Role of Clinical Pharmacists in Diabetes and Cardiovascular Disease Assessment and Management

Indian Health Service

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Presenters

- CDR Kimberly Langley, PharmD, MBA, BCPS
  Phoenix Indian Medical Center
  Kimberly.Langley@ihs.gov

- MaryJo Zunic, PharmD, MHA, PhC, BC-ADM, BCACP
  Albuquerque Indian Medical Center
  MaryJo.Zunic@ihs.gov

Neither presenter has anything to disclose.

Objectives and Outcomes

1. Collaborate with patients to develop an individualized plan of care focusing on the patient's physical, psychosocial, spiritual, and emotional characteristics/beliefs.
2. Assess and modify, if necessary, a medication regimen to control type 2 diabetes, lipids, and hypertension.
3. Assess and modify patient risk factors for cardiovascular disease for adult patients with type 2 diabetes.
4. Describe the importance of setting realistic treatment goals that aim to reduce or address health disparities and barriers to patient care.
5. Implement a team approach to improve diabetes care and education in your facility/community.

Background of Clinical Pharmacists within Indian Health Service

In 1996, IHS established pharmacists as **primary care providers** (PCPs) to allow for privileges including prescriptive authority.

The National Clinical Pharmacy Specialist Committee (NCPSC) was established by the Chief Pharmacy Officer in 1997 to provide a mechanism to assure that all Clinical Pharmacy Specialists in Federal Pharmacy display a uniform level of competency.

Background of Clinical Pharmacists within Indian Health Service (2)

- Pharmacists working at any public health facility (IHS, ICE, BOP, CG) may apply for certification as a National Clinical Pharmacy Specialist if they meet the qualifications.
  - This application reflects work already being done locally within the clinic.
- Similar nomenclature:
  - Clinical Pharmacy Specialist
  - Pharmacist Clinician (PhC)
  - Clinical Pharmacist Practitioner (CPP)

Credentialing and Privileging

UNM Medical Group, Inc.
Clinical Operations Group

Pharmacist Clinician Privileges

Qualifications for Pharmacist Clinician

Initial Applicant *- To be eligible to apply for privileges in pharmacist clinician, the initial applicant must meet the following criteria:*

Professional PharmD degree from an ACPE-accredited school or college of pharmacy, and current New Mexico Pharmacist (RPh) License, and current Pharmacist Clinician (PhC) license

AND

Successful completion of a one year professional pharmaceutical (clinical residency or fellowship) training in clinical pharmacotherapy within a clinical setting OR one year of commensurate clinical work experience

AND

New Mexico Board of Pharmacy Pharmacist Clinician Approved Protocol copy submitted as attachment with UNMMG Board

Required previous experience: Applicants must be able to demonstrate active clinical practice since completion of postgraduate training in the provision of services, reflective of the scope of privileges requested, or successful completion of a hospital affiliated residency, special clinical fellowship, or

UNM Medical Group, Inc.
Clinical Operations Group

Pharmacist Clinician Privileges

CORE PRIVILEGES: *Pharmacist Clinician*

Pharmacist Clinicians may provide pharmaceutical care to patients at the UNM Medical Group and associated clinics. May provide medication therapy management to patients at the University of New Mexico Hospital and associated clinics. PhCs will collaborate with a physician or physicians who are currently appointed to the active or consulting medical staff within a scope of practice in the same area or specialty practice as the PhC. The supervising physician will provide collaboration with the PhC, provide consultation when requested, and assume responsibility for the care of the patient when requested by the PhC or in the interest of patient care. A PhC may provide other health care professionals with medication information and provide patient education materials and counseling concerning their disease state, risk factors, therapeutic lifestyle change recommendations, medication regimens, and monitoring parameters.

Pharmacist Clinician -Core Procedures List

This list is a sampling of procedures included in the core. This is not intended to be an all-encompassing list but rather reflective of the categories/types of procedures included in the core.

To the applicant: If you wish to exclude any procedures, please strike through those procedures which you do not wish to request, then initial and date.

☐ **Requested**

1. Generate referrals for smoking cessation, patient education classes or other programs as deemed clinically necessary
2. May initiate, modify or discontinue therapy as per attached NMBOP protocol
3. Measure and review routine patient vital signs including pulse, temperature, blood pressure and respirations
4. Medication Therapy Management (MTM)
5. Ordering appropriate laboratory tests and diagnostics according to NMBOP protocol
6. Prescriptive authority as outlined in NMBOP protocol
7. Focused history and physical as outlined in NMBOP protocol

Collaborative Practice Agreement

Albuquerque Service Unit Pharmacist Clinician Collaborative Practice Agreement	2015

MaryJo Zunic, PharmD, PhC

Erica Lindsey, MD (Physician Supervisor)

See previous signatures — 12/10/2015

Pharmacist Clinician

Definition

Pharmacist Clinician (PhC): an advanced practice pharmacist with additional training required by regulations adopted by the New Mexico Board of Pharmacy in consultation with the New Mexico Medical Board and the New Mexico Academy of Physician Assistants, who exercises prescriptive authority in accordance with guidelines or protocol. {16.19.4.7 (v.) - NMAC}

Scope of Practice: means duties and limitations of duties placed upon a pharmacist clinician by their supervising physician and/or the alternate supervising physician(s) and the board; includes the limitations implied by the field of practice of the supervising physician and/or the alternate supervising physician(s) and the board. [4/5/97, 4/27/2000; 16.10.11.7 NMAC - Rn & A, 16 NMAC 10.11.7, 1/10/07]

