

Family Medicine Didactics: Modified Team-Based Learning

- Emphasizes problem solving and mastering of concepts
- Emphasis is on application of concepts

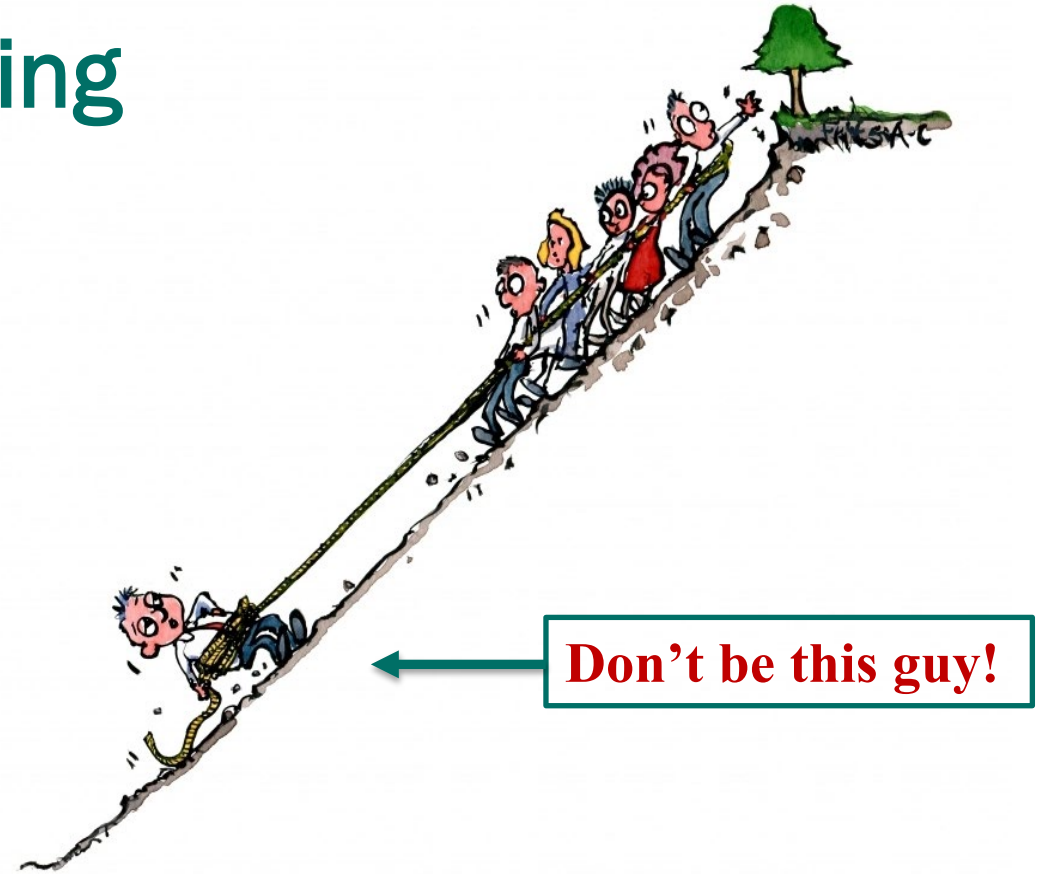


Family Medicine
Medical Student
Education Team:

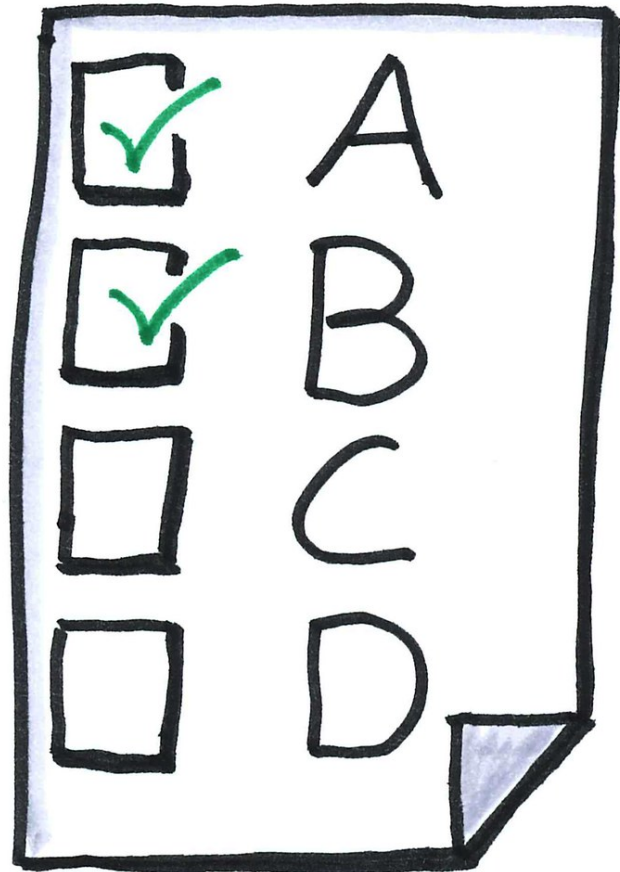
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Process of Team-Based Learning

