

The Interprofessional Intervention Opportunities Tool: An Approach to Increase Knowledge of Roles in the Treatment of Diabetes



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Learning Objectives

1. Provide healthcare teams with an efficient, educational reference tool that explores interdisciplinary interventions for Diabetes.
2. Create an educational process that leads to increased role understanding between disciplines and how they could contribute to clients with diabetes in a primary care clinic.
3. Promote IPE team utilization of the IIOT-D to address unique patient needs through interprofessional interventions.

Abstract

The Interprofessional Intervention Opportunities Tool (IIOT) is a color-coded flier for students and proctors at an interprofessional student-run primary care clinic that visually links many diabetes symptoms to disciplines that can provide intervention. In this clinical project, we created an online interactive training

module linking the Interprofessional Education Collaborative (IPEC) competencies of teamwork and professional roles with the IIOT. In addition to the training and tool, student volunteers would be exposed to a real-world clinical setting with Unity Clinic at local partner, Good Shepherd Community Clinic. Subsequently, they were surveyed on their knowledge of different health professions' scope of care for diabetes. While this study is still in process, preliminary data shows that exposing student clinicians to the IIOT and associated training module in primary care could increase knowledge of other professions' scopes of care in the treatment of diabetes, and potentially promote services that improve client outcomes.

Introduction

What we know:

- Student clinicians in IPE are not confident in professions' scope of practice
- Students can be profession-centric when creating a care plan for clients.

The Interprofessional Intervention Opportunities Tool can be a valuable for the following reasons:

1. Focusing the student on the **client's needs based on their symptoms**
2. Identifying **what professions can intervene** to provide appropriate care to the client
3. Reminding of the **overlap in scope of practice** (allowing for increased intervention opportunities regardless of a particular profession being absent for clinic)

Figure 1:

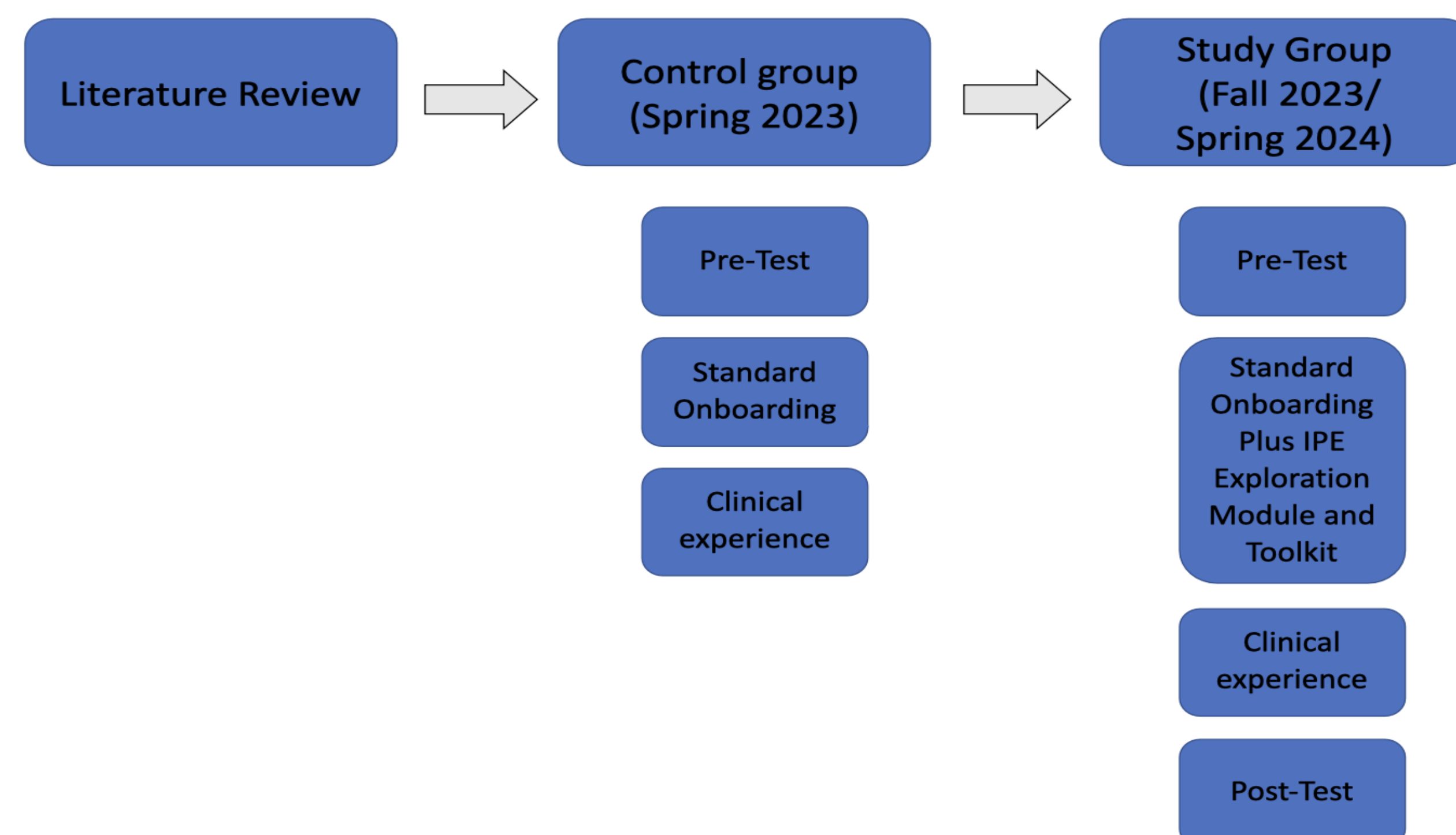
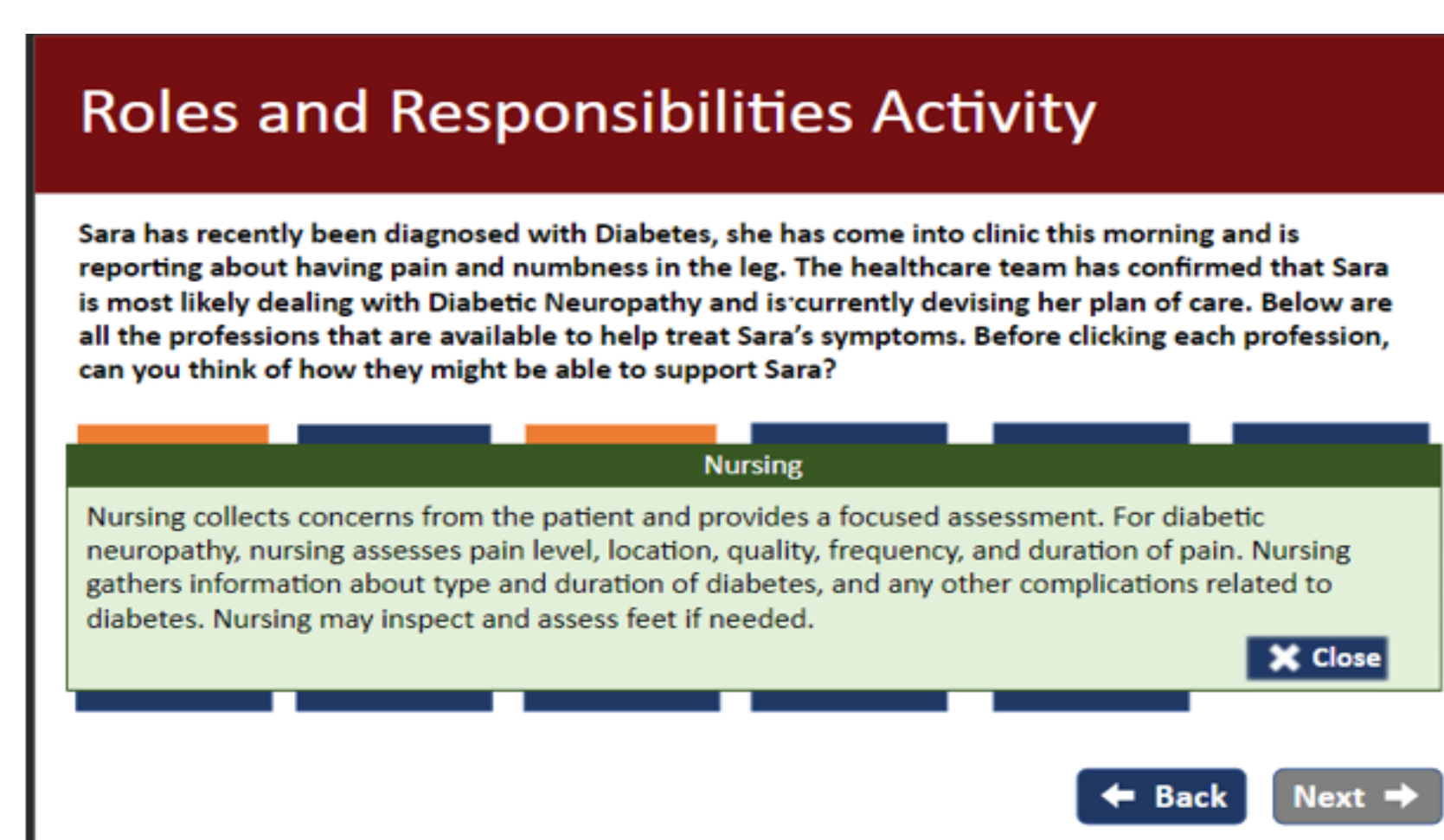


