Managing Biomedical Waste in India: COVID & Beyond

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Definition of Biomedical Waste

As per the Biomedical waste management rules 2016:

*Biomedical waste mean any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps, including the categories mentioned in the schedule I appended to the Biomedical waste management rules 2016.*

Source: Biomedical Waste Management Rules, 2016
Why do we need to manage this stream of waste?

• Medical waste has been considered a part of Municipal Solid waste for a very long time.

• Two fates:
  • Illegal recycling
  • Dumping

• Crucial for:
  • Human health
  • Environment

• Potential to spread infections and diseases.
Legislative developments since 1995

Draft rules for BMW in 1995:
All Hospitals with more than 30 beds asked to install on-site incinerators

Supreme Court:
Ordered implementation of these rules in 1996

Second Draft of Biomedical waste rules notified in 1997

New Draft rules: Introduced in 2015

Amended thrice:
March 2000
June 2000
September 2003

Biomedical waste (management & handling) rules, 1998 notified on 20 July 1998

New Biomedical waste management rules notified on 28th March 2016

Amended thrice:
16th March 2018
19th February 2019
10th May 2019

Implementation??
# BMWM- Current Scenario

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of HCF’s</td>
<td>2,70,416</td>
</tr>
<tr>
<td>No. of bedded HCF’s</td>
<td>97,382</td>
</tr>
<tr>
<td>No of non-bedded HCF’s</td>
<td>1,73,831</td>
</tr>
<tr>
<td>No. of Beds</td>
<td>22,06,362</td>
</tr>
<tr>
<td>No. of CBWTF’s</td>
<td>200* + 28**</td>
</tr>
<tr>
<td>No. of HCF’s granted Authorization</td>
<td>1,10,356</td>
</tr>
<tr>
<td>No. of HCF’s having captive treatment facilities</td>
<td>12,326</td>
</tr>
<tr>
<td>No. of captive incinerators operated by HCF’s</td>
<td>120</td>
</tr>
<tr>
<td>Quantity of biomedical waste generated (TPD)</td>
<td>614</td>
</tr>
<tr>
<td>Quantity of biomedical waste treated (TPD)</td>
<td>534</td>
</tr>
<tr>
<td>No. of HCF’s who violated BMW rules</td>
<td>27,301</td>
</tr>
<tr>
<td>No. of show-cause notices/directions issued to</td>
<td>16,956</td>
</tr>
<tr>
<td>defaulter HCF’s</td>
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Source: Annual Report on Biomedical Waste Management 2018, CPCB
Key findings of the report

• Authorization of HCF’s stands at a meagre 40%

• Bar-coding system not yet implemented by HCF’s and CBWTF’s

• CEMS from CBWTF’s are not providing real-time data to prescribed authority servers

• Non-chlorinated plastic bags have mostly been phased out
Key findings: COVID-19

• Quantity of biomedical waste produced has increased by approximately 21% on an average

• Quarantine centres do not have the necessary staff to deal with biomedical waste

• The use of plastic waste and disposal masks has increased manifold, straining the collection and processing systems.
The way forward

• Data management systems for tracking and inventorization needs to improve

• Incinerators need to be monitored and regulated closely

• CEMS and barcoding needs to be implemented for better tracking and barcoding should be extended to recyclers

• Segregation of COVID-19 and biomedical waste at household, HCF’s and quarantine centres need to be enforced
Latest developments

• High level task team (HLTT) constituted by CPCB

• 2 review meetings held

• Close to 20% of the CBWTF’s not using the app (38 out of 198)

• Deviation in the quantity of waste reported by SPCB’s and the quantity reported by generators

• States are in the process of increasing processing capacity by setting up CBWTF’s
There is no such thing as “Away”. When we throw anything away it must go somewhere.

-Annie Leonard