

How to Specify Needs



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Key Definitions



* **Problem Statement**

- * Semi-quantitative statement of pain or benefit
- * Definition of current state/process
- * Definition of desired state/process
- * Identification of constraints
- * Documentation of assumptions

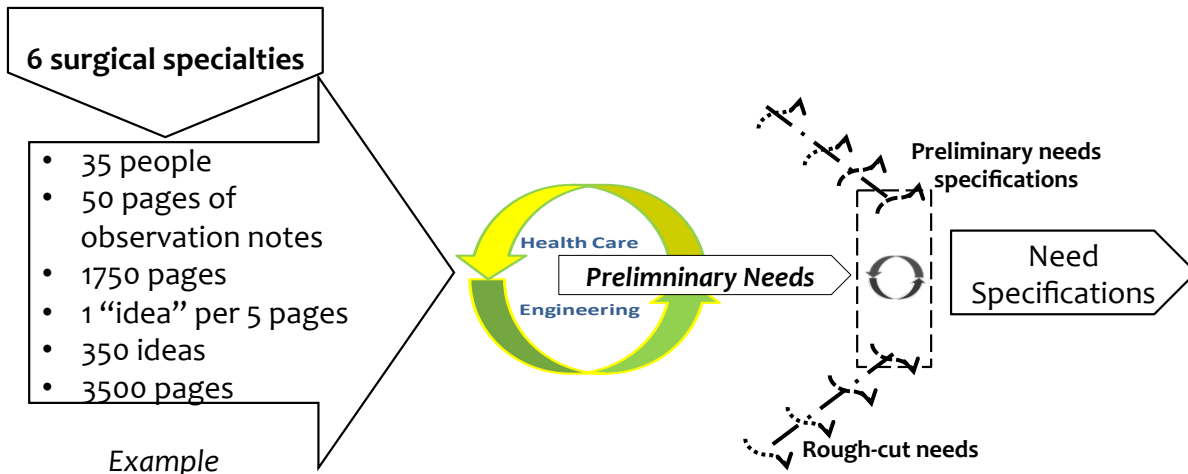
* **Need Statement**

- * Non quantitative statement of desired outcome within a concise context



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1. Discovery Phase



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Rough-cut Need Statements

1. There is a need for correct calibration or choosing right implant size the first time.
2. There is a need for a more accurate (imaging) method of calibrating an X-ray.
3. Orthopedic surgeons need a calibration method for choosing the right implant size the first time.
4. Orthopedic surgeons need to be able to choose the right implant size the first time.
5. There is a need for a device that holds firmly but also allows easy adjustment of medical instruments during minimally invasive surgery
6. There is a need to create space in the hip capsule without using traction.
7. There is a need for more convenient and safer ways to dispose of waste during surgery.

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Good Need Statement

- * Focus on primary outcome
- * Simple and short statement, e.g. 25 words or less
- * Does not include solution
- * Every word counts
- * Words omitted are important
- * Context is essential
- * None are perfect --- iteration and revision is welcome.

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Need Statement Refinement

There is a need to select the correct hip implant size the first time.

There is a need to eliminate the use of traction in hip surgery.

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Preliminary Need Specification

I. Background – What is the problem?

II. Significance – Why is this important? Why should anyone care?

III. Current Methods/Technologies/Solutions – What is currently used to address the need? Pros and Cons

IV. Key Stakeholder Description and Concept Level Requirements

Description: *Focus only on the Key Stakeholder in the Preliminary Phase; do not include competitors.*

Concept Level Requirements:

- I. must haves (need cannot be met without accomplishing this)
- II. nice to haves (these requirements may be prioritized, indeed some may be omitted and still address the need)