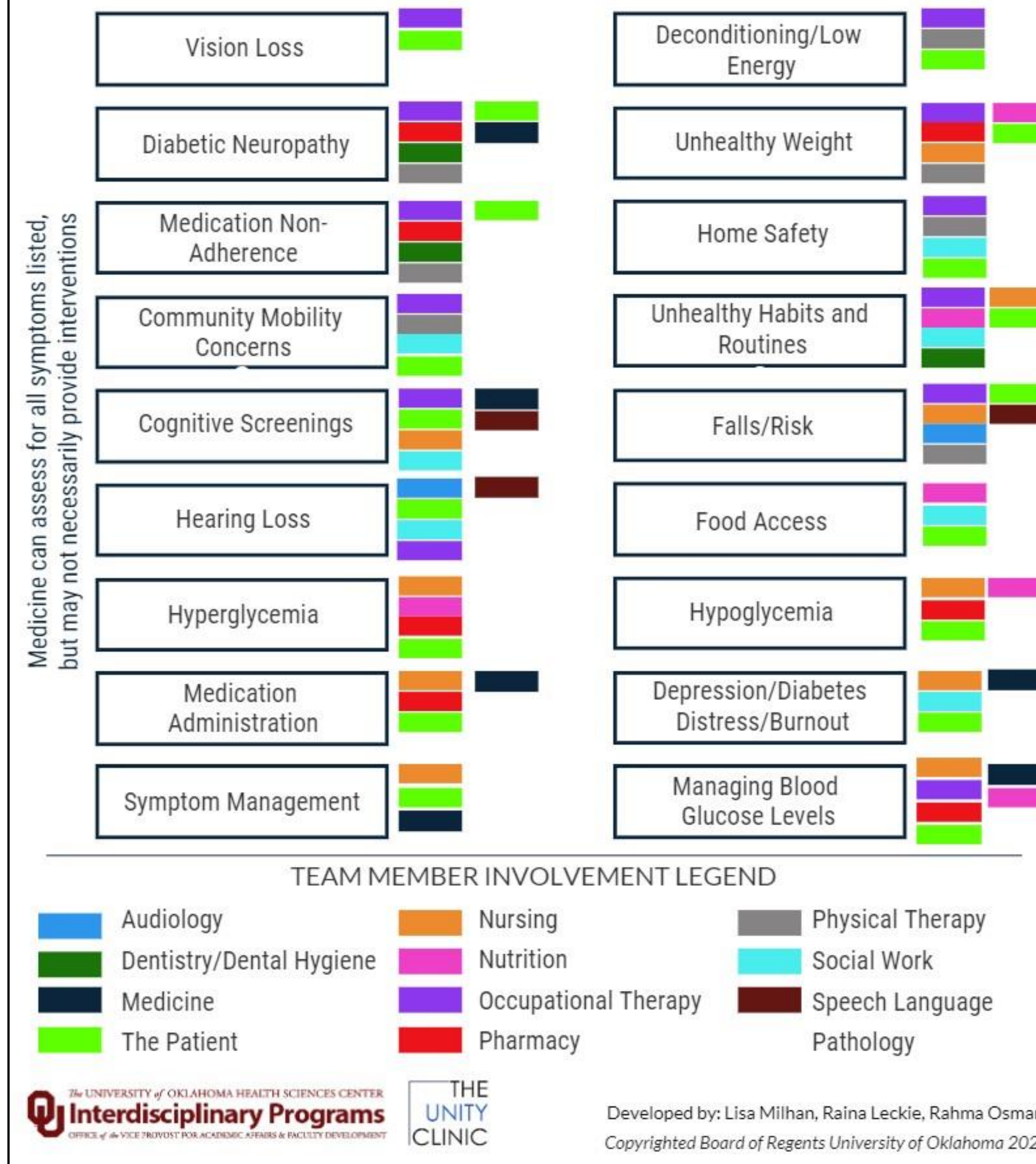
Figure 2: An example of one slide in the interactive-learning IPE module.