Statement of Need/Goal Statement

Pharmacist Clinicians (PhC) exist to augment the patient care team and serve as an extension to the primary care provider. Albuquerque Service Unit provides care to 27 tribal groups and serves an additional number of tribal members from throughout the United States who live, work, or go to school in the Albuquerque Area. ASU seeks to improve access and care to clinical and preventive services through a patient centered medical home. Through services like providing education, pharmacotherapy management and monitoring patients with a chronic disease, the PhC will impact the following goals:

- Patient access to care
- Improve patient care outcomes through a team approach
- GPRA quality indicators

Unique Practice Environments

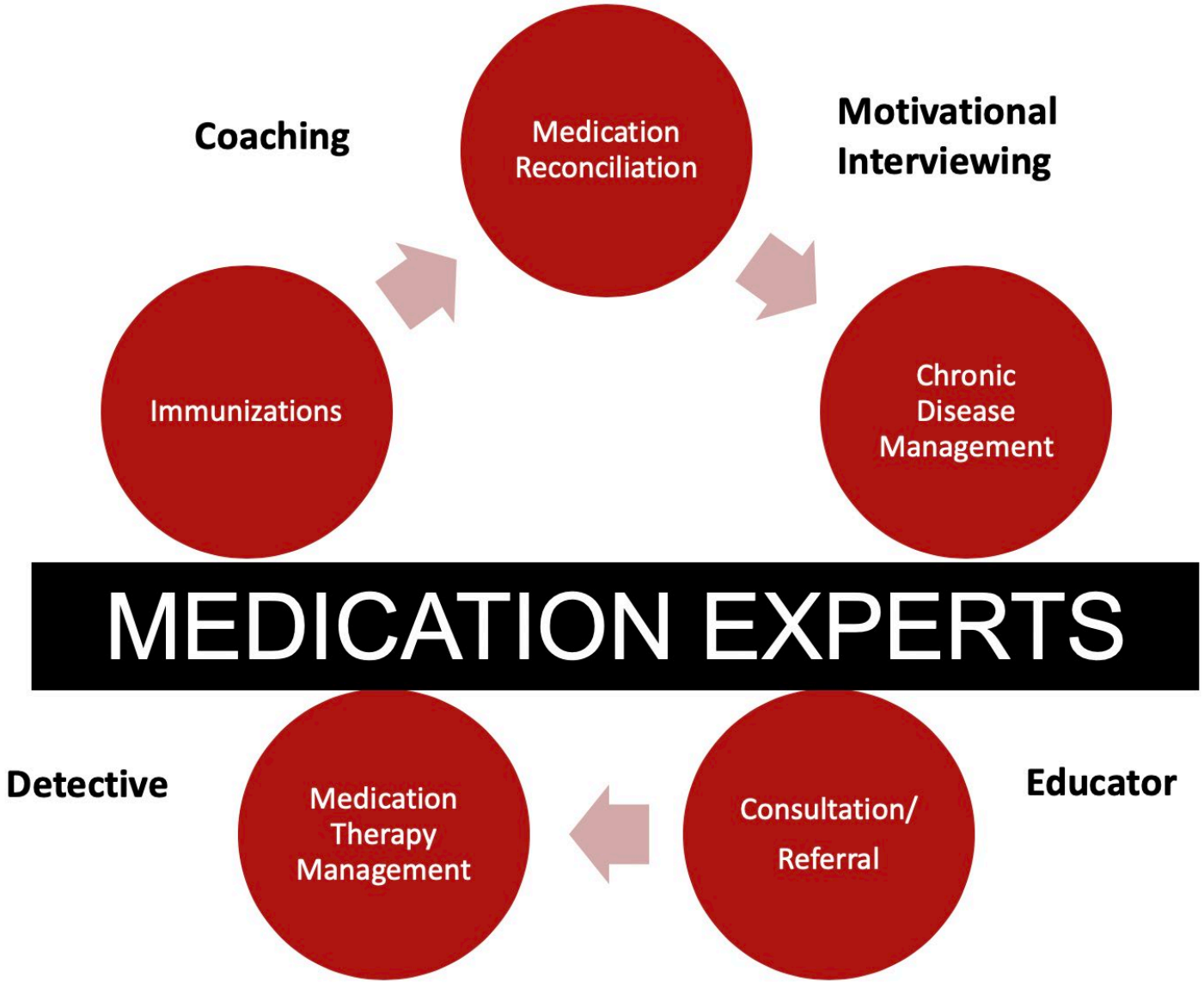
- Dr. Langley works within a Cardiovascular Risk Reduction Clinic.
- Dr. Zunic works within a Primary Care Clinic.
- There are many ways to set up a collaboration—evaluate your community and clinic needs to help guide you.

Question

The types of services a clinical pharmacist might provide include which of the following?

