Texas Tech University Health Sciences Center Spring IPE Day Facilitator's Guide

Threading sex and gender concepts into a problem based learning model among small groups of inter-professional learners.

Sponsored by: TTUHSC Office of Inter-professional Education and the TTUHSC President's Task Force on Sex and Gender Based Health

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Introduction:

In many of the patient-scenario based PBL cases used in health care instruction, the case patient may be designated as male or female, but often the work flow of the case is not structured in such a way as to emphasize the significance of sex or gender unless the case scenario deals with a sex-exclusive organ system or condition (such as Prostate Cancer or Pregnancy). This tutorial will demonstrate how a sex or gender focus can be threaded through a PBL case, even for sex-inclusive organ systems and conditions that men and women share.

Problem based learning (PBL) is ***"learner directed learning".*** More specifically, it is learner directed learning that is ***facilitated*** in a ***small group environment*** using a vehicle termed "the ***ill-defined problem***". For that reason, threading any kind of focus into a PBL case can only be partially about including relevant points about that focus into the case itself. Rather, it is about building opportunities into the structure of PBL delivery for the learner to be prompted to include that focus in their considerations for approaching or solving the problem in the case.

In this learning structure, small groups of learners, usually numbering about 6 but no more than 8, are presented with the ill-defined problem, and then they must work as a team to

1) define the parameters of the problem,

2) determine the limits of their individual and collective knowledge about the problem and identify what learning will need to take place to make all members of the group knowledgeable about the problem, and

3) negotiate a plan for what to do about the problem. In this context, the purpose of the facilitator is not to teach, but to observes the group's interactions and only intercede with nudges to keep the group focused and on a productive track.

The skills of the facilitator are not as content expert, but as a coach who can observe, evaluate, and redirect the group behaviors and interactions.

The learners will observe, in video form, a clinical interaction between different members of a health care team prior to beginning their group discussion. The video presents the female patient and a clinical problem, and from there, the groups must determine how they want to address the problem. Because the make-up of the groups will be inter-professional, there will be different perspectives that each learner may have after viewing the video. The facilitator's job is to observe the interaction of the group members and help guide their discussion when necessary. Specifically, the facilitator will want to pay attention to the inter-personal aspects of how each health professional is included in the team discussion, and how factors related to the patient's sex or gender are considered by group members when evaluating clinical literature or making decisions. While the discussion should be predominantly learner-led, when necessary, the facilitator can intercede to nudge teams in the right direction if they get off track.

Finally, this packet can serve as a data resource. The exact script of the video is reproduced here, for reference, so as to serve as a quick refresher if group members want to recall what was said in an exchange between actors. In addition, additional supporting data that a health professional in this scenario may want is included in this facilitator's guide. Students can ask for data they might need, and the facilitator can provide that information as each piece of data is requested. Generally in PBL settings, it is a recommended facilitator technique to ask the learner to justify their request. For example, if the request is "Can we have the results of the most recent serum chemistry?" The facilitator would first ask something like: "How will you use that information?" The learner should provide a reasonable rationale – it might be "We need to assess her hydration status" or "If we want to adjust her drug therapy, we need to evaluate her electrolytes and renal function"… Pursuant to anticipated requests for data that might be available during the course of this patient's hospitalization, additional clinical data is provided in this facilitator's guide to dole out as students ask for it.

Case and Clinical data:

Video History and Physical

Detailed SCRIPT *(Students will watch the video version of this prior to group discussion.)*

Scene 1:

Scene	Characters	Actors	Location	Props
1	• Nurse Practitioner (**NP**) at Primary Care Office • Attending Internal Medicine **Hospitalist** at the Hospital	• TBA • TBA	TBA	Phones; pad of paper or ipad, pen, lab coats x2

Scene*: The scene will take place as a phone conversation. The nurse practitioner is calling the local hospital to provide the history and physical information to the hospitalist to directly admit the patient to the hospital.*

<Hospitalist> *(Hospitalist's pager goes off. Hospitalist steps away to call NP)* This is Dr. Zimmerman, the on-call hospitalist at Caring Medical Center, and I was paged.