- **Phase I: *Preparation (pre-class)***
- **Phase II: *Readiness Assurance***
 - Individual Readiness Assurance Test (IRAT)
 - Group Readiness Assurance Test (GRAT)
- **Phase III: *Application exercises***
 - Small group assignments
 - Group interaction



FM TBL Based Learning Vignettes... No More Quizzes!



BP is high... should I:

- A. Discuss lifestyle changes
- B. Start HCTZ
- C. Lock my PT in a closet and feed them lettuce until they lose weight
- D. Prescribe Amoxicillin



Medicine does not work this way!!!

Students HATED previous quizzes!
Innovation solutions needed...

Vignette 1



George is a 68-yr-old man with a six-year history of type 2 diabetes and hypertension who comes to the office for a follow-up visit. He has no complaints. George works as an interstate truck driver. He drinks a “pot of coffee” and chews “a tin” of tobacco every 3 days. His main exercise is “helping unload the truck”. He gets most of his food from trucking rest-stops. He has been checking his blood pressure at home and it is averaging 146/96.

His point of care Hemoglobin A1c is 10.7, up from 8.6 when it was checked 4 months ago. Labs drawn last week show a creatinine of 1.3 and lipid panels with a total cholesterol 190, LDL 118, HDL 38. He is currently taking metformin 1000 mg BID and hydrochlorothiazide 25 mg daily.

How can we help him? Treat this case like a single clinic visit.

Response Rubric

Your answers should address the following areas:

- A. **Evidence Based Medicine:** Response must reference reading material or other appropriate external resources.
- B. **Clinical Reasoning:** Response must demonstrate an appropriate approach backed up by evidence provided. It is acceptable for the approach to be “an” appropriate approach, not “the” appropriate approach.
- C. **Patient Centered:**
- D. **Impacting Social Determinants of Health:** Response must incorporate response to perceived barriers to care, deficiency in SDOH, or other barriers to progress towards health goals.
- E. **Holistic Approach:**

TBL Vignettes!

You will be presented with a real-life clinical scenario, and you will create and present plans

- Team-Based
- Open internet and resource
- Readings provide background information
- **Look at the vignettes ahead of each session, come prepared to discuss them**
- Maximum 15 minutes to prepare as a group before you present
- Each clerkship block split into 3 teams
- Alternating assigned roles for each week:
 - Presenter
 - Scribe
 - Timekeeper/team leader

NO SPOILERS: Completed Vignettes should **not** be shared with students not in this block
This would be a major breach of academic honesty policies w/ real repercussions

Grade Rubric

	Team 1	Team 2	Team 3
Vignette 1 (George)	(full/ partial/ none)	(full/ partial/ none)	(full/ partial/ none)
Vignette 2 (Joann)	(full/ partial/ none)	(full/ partial/ none)	(full/ partial/ none)

Each response must include the following 5 elements:

1. Evidence Based Medicine
2. Clinical reasoning
3. Patient Centered
4. Impacting Social Determinants of Health
5. Holistic Approach:

Full credit: Students get ≥ 4 elements

Partial credit: Students get ≥ 3 elements

No credit: Students get < 3 elements

Team 1 Response (George)

- A. Evidence Based Medicine:** <https://clinical.diabetesjournals.org/content/25/3/110> Guidelines for drivers
Food Deserts and Adverse CV outcomes: <https://www.ahajournals.org/doi/10.1161/JAHA.118.010694>
SPRINT Trial: <https://pubmed.ncbi.nlm.nih.gov/26551272/> Intensive BP therapy
- A. Clinical Reasoning:** By the numbers, neither his diabetes or BP is under good control at this time. - **ASCVD-Current 59%**
- HTN: consider DASH (high K, Ca, Mg, low Na, fat) diet, or a Ca channel blocker
 - T2DM: confirm medication adherence, dietary changes, sulfonylurea, discuss exercise modifications
 - Hyperlipidemia: Start statin and also begin low dose aspirin treatment
 - Discuss cessation of tobacco use for all chronic conditions. Current Chantix Shortage - use altwellbutrin
 - All treatments will reduce 21.3%
- B. Patient Centered:** Where do you feel you can make the most significant changes in your lifestyle? Inquire into the coffee and tobacco use? Does he use them because he is tired/stressed or is there another reason? Ask if he is taking his Metformin/medication limitation (supply),
- C. Impacting Social Determinants of Health:** His life is constantly on the road, limited finances and limited exercise opportunities
- D. Holistic Approach:** What is one accessible lifestyle change you can make? Cutting back on tobacco/coffee, adding more exercise, etc.? Discuss better nutrition available at truck stops and discussing if there are any other ways/places to get food.