A. Administer immunizations, start/adjust or discontinue diabetes medications
B. Foot exams
C. Ordering and evaluating labs
D. Physical examination
E. All of the above

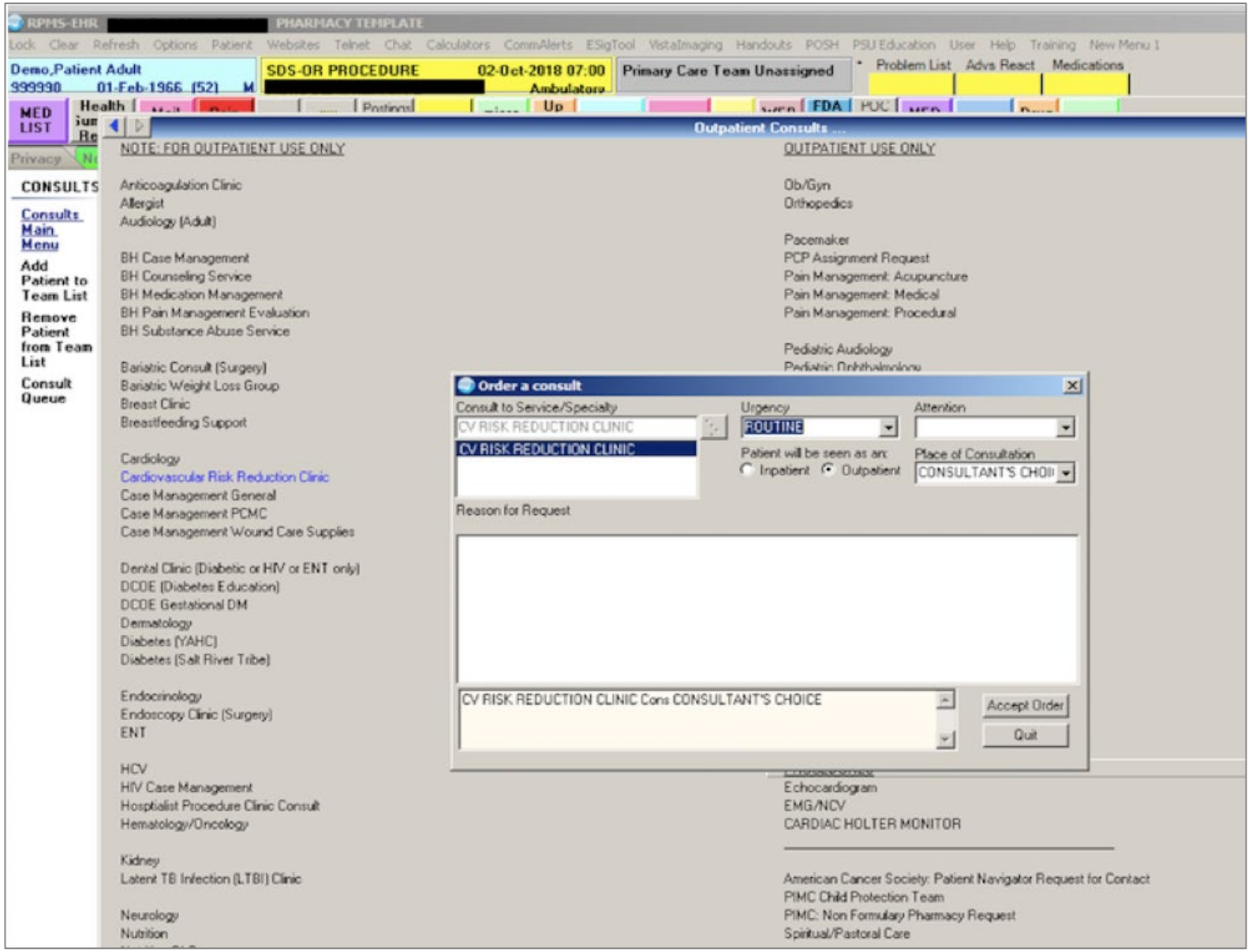
Role of Clinical Pharmacists



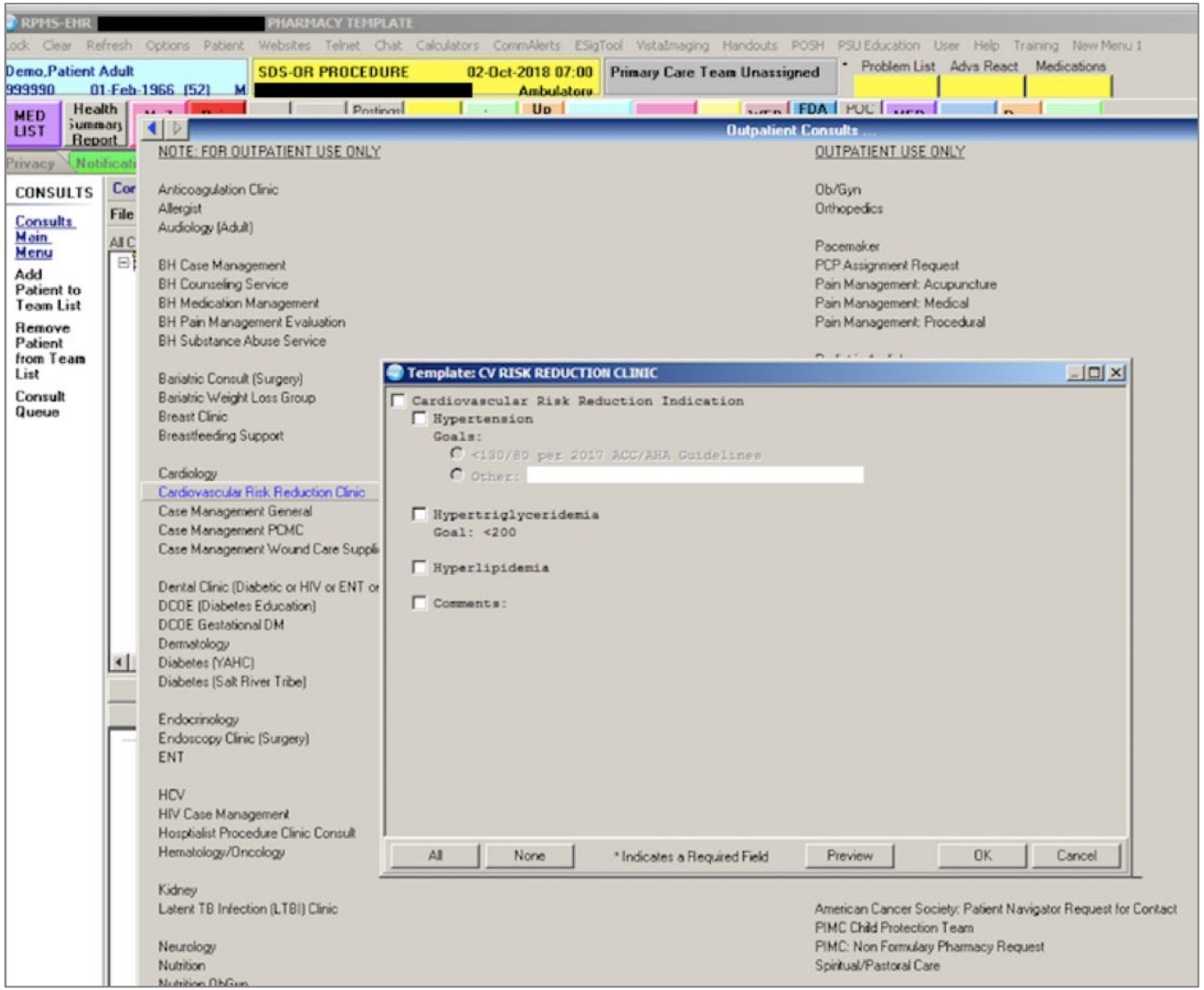
Clinical Pharmacist Access

- Referral
  - Diabetes Program
  - Hypertension/Lipid Clinic
  - Chronic Care Clinic
    - Immunizations
    - Tobacco Cessation
    - Multiple Disease States

Clinical Pharmacist Access EHR Consults



Clinical Pharmacist Access EHR Consults (2)



Clinical Pharmacist Access (2)

- Medication Reconciliation
  - OTC, Herbal, Natural Medicine
- Medication Adherence
  - Identify Barriers
  - Educate (re-educate) patient on medication benefits
- Healthcare Partnership
  - Pharmacists among most trusted health professionals
  - Collaboration as part of health care team

Assessment Tools: Case #1

- M.L. is a 62 year old grandmother who was recently diagnosed with hypertension and type 2 diabetes.
  - Today in clinic, her blood pressure (BP) is 162/108 and A1c is 11.3.
  - She self-reports that she is not a smoker, but she does occasionally participate in her tribe's ceremonies that involve tobacco.
  - She is the primary caregiver for her two grandchildren, ages 9 and 12. She reports that she is unable to help the children most times with homework as she only went to school up to seventh grade.
  - Most of her income comes from making and selling jewelry at fairs, so she travels around quite a bit when she can get help with the children.