<NP> *(speaking into phone)* Good morning Dr. Zimmerman. This is Joseph Fines, one of the nurse practitioners over at Caring's Patient-Centered Medical Home. I was calling with a direct admission to your hospital service from our outpatient center.

<Hospitalist> *(Speaking into phone and then begins taking notes on a pad or ipad)* Oh, hey Joe. Good to talk to you again. Who do you have for me today?

<NP> *(speaking into phone)* The patient's name is Mrs. Roberta Jackson. She is a 58-year-old female patient, who presented to our clinic with worsening shortness of breath and fatigue. She has private insurance benefits. She was diagnosed with heart failure 2 years ago and her last echocardiogram was approximately one year ago. That echo showed an ejection fraction of approximately 35%. Today, she reports a 2-month history of dyspnea on exertion, two-pillow orthopnea, and pedal edema. Her oxygen saturation was 88% on room air, so I have placed her on oxygen 2 liters by nasal cannula.

<Hospitalist> *(Speaking into phone and taking notes)* Any chest pain?

<NP> *(speaking into phone)* No, nothing significant right now or in the recent past.

<Hospitalist> *(Speaking into phone and taking notes)* How bad is the pedal edema?

<NP> *(speaking into phone)* She reports that she has had some swelling in her ankles when she gets up in the morning and that the swelling gets progressively worse throughout the day. She has had to wear "house shoes" to work for the last 2 weeks because her regular shoes no longer fit. In the clinic today, she has 2+ pedal edema.

<Hospitalist> *(Speaking into phone and taking notes)* Any lab or x-ray results for Mrs. Jackson?

<NP> *(speaking into phone)* She has not had any lab work or x-rays in about a year. The last lab and x-rays were all unremarkable. Unfortunately, I do not have the ability to check x-ray or labs in clinic today.

<Hospitalist> *(Speaking into phone and taking notes).* How has her blood pressure been?

<NP> *(speaking into phone)* She does not regularly check her blood pressure at home, although the last few times that she has checked it at the pharmacy it has been in the range of 148-170 systolic over 78-92 diastolic. Today it is 167/85. At the time she was diagnosed with heart failure, she was started on Lasix 20 mg daily, potassium 10 mEq daily, and Carvedilol 12.5 mg twice a day.

<Hospitalist> *(Speaking into phone and taking notes).* Any changes in her weight?

<NP> *(speaking into phone)* She does not routinely check her weight at home. She also doesn't limit her fluid intake. It has been 6-months since we saw her last, which was for an acute sore throat. She hasn't reported any changes in her diet, but our clinic scale is on the fritz so we couldn't check her weight today.

<Hospitalist> *(Speaking into phone).* Ok Joe, thanks! I think that is all I need for right now. Why don't you keep her on oxygen and send her in. I will get her worked up with the team and get back to you.

Scene 2:

Scene	Characters	Actors	Location	Props
2	• Attending Internal Medicine **Hospitalist** at the Hospital • **Intern** • Occupational Therapist (**OT**) • **Nurse** • **Pharmacist**	• TBA • TBA • TBA • TBA • TBA	TBA	Ipads (?) something to use to refer to the patient assessment data.

***Scene**: Team is gathered outside Mrs. Jackson's hospital room… or maybe at the nurse's station (?). The team is about to go see her together to develop an interprofessional plan of care. The camera is like another team member observing the exchange.*

<Hospitalist> *(gesturing to the intern)* This is Dr. Franks, she is my intern for this rotation. I will let her get us started reviewing the information that we have each collected on Mrs. Jackson before we all go in together to see her.

