Purpose: To show how a country’s average life expectancy and infant mortality rate relate to its per-capita healthcare expenditure

Activity at a Glance
- Activity type: Card-matching game
- Age range: Middle school–adult
- Number of players: Any number
- Duration: 5 minutes
- Space: Table top
- Facilitation: Useful but not required
- Preparation time: 15 minutes

Overview
Players contrast the per-capita healthcare expenditure, infant mortality rate, and average life expectancy of the US, Mexico, and Afghanistan. For each of these three factors, the game board provides information about one country. The players’ task is to make an educated guess about the situation in the other two countries. To give players a reasonable chance of getting a right answer, each factor has four cards associated with it. From these four choices, players select the ones they think represent the situation in the other two countries. For example, given the infant mortality rate in the US, players estimate the infant mortality rate in Mexico and Afghanistan. After filling all the blank spaces on the board with cards, players check their estimates against an answer key.

Core Concepts
Participants will understand that:
- Higher per-capita healthcare expenditures decrease infant mortality and increase life expectancy.
- A high infant-mortality rate lowers a country’s average life expectancy.

Materials
Game board, 12 game cards, answer sheet. Optional: data table and clear acrylic table stand.

Preparation
Print the game board, procedure, answer sheet, and game cards. Laminate, if possible. If lamination is impossible, print several copies in case the board or cards are damaged. Fold and tape the procedure and answer sheet into a triangular shape. Hide the answer sheet from view by setting the triangle so it rests on the side with the answer sheet. If you are using the optional data table, print it out and set it in clear acrylic table stand.

continued
Procedure

1. Ask players to read the information in the shaded square in row 1 (i.e., the per-person healthcare spending in Mexico).

2. Have players examine the four Healthcare Spending cards and choose the ones they think represent the average healthcare spending in the US and Afghanistan.

3. Have players set the cards they selected in the appropriate squares on the board.

4. Repeat steps 1–3 with the Infant Mortality and the Life Expectancy rows.

5. Ask players to check the answer sheet to see how well they matched the cards.

6. Discuss the following questions:
   - What is the general relationship between public health expenditure and life expectancy and infant mortality rates? (Greater expenditures increase life expectancy and decrease infant mortality.)
   - Why does a high child-mortality rate lower a country’s average life expectancy? (Each early death pulls down the country’s average)
   - What is the most effective way to boost a country’s life expectancy numbers? (Reduce infant mortality)

7. Optional: To help people explore the issues raised in the initial activity, copy the How Life Expectancy and Infant Mortality Are Affected by a Country’s Healthcare Investment data table and set it in a clear acrylic table stand. Encourage players to discuss the questions beneath the chart. The chart and its questions can work as a stand-alone activity, though people will likely understand the concepts better if a facilitator leads them in a discussion.

Answers to the questions beneath the data table

- What country spends the most money per person on health care? (US)
- What country has the longest average life expectancy? (Japan)
- What country has the lowest infant mortality rate? (Japan)
- What country has lowered infant mortality with only a modest healthcare investment? (Costa Rica)
- What expenditure level seems to make a significant difference in infant mortality rates? (There is a major drop in infant mortality in the countries spending at least $100 per person on health care. The next major drop in infant mortality occurs in countries spending over $1000 per person.)
- What expenditure level seems to make a significant difference in life expectancy? (There is a major increase in life expectancy in the countries spending at least $100 per person on health care. The next major increase in life expectancy occurs in countries spending over $1000 per person.)
- What relationship can you find between a country’s average life expectancy and its infant mortality rate? (The lower the infant mortality rate, the higher the life expectancy. Since life expectancy is calculated by factoring in all deaths, the two numbers are directly related—more young deaths lowers the overall average life expectancy.)
Can you find the pattern?

- What country spends the most money per person on health care?
- What country has the longest average life expectancy?
- What country has the lowest infant mortality rate?
- What country has lowered infant mortality with only a modest healthcare investment?
- What expenditure level seems to make a significant difference in infant mortality rates?
- What expenditure level seems to make a significant difference in life expectancy?
- What is the relationship between a country’s average life expectancy and its infant mortality rate?