Review of Systems:

- HEENT: Denies headaches or vision changes
- Cardiovascular: Denies chest pain
- Respiratory: Denies shortness of breath (SOB)

Case #1 (continued)

M.L. Labs

Total Cholesterol: 232

- Triglycerides: 184
- LDL: 164
- HDL-34

AST: 36

ALT: 54

ALP: 76

Scr: 0.7 eGFR: 72 ml/min

No Other significant PMH

Family History:

- Mother: Stroke at age 55
- Father: MI at age 51

BMI: 38

ASCVD 10-year risk: 17%

No Drug Allergies

How Would You Treat M.L.'s Blood Pressure?

A. Leave and recheck as is since patient is 62 years old
B. Start M.L. on Lisinopril 10mg once daily
C. Start M.L. on Lisinopril 10mg once daily ***plus*** Amlodipine 5mg once daily
D. Start M.L. on Hydrochlorothiazide 12.5 mg once daily
E. Start M.L. on Hydrochlorothiazide 12.5 mg once daily ***plus*** Losartan 25mg once daily

How Would You Treat M.L.'s Diabetes?

A. Start Metformin 500mg IR once daily x 1 week then titrate up to 1 gram BID, ***plus*** lifestyle modifications
B. Start Insulin Glargine 10 units daily, ***plus*** lifestyle modifications
C. Start Glipizide 5mg IR BID
D. Start Aspart 5 units TID with meals, ***plus*** lifestyle modifications
E. Lifestyle modifications alone

How Would You Address M.L.'s Cardiovascular Risk?

A. Start Atorvastatin 80mg once daily
B. Start Pravastatin 40mg once daily
C. Start Atorvastatin 80mg once daily plus ASA 81mg once daily
D. Start Pravastatin 40mg once daily plus ASA 81mg once daily
E. Lifestyle modification plus ASA 81mg once daily

