Universal criteria for the design of medical instruments

Ingeborg Griffioen

Target found!

Designers !?
Two questions

Designers: How can we optimize design?

CSA: How can we prevent bad products?

or how can we combine two worlds in time

CSA: How can we prevent bad products?
Panton bv

Team creative experienced designers
Mission: solve problems in health care
Strong focus on: usability & safety
How: design
Products, process, communication
Panton bv

Flexible team

Network

Expert Team

Core Team

Designer focus
Designer focus

Excel on
A) Functionality
  technical feasible, ergonomics, design
B) Costs
  product costs and investments
C) Timing
  production, marketing, approvals, trade show
Designer focus

A) Functionality
  technical feasible, ergonomics, design
  ☑ users love it

B) Costs
  product costs and investments
  ☑ feasible for supplier

C) Timing
  production, marketing, approvals, trade show
  ☑ beat competitor
Design criteria
for functionality

Design criteria
Seven groups of requirements in the PRD
(Product Requirement Definition)

Legislation & market
Environment
Medical device
Context
Users
Patients
Use
Design criteria

Seven groups of requirements in the PRD
(Product Requirement Definition)

Legislation & market
Environment
Medical device
Context
Users
Patients
Use
Design process

Universal process
Managing risks
According to standards
and quality systems

Still creative ?!?!
Influence on success

Project investment

%
Focus !!

Project investment

Influence on success

%
Design process

In the first phases:
Room for creativity
Feedback welcome
There’s a lot to consider simultaneously

Make the best decisions
As a multidisciplinary team
At organized design reviews
Design reviews

Meetings between two phases to
Eliminate wrong decisions ASAP
Use preliminary results
Check with PRD
Multidisciplinary team
Design reviews

Analysis → PRD, FMEA
Idea phase → sketches
Concept definition → early models
Testing → test results
Design phase → drawings
Engineering → new models
Testing → test results
Sourcing → BOM
Production test → FOT, SOT
Certification → DHF, TCF
Production → products
Design reviews

Analysis → PRD, FMEA
Idea phase → sketches
Concept definition → early models
Testing, Design phase → test results, drawings
Engineering → new models
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Certification → DHF, TCF
Production → products

Focus!!

Influence on success
Project investment

%
Bridging the gap

I] Open the closed doors of both worlds
II] Improve education
Bridging the gap

I] Open the closed doors of both worlds

**Designers:**
- Invite CSA at reviews
- Team up creativity

**CSA:**
- Make designers understand application
- Scenarios
- Open innovation desk

Bridging the gap

II] Improve education

**Designers + CSA:**
- Give lectures
- Create manual for designers
Conclusions

- Improving & feedback is only feasible at start
- Feedback on preliminary results
- Focus on total result
- Open doors
- Plan reviews together
- Educate
Conclusions

Berwick (IHI) says
improve healthcare by:
Focus on the problem
Gain knowledge
Co-operate
Conclusions