

## THE MULTISTAKEHOLDER FRAMEWORK/INDEX OF RURALITY

### **About the multistakeholder framework/index of rurality:**

In 2001, a national survey of physicians, nurses and pharmacists was undertaken. As part of the survey, each respondent chose 5 of 16 listed factors that could define rural/remote from a health care perspective. Total mentions were compiled for each professional group and the top 10 factors were determined. These factors were used to create the multistakeholder framework/index of rurality. This tool could be used for healthcare planning purposes as well as a means for recruiting and retaining health care providers to rural and remote communities.

### **Documents:**

- Form #1 - Assigning Factor Scores
- Form #2 - Applying the Weighting System
- Glossary of Terms

### **Completing the framework/index:**

1. Using **Form #1**, choose the score that best suits the community for each of the factors listed. In scoring the various factors, consider the situation in the community *at the time the framework/index is being completed* unless otherwise indicated.
2. Using **Form #2**, enter the scores (determined through Form #1) for each factor where indicated, and proceed with following the steps listed on the form.

NOTE: If you are uncertain of the meaning of certain terms, please consult the attached Glossary.

## *Glossary*

**Catchment area:** Your community, plus the area beyond it, that is served by the health care workers of your community.

**Full suite of radiological services:** This would include services such as: plain film x-rays; contrast studies (eg. barium); ultrasound; and fluoroscopy. This does not necessarily include MRI or CT scanning.

**Full-time equivalent (FTE):** Estimates of full-time equivalents can be made by assuming that a full-time health professional would work between 35-40 hours per week. Less than this would be considered part-time and equal to a fraction of an FTE; e.g., 20 hours/week = 0.5 FTE.

**Locum:** A short term substitute for a health professional in the event of absence from work for any reason e.g., holiday, sickness. The locum must be able to provide the same level of advice/treatment/care.

**On-call:** Where a physician is on standby (either on-site, e.g., emergency room, or by phone/pager) for his/her own patients/consultations or for patients/consultations other than his or her own. (*See also shared on-call*)

**Primary healthcare:** Basic curative care including simple diagnosis and treatment and referral of complex cases to higher level, preventative care and essential health education provided at the point of entry into the health care system

**Secondary referral centre:** Centre designed for specialized care requiring more sophisticated and complicated diagnostic and treatment than that provided at the primary health care level; services include inpatient family medicine, emergency, medical, surgical, anesthesia, psychiatry, pediatrics, obstetrics and gynecology.

**Shared on-call:** Being on standby for patients/consultations other than your own.

**Tertiary referral centre:** Centre specifically designed to provide highly specialized diagnostic and therapeutic services, staffed and equipped for this purpose (e.g., coronary bypass, neonatal intensive care).

## Form # 1 – Assigning Factor Scores

Please enter a score of 1 to 5 for each of the following factors based on the description of the community being evaluated.

- **FACTOR 1:** Distance to a secondary referral centre.

Distance category	Distance score
• Fewer than 20 km	1
• 20 to 49 kms	2
• 50 to 99 kms	3
• 100 to 199 kms	4
• 200 or more kms	5

Score for community = \_\_\_\_\_

- **FACTOR 2:** Barriers (geography/weather/roads) to timely access to healthcare services.

Category of barrier	Barrier score
• Road access – closed fewer than 5 days per year	1
• Roads access – closed 5 or more days per year	2
• Access by train and air only – somewhat weather dependent, limited schedule	3
• Access by air and water only – weather dependent	4
• Access by air only – weather dependent	5

Score for community = \_\_\_\_\_

- **FACTOR 3:** Number of health care providers [full-time equivalents]

Please use the following formula to determine the number of each healthcare provider per 1000 population in the community.

$$\frac{(\# \text{ physician/nurse*/pharmacist** FTE}) \times 1000}{\text{population in community}} = \# \text{ per 1000 pop}$$

**Step 1:** *Multiply* the number of physicians in your community by 1000.

**Step 2:** *Divide* the result from **Step 1** by the population of your community. The result is the number of physicians in your community per 1000 population (# per 1000 pop)

**Step 3:** Find this result from **Step 2** in the column marked **# per 1000 pop** on the table below to determine your score.

**Step 4:** Repeat Steps 1 to 3 for nurses and pharmacists.

*\*Note: "Nurse" includes all licensed nurses working in a hospital, clinic or elsewhere in the community.*

*\*\*Note: "Pharmacist" includes all licensed pharmacists working in a community pharmacy, hospital or elsewhere in the community*

Physician FTE/pop category		Nurse FTE/pop category		Pharmacist FTE/pop category	
# per 1000 pop	Score	# per 1000 pop	Score	# per 1000 pop	Score
>2	1	>8.9	1	>1	1
1.6 – 2.0	2	6.0 – 8.9	2	0.8 – 1.0	2
1.1 – 1.5	3	4.5 – 5.9	3	0.5 – 0.7	3
0.6 – 1.0	4	3.0 – 4.4	4	0.1 – 0.4	4
0.0 – 0.5	5	<3	5	0	5

MDs

Nurses

Pharmacists

Scores for community = \_\_\_\_\_

- **FACTOR 4:** Ability to provide services such as obstetrics, general surgery and anesthesia.