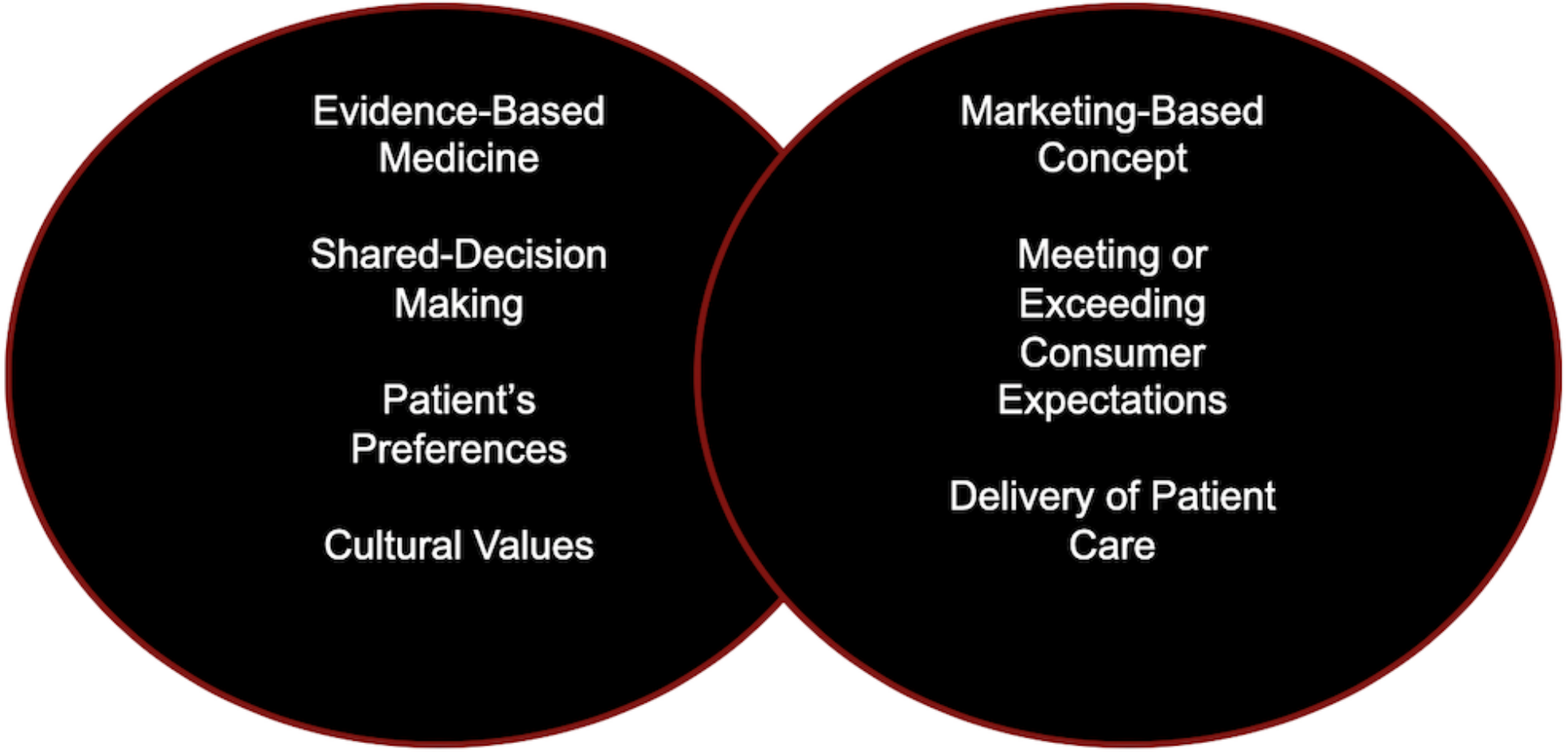
Evaluation and Assessment of Comorbidities

- 2018 ADA Standards of Care
  *A patient-centered communication style that uses **person-centered** and strength-based language, uses active listening, elicits patient preferences and beliefs, and assesses literacy, numeracy, and potential barriers to care should be used to optimize patient health outcomes and health-related quality of life.*

- **Objective** and **Subjective Assessment**
  - Patient-Centered Care
    - Minimize Burden of Care
    - Reduce Harm of Overtreatment
    - Assist Clinicians in Decision-Making

