**Product / Service:** Medical Apparatus

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Negative Impacts / Risks** |  | **Positive Opportunities** |
| **Environmental** | * **Production of Medical Devices**: Involves energy-intensive processes and the use of non-renewable materials, including plastics and metals, impacting biodiversity through mining activities.
* **High Carbon Footprint**: The manufacturing of devices and equipment generates high carbon emissions and water use.
* **Single-Use Equipment**: Many medical devices are designed for single use, leading to increased medical waste and more frequent delivery (fuel use).
* **Disposal of Hazardous Materials**: Medical equipment, particularly those with electronic components, can produce hazardous waste if not properly disposed of.
* **Sterilization Energy Use**: Autoclaves and other sterilization equipment consume significant energy.
* **Packaging Waste**: Excessive use of sterile packaging for medical devices contributes to landfill waste.
 | * **Energy Efficient Equipment**: Opportunities to adopt medical devices with energy-efficient certifications (e.g., EnergyStar) to reduce operational carbon impact.
* **Recyclable and Reusable Materials**: Implementing programs for recycling equipment components and using reusable versions (e.g., stainless steel surgical tools instead of plastic).
* **Order Consolidation**: Reducing delivery frequency to minimize emissions.
* **Reduced Packaging**: Implementing recycled and minimal packaging solutions for medical devices.
* **Computer modelling techniques and digitalisation**: Opportunities to replace physical apparatus used in research and teaching with software
 |
| **Social** | * **Supply Chain Issues**: International manufacturing may involve labour concerns such as poor working conditions, low pay, or human rights abuses.
* **Patient Health Risks**: Improper disposal of hazardous medical equipment can lead to public health hazards.
* **Noise and Congestion**: Frequent deliveries may increase noise and traffic congestion.
 | * **Consolidated orders & deliveries** (including shared contracts) – reduce congestion & noise
* **Ethical Sourcing Programs**: Engage with suppliers who meet ethical labour standards and offer fair pay.
 |
| **Economic** | * **High Cost of Equipment**: Advanced medical technology requires significant financial investment.
* **Disposal and Maintenance Costs**: Expenses related to proper disposal of hazardous devices and the maintenance of reusable equipment.
* **Energy Costs**: High energy consumption from sterilization and diagnostic devices increases operational costs.
 | * **Bulk Purchasing Agreements**: Consolidating suppliers and orders to reduce costs and delivery charges.
* **Shared Use of Equipment**: Universities can share or lease specialized devices, reducing costs per facility.
* **Energy Efficient Devices**: Investing in energy-efficient technology reduces long-term operational costs.
* **Extended Equipment Lifespan**: Proper maintenance practices can extend the life of devices, reducing the frequency of purchases.
 |