Home Healthcare Presents Design Challenges

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The human body is an analog, real-time system. Therapy devices that approximate our bodies' natural time constants will be more effective than those delivered weekly in a clinic. Kidney dialysis and insulin delivery are just two examples of this. To unlock the potential of more frequent therapy, medical devices must move out of the doctor's office and travel with patients to their homes and offices. But, this great opportunity is not without its challenges. The same patient who stands to reap great benefit from a home medical device may instead endanger themselves by applying the device incorrectly. For example, the FDA recently released an instructional video[1] reminding CPAP patients of seemingly obvious tips like:

- Do not tape the mask to your face
- Read and follow the instruction manual
- Clean the device regularly to prevent buildup of dirt/mold

When considering device safety and effectiveness, professional users in a controlled environment can no longer be assumed. Instead, trained patient interpreters, such as ethnographers, usability analysts, and industrial/interaction designers, must be complimentarily folded into teams traditionally composed of hardware engineers and medical experts. For home-use medical devices, user experience is as important as technical function for the effective delivery of therapy.

[1] FDA video [1]

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[1] http://youtu.be/B10ABypyGOo