<Intern> *(speaking to team)* As Dr. Zimmerman indicated, this is Mrs. Roberta Jackson. She is a 58-year-old African-American female. Her past medical history is remarkable for hypertension for the past 15 years and heart failure for the past 2 years. Additionally, her father passed away of an MI at age 60. Her BNP today is 565. She doesn't have any other documented chronic medical conditions. Surgical history is positive for an appendectomy at age 16. Previous hospitalizations included the appendectomy and childbirth. Home medications include Lasix 20mg daily, potassium 10mEq daily, and Carvedilol 12.5mg twice daily. She has no reported medication or food allergies.

<Hospitalist> *(speaking to team)* Pharmacy do you have anything else about her medications?

<Pharmacist> *(speaking to team)* I interviewed Mrs. Jackson when she first presented to perform a medication history. She brought pill bottles, so I was able to perform a pill count. Her medications include Lasix, potassium, and Carvedilol. It appears that the original prescription date for the Lasix 20mg daily and potassium 10mEq daily was from a year ago by Joseph Fines. This is the nurse practitioner, who has been managing her care at our outpatient patient-centered medical home. It appears the Carvedilol 12.5mg twice daily was prescribed 2 months ago. It had been increased from a dose of 6.25mg – it looks like she had been on that lower dose for about a month before that. This medication was added by a cardiologist, Dr. McClure. Mrs. Jackson reports that she tries to be as adherent with her medications as possible. Based on the fill dates of her current bottles and the number of pills left, it does not appear that she has been optimally compliant. There are about 30% more tablets in the bottles than there should be.

<Hospitalist> *(speaking to team)* Thanks. Let's hear from nursing next. How has Mrs. Jackson been doing since admission?

<Nurse> *(speaking to team)* Her blood pressure is 166/86, pulse is 92, respirations 24, temperature is 97.6, oxygen saturation is 92% on 2L of oxygen via nasal cannula, height is 5'7" and weight is 155lbs. Per her last visit with the nurse practitioner 6 months ago, her weight was 140lbs. She is

currently awake and alert. She answers questions and is oriented x3. She has course rales to lung bases bilaterally and her chest x-ray indicated increased pulmonary vascular markings throughout. Her pedal edema is 2+ bilaterally with no discoloration to the lower extremities.

<*Hospitalist*> *(speaking to team)* Occupational therapy, did you have a chance to see Mrs. Jackson?

<*OT*> *(speaking to the team)* Yes, I saw her just a few minutes ago. Mrs. Jackson reports experiencing shortness of breath with moderate activities such as walking the dog. The shortness of breath has gotten progressively worse over the past 2 months. She works full-time as a certified public accountant, but she has missed 3-4 days of work over the past 2 weeks due to the shortness of breath and fatigue and her employer is "giving her a hard time" about excessive absences. It takes her longer to do basic daily activities and she is only showering once a week because it is exhausting. Any extra activities around the house (i.e. laundry, cleaning the house, cooking, etc.) are not being done regularly because she is too tired. She is married and her spouse works long hours during the week so he is not able to help her with the extra activities. She has two grown children, who are in good health, but they live out of town and cannot help her. She does not exercise regularly and reports that this month she had to buy a larger pants size even though she is eating less food during the day. She reports no history of tobacco, alcohol, or drug use.

<*Hospitalist*> *(Speaking to the team)* Anyone else have anything to add before we go see Mrs. Jackson?

ADDITIONAL CLINICAL DATA

Regular type text represents data that can be given to students AS THEY ASK FOR IT. Please ask them to justify why they want the information / how they will use that to determine their plan. If they ask for data not included here, tell them "that information isn't available".

(Text in italics are for the facilitators only)

Chem:

Na 140, K 3.4, Cl 99, CO2 26, SCr 1.2, BUN 17, Gluc 110

(Students may estimate her calculated CrCl. Using her baseline weight of 140lb and applying a Cockroft-Gault equation (including the correction for female sex), her estimated GFR would be about 52ml/min. if students come up with a very different value, ask them to show their math. If they ask for height to calculate IBW, tell them that that information is not available.)

