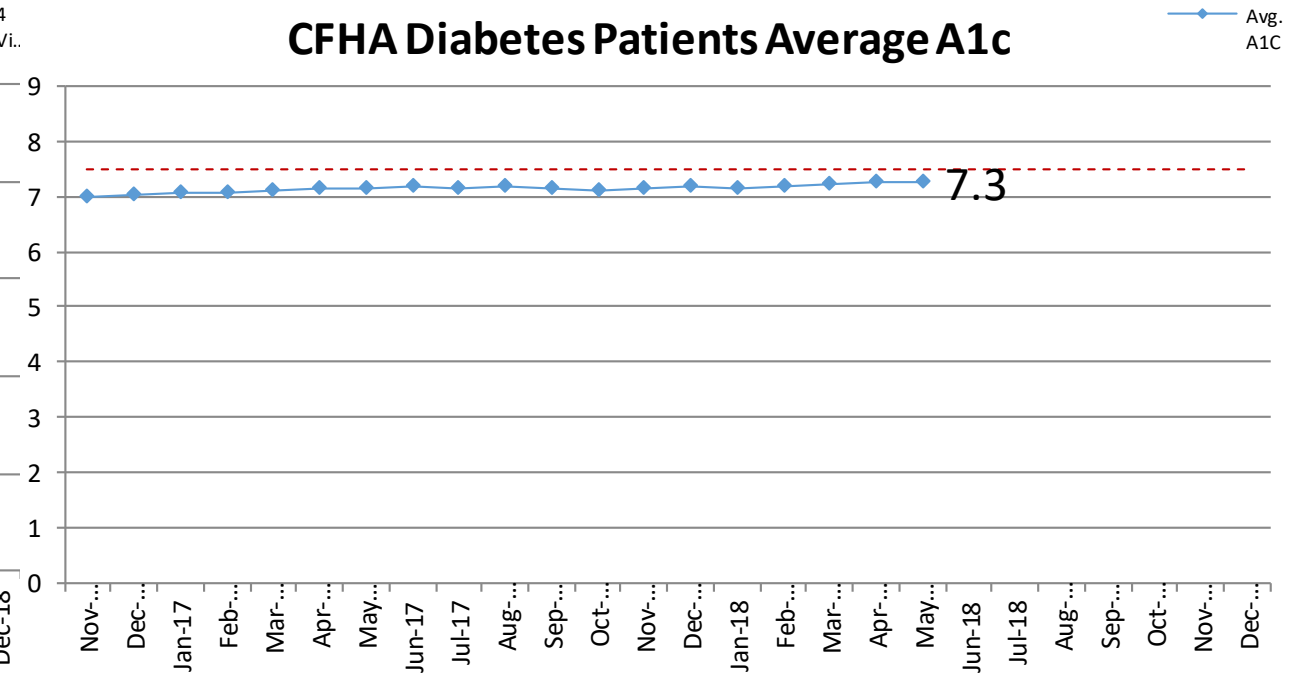
Oct-18
Nov-18
Dec-18


CFHA Diabetes Patients Average A1c
Avg. A1C
9
8
7
6
5
4
3
2
1
0
7.3
Nov-...
Dec-...
Jan-17
Feb-...
Mar-...
Apr-...
May-...
Jun-17
Jul-17
Aug-...
Sep-...
Oct-...
Nov-...
Dec-...
Jan-18
Feb-...
Mar-...
Apr-...
May-...
Jun-18
Jul-18
Aug-...
Sep-...
Oct-...
Nov-...
Dec-...

# Ah-ha Moments

## Case Study

- 77 y/o female with PMH significant for DMII, HTN, and CKD stage 3b
- Medication list
  - Lantus Solostar Pen 100 units/ml solution 40 units subcutaneously before bedtime
  - Actos 15 mg tablet 1 tab(s) orally once a day (started 2/1/18)
  - lisinopril 40 mg tablet 1 tab orally once a day
  - atenolol 50 mg tablet 1 tab orally once a day
  - chlorthalidone 25 mg tablet 1 tab orally once a day
  - diltiazem 180 mg/24 hours capsule, extended release 1 cap orally once a day
  - simvastatin 20 mg tablet 1 tab orally once a day (at bedtime)
  - aspirin 81 mg tablet, chewable 1 tab(s) orally once a day
- Labs:
  - 9/11/2017
    - HGBA1C 8.2%
  - 1/31/2018:
    - HGBA1C 11.1%
    - Creatinine 1.53
    - e-GFR 34

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# Ah-ha Moments (cont.)

- Patient returned to her country between September and January
  - While there, she was only using 35 units of Lantus
  - February: Endocrinology started patient on Humalog KwikPen 100 units/mL solution 22 units before breakfast; 22 units before lunch; 22 units before dinner subcutaneously
  - March: Patient returned to CFHA complaining of daily hypoglycemia in the morning
  - Provider consulted clinical pharmacist
- Clinical pharmacist recommendations:
  - Switch patient from Actos to Tradjenta
  - Patient to bring glucose log to clinical pharmacist visit in one week
- Glucose log of one week:
  - 03/29- Pre-Breakfast- 160
  - 03/30- Post-Lunch- 169
  - 03/31- Pre-Dinner- 175
  - 04/01- Bedtime- 143
  - 04/02- Pre-Breakfast- 163
  - 04/03- Pre-Lunch- 134
  - 04/04- Pre-breakfast- 175
- Insulin adjusted:
  - Lantus increased to 45 units qhs
  - Breakfast dose on insulin decreased to 15 units
- Follow up scheduled with pharmacist in 2 weeks
  - May follow up with Endocrinology:
    - 5/4/18: HgbA1c: 7.7 %
- Patient denied episode of hypoglycemia

# Barriers / Limitations / Challenges

- Building trust with the patient so that they are honest and comfortable to express themselves
- Language and culture can be a great barrier
- Better understanding of pharmacist role:
  - Other staff commonly come to the pharmacist for patient's refill requests
  - Tasks assigned to pharmacist that can be done by other staff members
- Goal is for all members to work at the top of their license

# Key Takeaways

## Recommendations:

- Avoid admonishing patients for not taking medication, try to find the reason for non-adherence
- Determine whether ongoing treatment with high risk medications is necessary
- Target initial and transition of care patients for medication review

## Moving forward

- Continue utilizing clinical pharmacists with other members of the care team (nurse care manager, social worker, nutritionist, etc.) strategically focusing on vulnerable populations (the elderly, patients with multiple chronic conditions, etc.)
- Develop metrics to better understand impact of clinical pharmacist on chronic illness control, fall risk, etc.

# Thank You

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