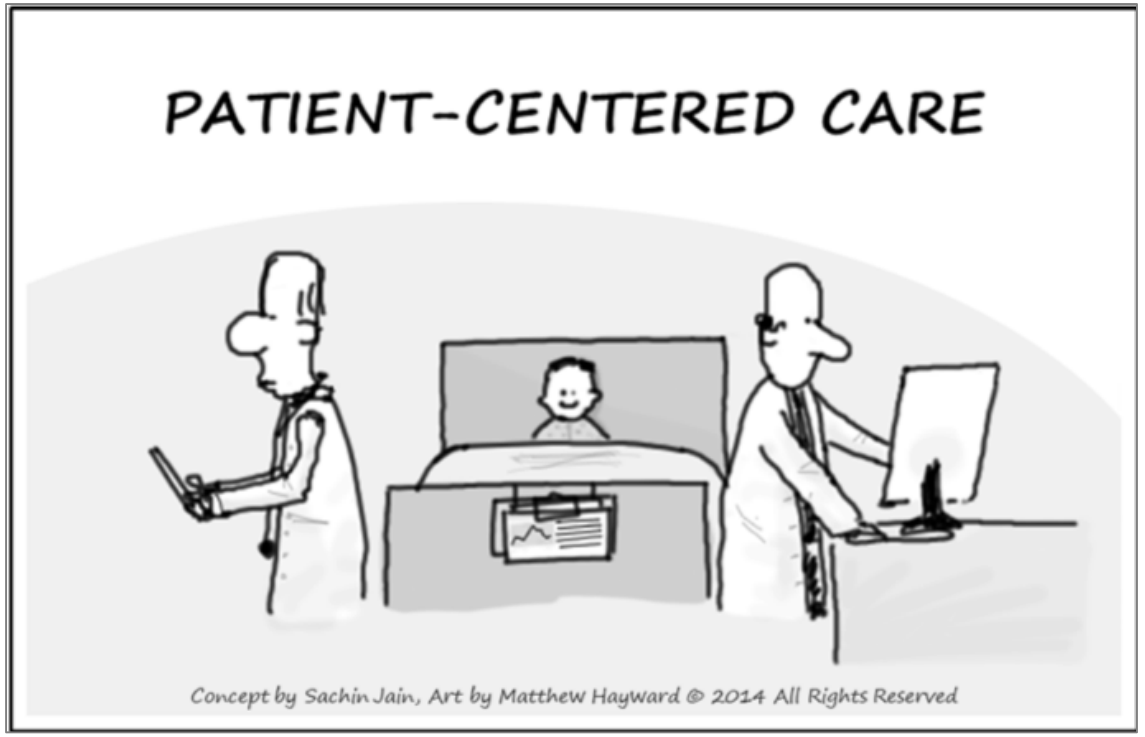
Patient-Centered Care

Patient-Centered Care ≠ Patient Satisfaction

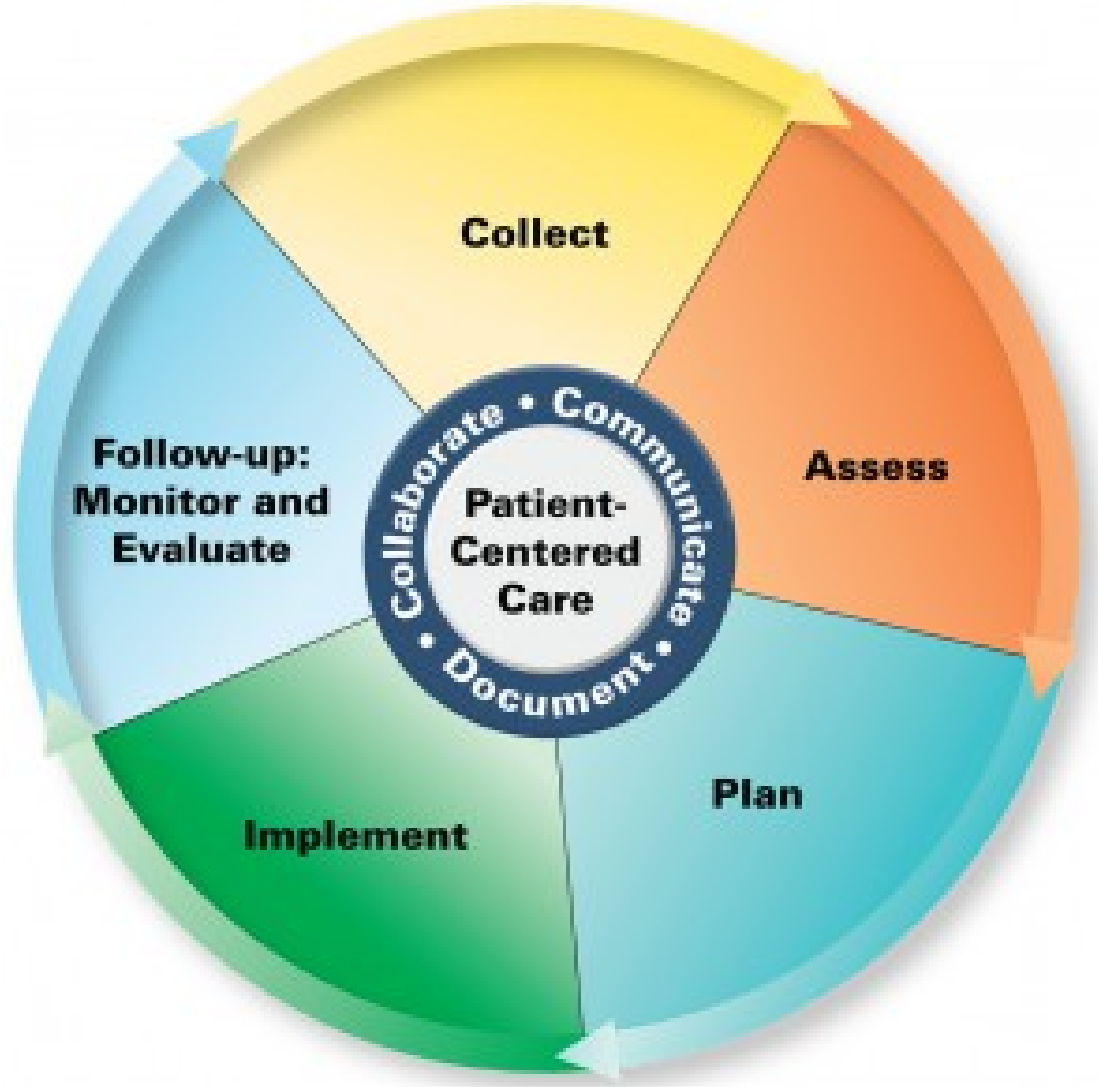


Misconceptions of Patient-Centered Care

- **Patients aren't interested in or able to talk about their care.**
  - Patient activation
  - Conversations and stories (use plain language)



Pharmacist Providing Patient-Centered Care



Resistance to Change in Diabetes Care

- “I just don’t see why it’s a big deal—my numbers aren’t that far out of range and I feel fine.”
- “It seems like every time I try to do anything, it’s not enough to make a difference; I don’t know what I could do that would make a difference.”
- “I take my medicine most of the time anyway, so I should be able to eat what I want.... OK, so I miss it a few days a week, but don’t make a big deal out of it. I feel fine.”

