**Situation**

“Medical waste can be defined as waste produced by hospitals, clinics, doctors' and dentists' offices, veterinary clinics, and medical research labs.” [1]

- 85% of Medical Waste is non-hazardous
- 15% of Medical Waste is hazardous (infectious and non-infectious) [1]

Companies that manage Medical Waste in the UAE:
- Wekaya
- Dulsco

**Problems**

1. Cost
   - In 2012, the United States spent up to $2.5 billion for the secure disposal of medical waste.
   - By 2017 the annual market is expected to $3.2 billion [6]

2. High Medical Waste generation.
3. Consequences of mishandling hazardous materials.

### Table 1: Total Medical Waste production [2]

<table>
<thead>
<tr>
<th>Healthcare spending per capita (United States $)</th>
<th>United States</th>
<th>Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>$30,000</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>$3,000</td>
<td>6</td>
<td>1.035</td>
</tr>
<tr>
<td>$1000</td>
<td>0.8567n(x) - 2.1473, R² = 0.3489</td>
<td></td>
</tr>
<tr>
<td>$300</td>
<td>0.5664n(x) - 3.0159, R² = 0.8547</td>
<td></td>
</tr>
</tbody>
</table>

**Solutions**

**Steps to managing medical waste:**

1. **Segregation** is the separation of infectious medical waste (e.g., placing each waste item into the proper containers) [3].
2. **First**, determine the source and types of waste. Then, waste is weighed and the data is electronically recorded, the waste is then treated and the suitable disposal method is chosen.
3. **Incineration**: Is the process of removal or reduction of waste materials by burning, this leads to volume reduction up to 90%.
4. **Steam sterilization**, better known as *autoclaving*, is the exposure of waste to saturated steam under pressure in a pressure vessel or autoclave [4].

**Evaluation**

- Segregation is crucial for selecting the best way to handle the medical waste
- Incineration of medical waste can pollute the air by generating dioxins and furans
- Sterilization needs operatives to undertake careful disinfection in order to prevent contamination and disease spreading
- The cost of managing medical waste is high due to the secure system needed when collecting, handling, storing, transporting, treating or disposing of waste.

**References**