*Please choose the option that best describes the community*

Category of service provision	Service score
<ul style="list-style-type: none"> <li>• General surgery, anesthesiology, and specialized obstetrical services always available in town</li> </ul>	1
<ul style="list-style-type: none"> <li>• General surgery, anesthesiology, and specialized obstetrical services available most of the time in town including normal delivery/childbirth</li> </ul>	2
<ul style="list-style-type: none"> <li>• General surgery, anesthesiology, and specialized obstetrical services available occasionally in town, normal delivery/childbirth</li> </ul>	3
<ul style="list-style-type: none"> <li>• No general anesthesia, only normal delivery/childbirth available in town</li> </ul>	4
<ul style="list-style-type: none"> <li>• No general anesthesia, no healthcare provider available for deliveries/childbirths</li> </ul>	5

*Note: “Normal delivery/childbirth” could be by an obstetrician, family practitioner or midwife. “Specialized obstetrical services” could include care for high risk pregnancies, Caesarian sections etc.*

Score for community = \_\_\_\_\_

- **FACTOR 5:** Distance to tertiary referral centre

Distance category	Distance score
<ul style="list-style-type: none"> <li>• Fewer than 20 km</li> </ul>	1
<ul style="list-style-type: none"> <li>• 20 to 49 kms</li> </ul>	2
<ul style="list-style-type: none"> <li>• 50 to 99 kms</li> </ul>	3
<ul style="list-style-type: none"> <li>• 100 to 199 kms</li> </ul>	4
<ul style="list-style-type: none"> <li>• 200 or more kms</li> </ul>	5

Score for community = \_\_\_\_\_

- **FACTOR 6:** Level of on-call responsibilities [of physicians].

*Consider the average of shared on-call responsibilities for all physicians who provide services to the community.*

On-call category	On-call score
• Fewer than or equal to 1 in 6 days (120 hrs/month)	1
• 1 in 5 days (144 hrs/month)	2
• 1 in 4 days (180 hrs/month)	3
• 1 in 3 days (240 hrs/month)	4
• More than 1 in 3 days (more than 240 hrs/month)	5

Score for community = \_\_\_\_\_

- **FACTOR 7:** Difficulty in obtaining locums (temporary or casual professional staff)

*For scoring purposes, consider the last 12 month period.*

Difficulty in obtaining locums	Locum score
• Never difficult	1
• Seldom difficult	2
• Sometimes difficult	3
• Usually difficult	4
• Always difficult	5

Score for community = \_\_\_\_\_

- **FACTOR 8:** Availability of equipment such as x-rays and lab services

Rating of equipment	Equipment score
• Full suite of radiological and lab services in town, 24 hrs/day	1
• Full suite of radiological and lab services in town, limited hours	2
• Most radiological and lab services available in town, limited hours	3
• Limited x-ray (chest, abdominal, bone), lab (routine blood) services in town	4
• No x-ray or laboratory services in town	5

Score for community = \_\_\_\_\_

- **FACTOR 9:** Availability of public transportation to healthcare services.

*Please choose the option that best describes the community.*

Availability of public transportation	Transportation score
• Regular bus service within & between communities, taxi	1
• Regular bus service between communities, hospital shuttle, taxi	2
• Limited bus service between communities, hospital shuttle, taxi	3
• Taxi only	4
• No public transportation or taxi	5

Score for community = \_\_\_\_\_

- **FACTOR 10:** Size of catchment area

Catchment Area	Catchment score
• < 20 km radius	1
• 20 – 49 km radius	2
• 50 – 99 km radius	3
• 100 – 199 km radius	4
• 200 or more km radius	5

- Score for community = \_\_\_\_\_

**Form #2 – Applying the Weighting System**

**FORM #2**

1. Please transfer the scores from Form #1 for each factor into the **community score** column here.
2. Multiply the **community score** by the physicians **weight** and enter the number in the **weighted score** column for each factor.
3. Sum the weighted scores and record at the bottom of the column. This is the rurality index.
- 4 Repeat Step 2 and 3 for registered nurses, licensed practical nurses and pharmacists.

Abbreviated Factor	Community Score	Physicians		RNs, NPs		RPNs, LPNs		Pharmacists	
		Weights	Weighted score	Weights	Weighted score	Weights	Weighted score	Weights	Weighted score
1. Distance to secondary centre		0.15		0.14		0.17		0.14	
2. Barriers		0.14		0.17		0.13		0.13	
3. Number of providers:									
- MDs		0.027		0.04		0.047		0.05	
- Nurses		0.027		0.04		0.047		0.05	
- Pharmacists		0.027		0.04		0.047		0.05	
4. Ability to provide services		0.09		0.11		0.14		0.11	
5. Distance to tertiary centre		0.13		0.12		0.08		0.06	
6. Level of on-call		0.12		0.09		0.08		0.08	
7. Locums		0.07		0.06		0.08		0.11	
8. Availability of equipment		0.08		0.06		0.06		0.08	
9. Transportation		0.05		0.09		0.08		0.07	
10. Catchment area		0.08		0.06		0.03		0.06	
<b>Rurality Index (Sum)</b>									