CBC:

WBC: 7.8, Hgb 11.9, Hct 36, Plts 380

Thyroid function:

TSH: 3.5

Free T4: 0.99

Vitals:

160/75 – 170/88mmHg, HR 88-92, O2 sats 92%, wt 155lbs

ROS / Physical exam:

HEENT: family reports mild hearing loss, use of corrective lenses
CV: S4 gallop noted
Resp: course rales bilaterally
GI: soft, nontender, active bowel sounds x 4 quadrants
GU: deferred
NEURO: c/o loss of sensation in feet
EXT: 2+ edema bilaterally

Immunization history:

Unknown – she reports she had all childhood immunizations, but reports she can't remember getting any boosters as an adult. She reports she "never bothered" with the flu shot. *(Students should consider which adult immunizations would be reasonable given her chronic condition, and whether they should be given while she is here, accessing formal services.)*

Insurance coverage:

Tell students to assume she does have private insurance – Blue Cross Blue Shield *(Are there any services that students are likely to recommend or avoid based on which type of coverage she has?)*

Medication administration and pharmacotherapy:

Tell students to assume that all pill administrations are accounted for while in the hospital per the MAR.

- Lasix 20mg daily*
- Potassium 10mEq daily**
- Carvedilol 12.5mg twice daily***

(Regardless of ejection fraction, one intervention students should make is to recommend the initiation of an ACE inhibitor, starting at low dose and with a plan to titrate while monitoring vitals and serum chemistry [K+, SCr…] Recommendation should include the product, the dose, route, and interval.

Given her ejection fraction, students should consider whether she is a candidate for digoxin or an aldosterone receptor antagonist (such as spironolactone). Students should justify how these medications would be added to the regimen (all at once? In steps? Titration?) and how they would be dosed and monitored given her renal function and electrolyte parameters.

**If she is in acute exacerbation of HF, it is likely the dose of Lasix would have been adjusted, but the script only mentions the medication doses she was taking outpatient. Since the Physical exam shows some residual pedal edema or signs suggesting chest congestion, students should titrate the Lasix.*

***This is a fairly low dose of potassium which may not be adequate if the Lasix dose is increased. Since the chemistry report shows the K+ to be somewhat low, the potassium dose should also be titrated. If they initiate digoxin, spironolactone or both, they should discuss the importance of maintaining optimal K+ levels. Students may suggest obtaining a magnesium level too, which wouldn't be wrong, but may not be necessary at this point – this would be more appropriate if the serum K+ value did not respond satisfactorily with increase in potassium dose.*

****Students may evaluate the carvedilol a couple of ways. They may consider the current dose of this medication (and all her medications for that matter) to be unchanged from outpatient, and asses her increase in carvedilol dose two months ago as an appropriate attempt to titrate this*

drug. Alternatively, it is possible that they may note her history of poor adherence; if she was not taking it appropriately, the now regular BID dosing of this drug actually represents an "increase" of the medication in practice. Either way, students may assess her HR to be a little higher than what might be desired, but also note that it is prudent to be cautious about further titration of this dose at this time given that she is not currently stable. They may suggest a plan in which this drug is titrated at a later time.

Sex specific considerations: Is she a candidate for aspirin or other antiplatelet therapy? Her CV history includes hypertension and HF, but she has no personal history of coronary events, diabetes or stroke (although she has a family history of coronary events). Given her medical history and risk factors, her race, and her sex, what does the data say about the likely utility of an antiplatelet agent in this case?

Race specific considerations – students may debate whether there is rationale to consider alternate pharmacotherapy options that may have outcome data based on race/ethnicity (nitrate, hydralazine) but if so, they should be prepared to explain in which scenarios a prescriber would opt for one of these agents over the regimen she's been prescribed.

OTHER DATA STUDENTS MAY ASK FOR:

Does this patient have impairments of hearing or vision?

She has only minor hearing in noisy situations. She does not wear hearing aids. She wears corrective lenses but these have been left at home.

Does she have difficulty swallowing pills?

She has never complained of swallowing problems with medications or food. Formal swallow assessment has not been performed.

What are this patients functional scores?