Interprofessional students read the scenario and click on each professions' box to learn how they overlap and compliment other professions scope of practice.



The Interprofessional Intervention Opportunities Tool

List of Common Diabetes Symptoms



Results

These results were shown with occasional absences of these professions at the clinic, as seen by the responses to a question which asked students **what disciplines they thought were needed for patient care but not available. The most common responses, in no specific order, were: Physical Therapy, Social Work, Audiology, Occupational Therapy, Dentistry, Nutrition, Nursing, and Pharmacy.**

Mean percentage of knowledge of scope of practice for diabetes by future discipline	Medicine (MD, PA)	Nursing	Social Work	Occupational Therapy	Nutrition	Physical Therapy	Pharmac	Dentistry	Audiology	Speech/Language pathology
Nursing Pre	75.83333	73.61111	56.18182	59.6	61.38462	54.81818	64.33333	45	40.3	36.1
Change	68.68	86.2963	63.73333	58.07692	79.21053	54.16667	85.64706	61.45455	54.11667	58.90909
Percentage	14.70%	11.85%	22.50%	24.89%	26.78%	25.94%	28.82%	26.78%	24.25%	26.71429
Medicine Pre	76.77778	57	47.625	41.875	59.22222	41.125	66.44444	47.5	24.25	26.71429
Change	80.67857	62.16	53.17391	47.90909	64.96154	56	68.76	49.63636	44.25	44.2381
Percentage	3.900794	5.16	5.548913	6.034091	5.739316	14.875	2.315556	2.136364	20	17.52381
Pharmacy Pre	4.83%	8.30%	10.44%	12.59%	8.83%	26.56%	3.37%	4.30%	45.20%	39.61%
Change	61.3	70.75	38.875	36.375	70.75	40.5	82	38.625	21	16.25
Percentage	75.72727	75.16667	45.8	19.28571	69	48.5	62.61538	37.875	24.375	26.625
Change	14.42727	4.416667	6.925	-17.0893	-1.75	8	10.61538	-0.75	3.375	10.375
Percentage	19.05%	5.88%	15.12%	16.49%	11.46%	13.85%	38.97%	23.5%	24	24
DNP Pre	63.25	68	48.5	31.75	54	34.75	52	31	23.5	24
Change	76.11111	73.25	44.66667	52.33333	68.28571	67.66667	88.85714	76	48	60
Percentage	12.86111	5.25	-3.83333	20.58333	14.28571	32.91667	36.85714	45	24.5	36
Pharmacy Post	61.3	70.75	38.875	36.375	70.75	40.5	82	38.625	21	16.25
Change	16.90%	7.17%	-8.58%	39.33%	20.52%	48.65%	41.48%	59.21%	51.04%	60.00%
Percentage	65.8	46.61905	29.89474	19.38889	80.7619	27.5	57.84211	28.5625	10.6	16.25
Change	75.125	70	62.3125	37.61538	91.23529	36	76.8	55.16667	38.07692	40.69231
Percentage	19.525	23.38095	32.41776	18.2265	10.47339	8.5	18.95789	26.60417	27.47692	24.44231
Pharmacy Post	25.99%	33.40%	52.02%	48.45%	11.48%	23.61%	24.68%	48.23%	72.16%	60.07%
Change	25	25	74	25	26	26	26	26	0	0
Percentage	31.4	30.2	87.8	14.66667	47.25	0	31.8	18.5	0	0
Change	6.4	5.2	13.8	-10.3333	21.25	-26	5.8	-7.5	0	0
Percentage	20.38%	17.22%	15.72%	44.97%	0.00%	18.24%	0.00%	0.00%	0.00%	0.00%

This spreadsheet shows an unpaired look at the average change in knowledge (percent) between students of specific disciplines reported on a 0-100% scale.

This spreadsheet shows an unpaired look at the average change in knowledge between students who were familiar with the IIOT and those who were not familiar with the IIOT. Preliminary analysis shows a positive impact of training on the IIOT for increasing understanding of scope of practice compared versus not having training on this tool. A weakness in this data is that the sample sizes between these groups differ: 29 unfamiliar students and 101 familiar students.