Team 2 Response (George)

A. Evidence Based Medicine:

- a. AAFP dyslipidemia recommendations consistent with VA recommendations (attached below):
<https://www.healthquality.va.gov/guidelines/CD/lipids/VADoDDyslipidemiaCPG2014.pdf>
- b. Medication modification after metformin for glucose control: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4171882/>
- c. Metformin dosing guidelines <https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=1d8b8970-c2a1-4780-be87-ab8ccfd401fa&type=display>

B. Clinical Reasoning: Start on high intensity statin (atorvastatin, rosuvastatin;); DM blood glucose control monitor metformin based on kidney function; max dose is 2000mg Add a sulfonylurea. Cut down on sodium and caffeine intake. Consider adding ARB/Acei due to HTN, cautious of elevated creatinine. Start DASH diet.

- a. Check urine albumin/Cr and trends, physical exam (neuro, foot, retinopathy)

C. Patient Centered: Are you able to take your medications as prescribed? Are there any barriers to this? Ask how he feels it is being managed, patient doesn't seem concerned and hasn't had adverse symptoms so may not realize severity of his condition.

D. Impacting Social Determinants of Health: Truck driver-- sedentary job, traveling frequently and may make follow-ups and daily health routines challenging depending on his schedule. Doesn't have access to refrigeration all the time for insulin, troubleshoot how to store it. Does he have insurance, access to meds, ability to pick them up if travelling?

E. Holistic Approach: Low sodium/healthier options available at truck stops, bringing foods from home that are easy to eat in the truck (apples, carrots, nuts, etc). Incorporating more exercise when he's not on the road. Counsel regarding tobacco use, nicotine pouches.

Medical College of Wisconsin CONFIDENTIAL - Do not share

Team 3 Response (George)

A. Evidence Based Medicine:

- AAFP CKD, Diabetes, Hyperlipidemia, HTN Management Papers
- Self-management education and support in chronic disease management (<https://pubmed.ncbi.nlm.nih.gov/22608868/>)
- https://care.diabetesjournals.org/content/39/Supplement_2/S146 - <https://doi.org/10.2337/dcS15-3003>

A. Clinical Reasoning:

- Atorvastatin 40 mg because he has above a 7.5% risk of ASCVD events
- Thiazide 25 mg plus Lisinopril 20 mg to manage HTN more quickly and ACE inhibitors are kidney protective given his diabetes
- Glargine because his A1C is over 9.0 and keep track of blood sugars using a glucometer
- yearly ophthalmology checks. check his feet daily for ulcers due to diabetes complications

A. Patient Centered:

- Ask him what his understanding of his disease is and what lifestyle factors contribute most to his condition
- Motivational interviewing to see what lifestyle interventions he would be interested in working on first (1-2 at a time!)

A. Impacting Social Determinants of Health:

- Patient is a truck driver so being on the road he has limited access to healthier food options - encourage him to pack healthy snacks to limit fast food
- Insurance
- Ability to stop and check glucose levels on the road

A. Holistic Approach:

- Improve diet - meet with a diabetes educator or dietician
- Increase exercise; motivational interviewing to see what he would be interested in
- Telehealth visits if he is not able to make it into the office due to work constraints
- Decrease tobacco use-decrease risk of oropharyngeal cancer

Vignettes: TBL improved for medical education

Individual Readiness Assurance Test (IRAT):

- Students get vignettes 1 week in advance. Instructed to complete it themselves
- Students can do the reading we assign to prepare... or find their own resources

Group Readiness Assurance Test (GRAT):

- Teams of students answer the vignette together, combining their answers
- Students are under time pressure – must be prepared or response will not be adequate
- Students present their findings = near peer teaching
- Evidence-Based Answers change each block = everyone learns!

We created open ended, open resource quizzes... because that's how real medicine works!