Motivational Interviewing

Motivational interviewing is a communication strategy that incorporates strategies of understanding the patient where they are—via **active listening, empathy, respect, and collaboration** with the patient on developing and achieving incremental goals.

Value of Patient-Centered Care in Diabetes Management

- Outcomes
  - Improved Quality of Life
  - Fewer Hospitalizations
  - Reduction in Frequency of Provider visits
  - Improvement in Metabolic Control
    - Blood Pressure
    - Cholesterol
    - Diet
    - Glucose Monitoring
    - Hemoglobin A1c Lowering

M.L. (continued)

- She is not currently taking any OTC, herbal, or traditional medicines. She does not want to take medication but realizes they may make her healthier for grandchildren.
- She is the Primary Caregiver for both parents after cardiovascular events.
  - Does not want to be a burden to her grandchildren
- She prefers to have visual aids with her patient education.
- She respects tradition.
  - Wants to continue participating in tobacco ceremonies
- She does not want to give herself injections.
- She has a dynamic schedule so she does not have regular eating habits. She can spend hours on the road with traveling to craft fairs.

How Would You Treat M.L.'s Blood Pressure: Answer

A. Leave as is and recheck since the patient is 62 years old
B. Start M.L. on Lisinopril 10mg once daily
C. Start M.L. on Lisinopril 10mg once daily *plus* **Amlodipine 5mg once daily**
D. Start M.L. on Hydrochlorothiazide 12.5 mg once daily
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How Would You Treat M.L.'s Diabetes: Answer

A. **Start Metformin 500mg IR once daily then titrate up to 1 gram PO BID,** *plus* **lifestyle modifications**
B. Start Insulin Glargine 10 units daily ***plus*** lifestyle modifications
C. Start Glipizide 5mg IR BID
D. Start Aspart 5 units TID with meals ***plus*** lifestyle modifications
E. Lifestyle Modifications Alone

How Would You Address M.L.'s Cardiovascular Risk: Answer

A. Start Atorvastatin 80mg once daily
B. Start Pravastatin 40mg once daily
C. Start Atorvastatin 80mg once daily plus ASA 81mg once daily
D. Start Pravastatin 40mg once daily plus ASA 81mg once daily
E. Lifestyle Modification plus ASA 81mg once daily

Case #2: M.L. Follow-Up Visit

Optimizing Cardiovascular Risk Factors

One month later, M.L. returns for a follow up on her hypertension. Today in clinic, her BP is 140/92 mm Hg, and A1c recheck is 10%.

Previous Labs

Total Cholesterol: 232

- Triglycerides: 184
- LDL: 164
- HDL-34

AST: 36

ALT: 54

ALP: 76

Scr: 0.7 eGFR: 72 ml/min

No Other significant PMH

Family History:

- Mother: Stroke at age 55
- Father: MI at age 51

BMI: 38

ASCVD 10-year risk: 17%

No Drug Allergies

Question 2

What cardiovascular risk factors might M.L. work on?

A. Hypertension
B. Diabetes
C. Tobacco Use
D. A and C only
E. A and B only

M.L. Follow-Up Visit

Med List:

- Lisinopril 10 mg QD
- Amlodipine 5 mg QD
- Metformin 500 mg IR—2 tablets BID
- Atorvastatin 80 mg QD
- Aspirin 81 mg QD

Modifiable CVD Risk Factors	Non-modifiable CVD Risk Factors
Unhealthy diet	Having a family history of early heart disease
High blood cholesterol	Having a history of preeclampsia during pregnancy
Diabetes	Age (55 or older for women)
Smoking	
High blood pressure	
Being overweight or obese	
Being physically inactive	

Optimizing CVD Risk Factors

Based upon M.L.’s presenting vitals today and her medication list, what would you want to work on next to address her CVD Risk?

Optimizing CVD Risk Factors

Thought Process...

- Unhealthy diet?
- High blood cholesterol: Too soon to check yet, but can ask about side effects, adherence
- Diabetes: What is our A1c goal? What SMBG values does the patient have to share today? How often is she having hypoglycemia, if at all?
- Smoking: Ceremonial only
- High blood pressure: ***Not*** controlled—why?
- Being overweight or obese?
- Being physically inactive?

Optimizing CVD Risk Factors

Options...

- Referral to other team members: DM educator, dietician, wellness center
  - Address unhealthy diet, excess weight, physical inactivity, and BP
- Every visit, evaluate adherence: Could a side effect be affecting adherence?
  - "Some patients forget their medications—how often have you forgotten in the past week?"
  - "Some patients choose to skip their medications, how often have you done this in the past week?"
  - Every visit, ask about new OTC/other Rx therapy
- We could adjust DM meds based upon SMBG and adjust hypertension meds.

Don't forget to ask the patient: "What do you want to work on?"

Optimizing CVD Risk Factors

M.L.'s Perspective

- During the clinic visit, M.L. shares that she started pseudoephedrine for a cold she developed three days ago and finds it relieves her headache and congestion very well.
- She also shares that she is forgetting her metformin in the afternoon regularly.
- As a caregiver, she is most attentive to making sure her grandchildren and parents are doing well, and she will sometimes forget her medications for this reason.
- She would like to learn more about healthier ways to cook as she wants the best for her family. She goes on walks in the evenings with her grandkids for about 30 minutes three times a week.

Optimizing CVD Risk Factors

Plan...

