apersu
Alberta PROMS and EQ-5D
Research and Support Unit

Workshop

Introduction to Economic Evaluation

~ Scenario C ~

1. What are we evaluating? Overview of the interventions

The TeamCare trial evaluated a nurse case-manager based collaborative primary care team model to improve depressive symptoms in type 2 diabetes patients who screened positive for depressive symptoms. It was conducted in four Primary Care Networks (PCNs) in Alberta.

The trial found that the collaborative primary care team model improved depressive symptoms compared to usual care.

Usual Care (n=71)	**Collaborative primary care team model (n=95)**
Primary care nurse	Nurse case-manager
	Shared care plan, support, problem solving techniques
Monitoring of outcomes	Monitoring of treatment adherence and outcomes
	In person and telephone follow-up
	Consultation with specialists
	Communicate recommendation to family physicians
	Antidepressant meds and psychotherapy
	Relapse prevention plan
	Training for all team members

Johnson JA, Al Sayah F, Wozniak L, et al. Collaborative care versus screening and follow-up for patients with diabetes and depressive symptoms: results of a primary care-based comparative effectiveness trial. Diabetes Care. 2014 Dec; 37(12):3220-6.

Economic Question

Is the collaborative team care intervention cost-effective compared to usual care?

2. What is a QALY? And how to calculate it?

A Quality Adjusted Life Year (QALY) is a measure of health that takes into account both the *quantity* and *quality* of life (QoL) generated by healthcare interventions.

QALY = (length of life years) x (QoL)

Exercise 2.1:
The following table includes the EQ-5D-5L health states and index score at baseline, 6-months, and 12-months for one patient in each of the 'usual care' and 'collaborative team care' groups.

Using the EQ-5D-5L value set in Appendix 1, identify the index scores for the health states at baseline, 6-months, and 12-months for the patient in the collaborative team care group.

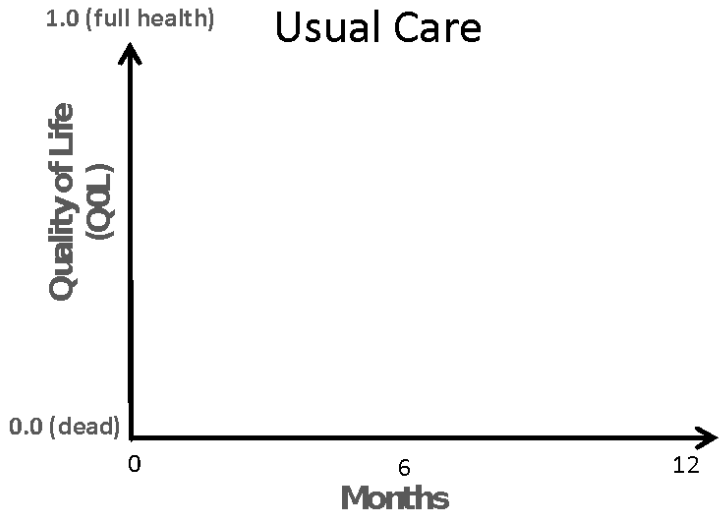
Study arm	**Usual Care**			**Collaborative Team Care**		
Time	**Baseline**	**6-months**	**12-months**	**Baseline**	**6-months**	**12-months**
EQ-5D-5L health state	32323	31233	33321	13132	22132	33211
EQ-5D-5L index score	0.667	0.688	0.696			

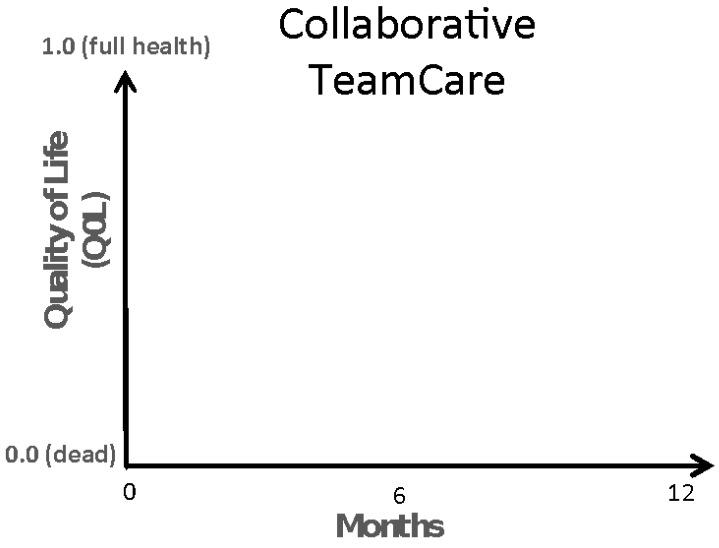
Exercise 2.2:
The following table includes QALYs gained during each time period (0-6 months; 6-12 months) and the total QALYs for the patient in the usual care group.

Using EQ-5D-5L index score data from the above table, calculate the QALYs gained during each time period and the total QALYs for the patient in the collaborative team care group.

You should assume that the index score increases or decreases linearly over each time period.

QALYs gained	**Usual Care**	**Collaborative Team Care**
Baseline – 6 months	0.339	
6 months – 12 months	0.346	
Total (baseline – 12 months)	0.685	





Now that you have calculated the total QALYs gained for each patient in each group, next we will calculate the costs associated with providing usual care to a patient in the usual care group, and the costs associated with providing collaborative team care to a patient in the collaborative team care group.

3. What are the costs of the interventions? And how to estimate them?

Exercise 3.1:
In the following table, the checked box (☑) indicates the cost categories that are associated with each of the interventions, and the numbers in brackets include the number of services used by the patient in each cost category). The table includes the total costs associated with providing usual care to one patient.

Using the cost per item information provided in Appendix 2, identify the total costs associated with providing collaborative team care model to one patient.

Cost category	Usual Care	Collaborative Team Care
Intervention cost ($CAD)		
Case finding		☑
Care manager time & activities		☑
Specialists		☑
Training		☑
Administrative support		☑
Overhead		☑
All cause health services		
Inpatient admissions	☑ (0 admissions)	☑ (1 admissions)
Outpatient visits	☑ (3 visits)	☑ (4 visits)
Provider visits	☑ (17 visits)	☑ (20 visits)
Mental health services		
Inpatient admissions	☑ (0 admissions)	☑ (0 admissions)
Outpatient visits	☑ (0 visits)	☑ (0 visits)
Provider visits	☑ (1 visits)	☑ (1 visits)
TOTAL	$2,157 $CAD	$CAD

4. The full picture: Incremental Cost Effectiveness Ratio (ICER)

Exercise 4.1: Let's compile the total QALYs gained and total costs for all patients

Scenario	Total QALYs gained		Total costs $CAD	
	Usual Care	**Collaborative Team Care**	**Usual Care**	**Collaborative Team Care**
A				
B				
C				
Average				

Exercise 4.2:
Now that we've calculated the averages of the total QALYs gained and total costs of each intervention, let's calculate the incremental cost effectiveness ratio (ICER)

$$\text{ICER} = \frac{\text{Cost (collaborative team care)} - \text{cost (usual care)}}{\text{QALYs (collaborative team care)} - \text{QALYs (usual care)}}$$

ICER = _____ =

Is the 'collaborative team care' model a cost-effective intervention?