<table>
<thead>
<tr>
<th>Country</th>
<th>Per Capita Health Expenditure in 2001* (in US dollars)</th>
<th>Life Expectancy (Male and female, rounded to nearest year)</th>
<th>Infant Mortality (per 1000 births)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra Leone</td>
<td>$26</td>
<td>34 years</td>
<td>318 deaths</td>
</tr>
<tr>
<td>Mali</td>
<td>$30</td>
<td>45 years</td>
<td>229 deaths</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>$34</td>
<td>43 years</td>
<td>257 deaths</td>
</tr>
<tr>
<td>Bolivia</td>
<td>$125</td>
<td>63 years</td>
<td>76 deaths</td>
</tr>
<tr>
<td>Vietnam</td>
<td>$134</td>
<td>70 years</td>
<td>37 deaths</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>$158</td>
<td>70 years</td>
<td>35 deaths</td>
</tr>
<tr>
<td>Mexico</td>
<td>$544</td>
<td>74 years</td>
<td>27 deaths</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>$562</td>
<td>77 years</td>
<td>11 deaths</td>
</tr>
<tr>
<td>Brazil</td>
<td>$573</td>
<td>69 years</td>
<td>38 deaths</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$1989</td>
<td>78 years</td>
<td>7 deaths</td>
</tr>
<tr>
<td>Japan</td>
<td>$2131</td>
<td>82 years</td>
<td>4 deaths</td>
</tr>
<tr>
<td>Canada</td>
<td>$2792</td>
<td>80 years</td>
<td>6 deaths</td>
</tr>
<tr>
<td>United States</td>
<td>$4887</td>
<td>77 years</td>
<td>8 deaths</td>
</tr>
</tbody>
</table>

* Includes government and private healthcare funding. This money makes health materials and services available, such as monitoring the incidence of infectious disease, supplying vaccines and appropriate medicines, and providing staffed care facilities.
FACT:
In Mexico, the per-person healthcare spending is $544.

WHAT DO YOU THINK?
In the United States, the per-person healthcare spending is XXX.
*Fill in the blank with a healthcare spending card.*

WHAT DO YOU THINK?
In Afghanistan, the per-person healthcare spending is XXX.
*Fill in the blank with a healthcare spending card.*

FACT:
In Mexico, the infant mortality is XXX.
*Fill in the blank with an infant mortality card.*

WHAT DO YOU THINK?
In Afghanistan, the infant mortality is XXX.
*Fill in the blank with an infant mortality card.*

FACT:
In the United States, the life expectancy is 8 deaths out of 1000 births.
*Fill in the blank with a life expectancy card.*

WHAT DO YOU THINK?
In the United States, the life expectancy is XXX.
*Fill in the blank with a life expectancy card.*

FACT:
In Afghanistan, the life expectancy is 31 years.
*Fill in the blank with an life expectancy card.*

WHAT DO YOU THINK?
In Afghanistan, the life expectancy is XXX.
*Fill in the blank with a life expectancy card.*
GETTING YOUR MONEY’S WORTH Game Cards

Cut out cards along dotted lines.

- **Life Expectancy Card**
  - 52 years

- **Infant Mortality Card**
  - 257 deaths per 1000 births

- **Healthcare Spending Card**
  - $34 per person

- **Life Expectancy Card**
  - 74 years

- **Infant Mortality Card**
  - 107 deaths per 1000 births

- **Healthcare Spending Card**
  - $142 per person

- **Life Expectancy Card**
  - 64 years

- **Infant Mortality Card**
  - 27 deaths per 1000 births

- **Healthcare Spending Card**
  - $2792 per person

- **Life Expectancy Card**
  - 77 years

- **Infant Mortality Card**
  - 16 deaths per 1000 births

- **Healthcare Spending Card**
  - $4887 per person
How to Play
Getting Your Money’s Worth

1. Read the healthcare spending information in the shaded square in row 1.
2. Examine the four Healthcare Spending cards. Choose the ones you think represent the average healthcare spending in the US and Afghanistan.
3. Set the two cards you selected in the appropriate squares on the board.
4. Repeat Steps 1–3 with the Infant Mortality and the Life Expectancy rows.
5. Check the answer sheet (on the bottom of this triangle) to see how well you matched the cards.
6. When you are done, turn the triangle so the answer sheet is hidden.

Answer Sheet

<table>
<thead>
<tr>
<th>Healthcare Spending (per person)</th>
<th>Mexico</th>
<th>United States</th>
<th>Afghanistan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$544</td>
<td>$4887</td>
<td>$34</td>
</tr>
<tr>
<td>Infant Mortality (per 1000 births)</td>
<td>27 deaths</td>
<td>8 deaths</td>
<td>257 deaths</td>
</tr>
<tr>
<td>Life Expectancy (average)</td>
<td>74 years</td>
<td>77 years</td>
<td>43 years</td>
</tr>
</tbody>
</table>