- Educate M.L. on not using pseudoephedrine; offer OTC saline and fluticasone. Return visit in one week to recheck BP (or PHN home visit to recheck BP)
- Ask if she would like to switch to Metformin SA—4 tablets once a day to improve adherence
- Referral to dietician/DM education program (newly diagnosed)—if not done already

Setting Goals: Case #3

M. L. Labs 3 months later

Total Cholesterol: 212

- Triglycerides: 150
- LDL-115
- HDL-40

AST: 38

ALT: 57

ALP: 74

- New Complaint of Muscle Weakness
- Admits to Missing a Few Doses of Meds
- Not testing blood sugar regularly

BP: 142/98

A1c: 9.4

BMI: 37.2

ASCVD 10-year risk: 15.4%

No Drug Allergies

Assessment

- BP not at goal
  - < 130/80
- Diabetes not at goal
  - A1c < 7
- LDL not at goal
  - < 50% reduction
  - Muscle weakness

- Not using a pillbox, Too many pills for her to remember
- Lost some weight, but not sure of what foods to eat

2018 ADA Standards of Care

- SMBG
  - Highly Recommended for patients on intensive insulin therapy
    - Prior to meals and snacks, at bedtime, occasionally postprandially, prior to exercise, when they suspect low blood glucose, after treating low blood glucose until they are normoglycemic, and prior to critical tasks such as driving.
  - Evidence not as strong for noninsulin treated patients
    - May increase glucose awareness
    - Can decrease blood sugars 0.25–0.3%

2018 ADA Standards of Care (2)

- **Could M.L.'s A1c goal be adjusted?**
  - Less stringent A1C goals (such as < 8%) may be appropriate for some patients
    - History of severe hypoglycemia
    - Limited life expectancy
    - Advanced microvascular or macrovascular complications
    - Extensive comorbid conditions
    - Long-standing diabetes in whom the goal is difficult to achieve despite diabetes self-management education, appropriate glucose monitoring, and effective doses of multiple glucose-lowering agents including insulin.

2018 ADA Standards of Care (3)

- **Could M.L.'s blood pressure goal be adjusted?**
  - Most patients with diabetes and hypertension should be treated to a blood pressure goal of < 140 /90 mmHg
  - Lower systolic and diastolic blood pressure targets can be considered
    - 130/80 mmHg
    - May be appropriate for individuals at high risk of cardiovascular disease

      * if can be achieved without undue treatment burden.

2018 ADA Standards of Care (4)

- **Timing of BP Medication**
  - Nocturnal dipping of blood pressure
  - At least one medication with bedtime dosing
    - Decreases risk of cardiovascular disease

2018 ADA Standards of Care (5)

- **Could M.L.'s statin dose goal be adjusted?**
  - For patients who do not tolerate the intended intensity of statin, the maximally tolerated statin dose should be used.
- Statin Dosing Strategies
  - Lower Dose
  - Alternative Statin (lipophilic vs. hydrophilic)
  - Intermittent Statin Dosing
    - Rosuvastatin and Atorvastatin
    - Once or Twice Weekly
  - Statin Combinations
    - Statin Plus Ezetimibe or Colesevelam

2018 ADA Standards of Care (6)

- Use aspirin therapy (75–162 mg/day) as a secondary prevention strategy in those with diabetes and a history of atherosclerotic cardiovascular disease.
- Latest Aspirin Studies
  - ASCEND (Diabetic Patients)
    - Benefit almost equal to harm
  - ARRIVE (Non-Diabetic Patients)
    - No Cardiovascular Benefit
  - ASPREE (Elderly Patients)
    - Higher All-Cause Mortality

Additional Assessments

- Labs
  - Renal Function
  - LFTs
  - B-12 level
  - CBC
- Monitoring
  - Signs/Symptoms of Bleeding
  - Diabetic Foot Exam
  - Annual Eye Exam

Case #4

- Three months later, M.L. returns with an A1c of 6.9% and shares she has enjoyed what she has learned through the Diabetes Program. Her family is benefitting from her nutritional changes, and she has lost 10 pounds. Her BP is 120/75 mm Hg. During your chart review you find:
- Most recent labs:
  - UACR: 157.7 mg/g creat. (4 months ago)
  - CMP: WNL (4 months ago)
  - Lipids: Last checked 3 months ago when LDL was 115
- Last DM foot exam: none yet
- Other DM Standards of Care completed within past year
- Immunizations: All current except for Flu shot
- Her last PCP visit was 5 months ago, and she is due for a return now.

Case #4 (continued)

- What follow-up services might we provide to M.L.?
- **Options**…
  - Repeat UACR.
  - Reassess lipids.
  - Offer a DM foot exam today and refer to podiatrist.
  - Help schedule/remind patient to see PCP as follow-up.
  - Evaluate adherence (ask the patient, review refill history).
  - Ask the patient what goals she wants to maintain or initiate.
  - Encourage progress!

Summary

- Clinical Pharmacists are a valuable resource to the patient care team.
- Services that clinical pharmacists may provide extend beyond filling the patient's prescription and providing medication reconciliation.
- Consider ways your clinic might begin to incorporate clinical pharmacists in ways that meet the community and clinic needs.

References

- Joint Commission of Pharmacy Practitioners. “Pharmacists’ Patient Care Process.” May 29, 2014. https://jcpp.net/patient-care-process/.
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- Epstein, R., Street, R. “The Values and Value of Patient-Centered Care.” *The Annals of Family Medicine* 9 (2011): 100–103.
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