Functional Independence Measure (FIM) Scores:

Eating:	FIM 7/7
Grooming:	FIM 7/7
Bathing:	FIM 4/7 (requires assist to wash and dry both feet)
Upper Body Dressing:	FIM 5/7 (requires set-up of clothing – too short of breath to retrieve items safely)
Lower Body Dressing:	FIM 4/7 (unable to put on shoes and socks)
Toileting:	FIM 6/7 (requires extra time and uses a grab bar for balance when adjusting clothing)
Bladder Management:	FIM 7/7
Bowel Management:	FIM 7/7

Transfers (bed, chair, wc)	FIM 7/7
Transfers (toilet)	FIM 7/7
Transfers (shower)	FIM 4/7 (required assist getting out of the shower secondary to fatigue)
Locomotion (walk)	FIM 4/7 (required contact guard assist to walk 150 feet safely)
Locomotion (stairs)	FIM 3/7 (required moderate assist to manage 12 steps due to fatigue)
Comprehension	FIM 7/7
Expression	FIM 7/7
Social Interaction	FIM 7/7
Problem Solving	FIM 7/7
Memory	FIM 7/7

What is this patient's home environment like?

- 4 steps to enter the home;
- walk-in shower available in one bathroom and a bathtub is located in the other bathroom;
    - no assistive devices or durable medical equipment owned;
- the washer and dryer are located in the basement (12 steps down to the basement)

What kind of community does this patient live in?

She lives in Brownfield TX, but her CPA office is located in Lubbock, TX. Her husband works in Lubbock, TX.

FACILITATOR PROMPTS

Recommended learning objectives:

Representatives of each of the health professions participating in this case identified similar learning objectives that would be germane to students in each program. In addition, ***bold, italicized text*** denotes a learning objective that is sex or gender specific.

The compiled list is below. It is appreciated that some health professions may focus to a greater degree on some than others. Therefore facilitators are encouraged both support and monitor this. It is encouraged that this discussion showcase the ways in which each profession can bring a greater degree of depth to their specific area of focus. At the same time, the facilitator can help avoid a situation where a single line of discussion becomes dominant to the exclusion of others.

- Evaluate and classify the presenting illness
    - Recognize presenting signs and symptoms
        - including those from the review of systems/physical exam, as well as those from a functional assessment
    - Determine disease severity and classify type/stage
    - Evaluate the contribution of inappropriate medication regimen/nonadherence to the illness presentation
    - ***Describe how disease risk or prognosis is affected by female sex***
- Evaluate clinical literature
    - Identify appropriate resources to address the patient problem
    - ***Critique the veracity of the data, particularly as to the degree it pertains to a female patient***
- Recommend appropriate interventions
    - Identify any additional evaluation needed
    - Recommend appropriate treatment
        - For non-pharmacologic therapy:
            - Recommend appropriate interventions to improve function, exercise tolerance and quality of life
            - Recommend feasible strategy to implement and monitor interventions
            - Coordinate these interventions across care settings as patient transitions from inpatient to outpatient
            - ***Identify ways in which interventions may differ for men vs women, or whether services (or service access) are different based on gender***
        - For Pharmacologic therapy
            - Identify evidence based medication options for the type and stage of disease

        - ***Identify whether treatment outcomes are expected to differ in a woman vs a man***
    - Recommend appropriate adjustments to the medication therapy
    - Recommend appropriate strategies to monitor adherence and drug therapy outcomes
        - Provide patient education about self-administration and monitoring
- Demonstrate effective inter-professional group skills
    - Group collaborates to identify main problem and organize the problem solving approach
    - Group members support inclusive discussion and respects each other's perspectives
        - Each group member participates
        - Group members assume responsibility for self-teaching and are aware whether each member is engaged and understands concepts
        - Veracity of concepts or data is challenged in a constructive way
        - Conclusions are negotiated and determined through consensus
    - ***Group members remain mindful of the inclusion of a sex or gender focus in the case discussion***

GUIDANCE FOR ENHANCING INTER-PROFESSIONAL INTERACTION

If it is observed that one or more group members is not optimally engaged, or if some members' input is not resonating with the group, the following prompts may help nudge the group back on track:

For situations where a group member seems excluded, or whose role has not been showcased:

- [Student X], what do you think about what [Student Y] had to say about that?
- [Student X], what pieces of data are the most relevant to your practice? Is there data missing that you would like to have? [Student Y], do you routinely document the kinds of data that [Student X] needs?
- [Student X] what is one thing that you learned about what [Student Y] can do for the patient in this case?

