# Campus Materials & Cost Estimator

This document outlines the technical requirements, materials list, and cost estimation framework for manufacturing Narcan vending machines as part of The Opioid Response Coalition (TORC) Campus Pilot Program. It is designed for use by university makerspaces, engineering departments, and fabrication labs.

**A Note on Support**  
TORC, founded by Livegy and Conscience Conduit, is committed to your success. We can provide pre-packaged hardware kits, detailed step-by-step instructions (via video or in-person sessions), and optional hands-on assembly support to help your program launch effectively.

## 1. 3D Printer Requirements

To ensure successful and reliable production, your FFF/FDM 3D printer should meet these minimum specifications:

* **Build Volume:** Minimum 400 mm in at least one axis (X, Y, or Z)
* **Heated Bed:** Required for proper PETG adhesion and to prevent warping
* **Enclosure:** An enclosed build chamber or draft shield is highly recommended to maintain stable ambient temperatures
* **Nozzle:** 0.4 mm to 0.8 mm diameter
* **Filament Compatibility:** Must be capable of printing PETG filament reliably
* **Filament Runout Sensor:** Preferred to prevent print failures during long print jobs

## 2. Print Materials & Consumables

* **Filament:** Approximately 2 kg of PETG filament per machine
* **Branding (Optional):** Institutions may use specific filament colors to align with campus branding or public health campaigns

## 3. Hardware Bill of Materials (BOM) — Per Unit

The following components are required for assembly. These items can be sourced from standard hardware suppliers or from TORC as a kit.

|  |  |  |
| --- | --- | --- |
| Quantity | Item | Sourcing Notes |
| 5 | Throttle Springs (or similar) | For the dispensing mechanism; size should be comparable |
| 10 | #6 x 3/8" Pan Head Phillips Screws | Standard wood or sheet metal screw |
| 1 pack | Matana Magnetic Locks (or equivalent) | Sourced from Amazon; used for the secure latch |
| As needed | Adhesive/Glue for Magnetic Latch | Strong-bonding glue suitable for plastics (e.g., epoxy) |

## 4. Required Tools

* Flush cutters / nippers (for removing supports)
* Magnetic small Phillips head screwdriver
* Small needle-nose pliers

## 5. Estimated Cost Per Unit

## Sticker Cost for Medication (If Supplied by TORC)

The following pricing applies to optional medication stickers provided through TORC. For very large quantities, fulfillment may occur in batches of 1,000 until the order is complete.

|  |  |
| --- | --- |
| Quantity | Price |
| 500 | $155 |
| 1,000 | $245 |
| 2,500 | $395 |
| 5,000 | $625 |
| 10,000 | $1,075 |
| 12,000 | $1,200 |

---Costs are estimates and will vary based on your suppliers and institutional purchasing agreements. Use this template to calculate your projected budget.

* **PETG Filament (2 kg):** $\_\_\_
* **Hardware (screws, springs):** $\_\_\_
* **Magnetic Latch Kit:** $\_\_\_
* **Optional Finishing/Art Supplies:** $\_\_\_
* **Vinyl-Wrapped Art Option:** $60 per unit (for print and installation). We recommend using car wrap or advertising printer vendors for ease of installation and can provide suggestions.
* **Assembly Labor:** We recommend hiring recovery community members when possible. Budget $20/hour; each machine typically requires about 30 minutes to assemble ($10/unit).
* **Estimated Subtotal:** $