	Medicine (MD, PA)	Nursing	Social Work	Occupational Therapy	Nutrition	Physical Therapy	Pharmacy	Dentistry	Audiology	Speech/Language pathology
Post test average knowledge of the discipline-specific scope of practice for diabetes for students unfamiliar with the IIOT										
Mean	69.20833	66.9047619	46.86666667	28.38461538	58.61111111	42.91666667	66.1	39.36363636	27.72727273	29.63636364
Standard Deviation	27.211975	26.37320124	26.20144186	23.68231558	29.96134341	25.46599225	27.5116339	31.53431818	24.42089608	27.63157853
Median	76	75	50	24	54.5	50	71	29	29	24
Post test average knowledge of discipline-specific scope of practice for diabetes for students familiar with the IIOT										
Mean	72.97297	71.51948892	61.06451613	46.4	77.14705882	51.6919373	79.24615385	54.2244888	45.13043478	48.53333333
Standard Deviation	49.7	40	63	42	39	53	30	46	48.5	50
Median	76	75	50	24	54.5	50	71	29	29	24
Pre/Post change	3.764644	4.614718615	14.19784946	18.01538462	18.53594771	8.675170668	11.14615385	14.86085343	17.40316206	18.8969697
Percent change in perception of knowledge of discipline-specific scope of practice for diabetes	5.16%	6.45%	23.25%	38.83%	24.03%	16.82%	14.07%	27.41%	38.56%	38.94%

Methodology (figure 1)

We first conducted a literature review on IPE programs in primary care, IPE specific to diabetes intervention, IPE educational tools, and occupational therapy and IPE in primary care, finding gaps in understanding occupational therapy, any individual profession's scope of practice related to diabetes management in primary care, and in quick visual tools to support IPE and utilization of interprofessional services. The IIOT was created in coordination with health profession representatives. We also created an online interactive training module linking the Interprofessional Education Collaborative (IPEC) competencies of teamwork and professional roles with the IIOT through a case study (figure 2).

At the end of 2022, 129 students from various professional programs had completed the online module and quiz. Anecdotal responses stated that it was useful, but we could not determine the tool's effectiveness at that time. To further investigate this, we continued the research in a clinical design to test if the IIOT increases scope of practice knowledge better than IPE clinic experiences without the tool. Students were introduced to the IIOT and the associated IPEC learning module before a clinical experience at Good Shepherd Clinic, and also participated in pre and post-quizzes to assess their knowledge level of profession-specific interventions for diabetes. Students had access to the IIOT in the clinic setting to assist in conversations between disciplines during treatment planning. The control group data (IPEC module only) was implemented in Spring 2023. Test group data (IPEC module plus IIOT) began in Fall 2023 and is continuing now into Spring 2024.

Impact

How does this help health profession students?

1. Demonstrates the **breadth for which different professions can assist patients with diabetes**
2. Identifies scope of **practice overlap** with other professions
3. May increase **awareness of professions' value** in primary care
4. Provides students with a **visual reminder** of their own scope of practice and improve interprofessional communication

Why did we create our visual aid around clients with diabetes?

1. Focus our interprofessional education on the **Quadruple Aim**: improving population health, enhancing the client's experience, easing burnout in and burden on practitioners, and reducing costs
2. Align with the IPEC core competencies: **values/ethics, roles/responsibilities, communication, teamwork**
3. Provide a tool to aid the treatment of one of the most common and costly diagnoses in Oklahoma and improve the outcomes for diabetes patients (which can be adversely affected by not providing holistic, evidence-based care from a team of professionals (Feldhacker & Doll, 2020).
4. **Every student professional involved in the IPE programs will likely provide intervention to someone who has diabetes.**

Conclusion

The IIOT could be an effective tool for students to increase knowledge of different health professions in treating diabetes in the primary care setting, but this study is currently still in progress. Limitations to the current tool include: coloring may not support those with color blindness, font is small for those with vision limitations, some professions are not included because they do not currently participate in the Unity Clinic program, uneven sample sizes for those familiar to the tool versus not familiar, and unpaired data points. Although we chose diabetes for this study, we are hopeful that the IIOT could be adapted to a number of health conditions, in different clinical settings. We look forward to continuing to collect and analyze data to test the effectiveness of this tool, and continually focus our interprofessional education efforts on the quadruple aim.

