

Product Design Specifications – January 30, 2011

Project #32: Home Health Device

Team Members

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Problem Statement

Home health visits can be challenging for a variety of reasons including the amount of supplies needed to be carried along as well as where to place and how to handle the equipment. Additionally, many homes do not have sufficient seating or surfaces necessary for the care giver to work properly. A portable seat and storage device would help minimize these problems and lead to an overall improvement of the quality of the home health visit.

Client Requirements

- Portable; lightweight
- Approximate Dimensions: 18in x 18in x 16in
- Easily Cleaned
- Handle and Seat

Design Requirements

1. Physical and Operational Characteristics

- Performance Requirements:* The device should be able to withstand an average person sitting and moving the device for a twelve to fourteen hour day for approximately one weekend per month.
- Safety:* For safety of the user, the device must comply with OSHA regulations. For sharps and biohazard equipment, there should be separate compartments with proper identification for each. The device should be sufficiently stable and stationary for the weight of an average person plus the weight of the equipment.
- Life in Service:* The overall device should last many years with minimal part replacement.
- Operating Environment:* The completed device will be used and stored at room temperature in a home setting. The base of the device should have minimal contact with the ground without jeopardizing its integrity.
- Ergonomics:* The device should be lightweight and easily moved through any home environment. It should be at an accessible level while the user is sitting on or standing near it.
- Size:* The device should be 18in x 18in x 16in when in transport.

g. *Weight*: The device and its contents should not exceed 20lbs. If wheels are included in the design, the maximum weight could increase to 30lbs.

h. *Materials*: The material for the device should be easily sanitized, non-absorbent, and comply with Medicare bag regulations. No parts can include latex, cotton or wool.

i. *Aesthetics*: The color of the device should be white or red. Sharp corners are not allowed.

2. Production Characteristics

a. *Quantity*: One prototype is required at this time.

b. *Target Product Cost*: Approximately \$100.00, but is negotiable.

3. Miscellaneous

a. *Standards and Specifications*: OSHA approval and Medicare bag regulations

b. *Customer*: The client would like to include as many of the following features as possible: back support, cushion seat, adjustable height, wheels for transportation, and swivel ability.

c. *Patient Related Concerns*: Medicare requires that all equipment must be sterilized between uses.

d. *Competition*: Some components may reflect current products, however none of these are related to home health visits.