For a situation where a strong personality is dominating the direction of the discussion (especially if that line of thinking is inaccurate):

- That is a great suggestion – how many other options exist? Can you list them? What are the pros and cons of each? Which member of the group can lead this pro/con list?
- So, it sounds like you have an idea on the table – can we hear the "devil's advocate" argument? What would that look like? Who can come up with what those points would be?

For a group whose discussion is getting off track:

- So, why don't you summarize what you know so far? What does the next step need to be? What do you need to move forward?

For a group who is not addressing one or more major content areas, or for a group who is spending too much time focusing on the content area of a single health profession:

Recall the learning objectives (above) related to recommending appropriate interventions. These are repeated here (below). Find ways to turn these into questions to get the group to consider how they would address the point they are missing:

- *Identify any additional evaluation needed* (Is there any information you don't have that you need? What is it and why?)
- *Recommend appropriate treatment*
  - *For non-pharmacologic therapy:*
    - *Recommend appropriate interventions to improve function, exercise tolerance and quality of life* (What interventions could be directed at improving her function or exercise tolerance?)
    - *Recommend feasible strategy to implement and monitor interventions* (How will you know your interventions are working?)
    - *Coordinate these interventions across care settings as patient transitions from inpatient to outpatient* (How will you communicate your plan to the providers and caregivers in the next venue?)
    - ***Identify ways in which interventions may differ for men vs women, or whether services (or service access) are different based on gender*** (Will she have any special needs we should consider based on the fact that she is female?)
  - *For Pharmacologic therapy*
    - *Identify evidence based medication options for the type and stage of disease (*What kind of drug therapy intervention does she require?)
      - ***Identify whether treatment outcomes are expected to differ in a woman vs a man*** (Is there data to suggest her outcomes with that drug therapy will be different because she is female?)
    - *Recommend appropriate adjustments to the medication therapy* (What do you think of her current regimen? Are there any adjustments you would recommend?)
    - *Recommend appropriate strategies to monitor adherence and drug therapy outcomes* (How will you evaluate the outcome of your drug therapy interventions?)
      - *Provide patient education about self-administration and monitoring* (How will you explain this to her in lay terms? How will you ascertain that she understands? How will you ascertain her med-taking ability? What techniques will you use to assess or ensure adherence?

GUIDANCE FOR ENHANCING SEX AND GENDER BASED DISCUSSION

If it is observed that the group is not maintaining a focus on sex or gender related concepts, the following prompts may be helpful in stimulating group discussion:

- Did anyone find any evidence describing whether female sex affects the risk of developing this condition, or if sex affects prognosis?
- Is she likely to present differently because she is a woman?
    - Alternatively, is her clinical presentation likely to be interpreted differently by a health professional because she is a woman?
    - What evidence exists to suggest there may be gender bias in patient assessment or care access?
- How are women represented in the evidence base describing treatment?
    - Do clinical guidelines have any special language specific to sex or gender differences?
    - In what proportions do women make up the study populations of clinical trials?
    - Is subgroup analysis performed to determine outcomes based on sex?
    - Do other publications (case reports, etc…) exist to suggest that general population conclusions about treatment may not optimally apply to women?
- Are there treatment outcomes that may be more important to her because she is a woman?
    - What considerations must be included in an assessment of her function? How would you go about determining which aspects of daily function are most important to her?
    - Will her ability to access or use services after discharge be affected by sex or gender?