

A matter of life...

design in compliance

*Patient compliance, defined by Murphy and Coster, is "...the extent to which a person's behaviour coincides with health-related advice."*¹

Compliance with therapy also relies on the motivation of the patient to adhere to the prescribed treatment – medication, diet, and exercise for instance – in order to achieve the perceived benefits and positive personal outcomes in terms of improvement in quality of life.

Patient non-compliance remains one of the most significant issues facing the health care system. A new, creative and multi-faceted approach to non-compliance is required that supports people to be more self-reliant in their treatment and care.

Background and context

In the time it takes to watch the evening news, 14 people will have died, not from trauma or disease, but from simply not taking their prescribed medication accurately. Medication non-adherence is the fourth leading cause of death in the USA, behind heart disease, cancer, and stroke.

Medication adherence is a complex, behaviourally-based issue, with thousands of studies undertaken to understand and address the issue. The key reasons for non-adherence include forgetfulness (23%); side effects (20%); cost (17%); and belief that it is not important (14%), because of the patients' lack of understanding of disease and consequences of not managing their health.

Physicians, and more broadly, healthcare providers, play a critical role in medication adherence. Research has confirmed the importance of the physician/patient relationship in adherence, beginning with patients' ability to understand their condition, the implications of not effectively treating it, and the benefits of the medication as part of the treatment plan.

For the most part, physicians tend to blame either the system (for example, the prescription charges being too high for the patient), or their patients for non-adherence, believing that they have done all that they can to help them in their time-constrained environment. Health professionals may also

underestimate the extent of the incidence of non-adherence, acting instead, in some cases, in denial by providing drugs and other services as if the patients are totally adherent.²

Recent research from the Institute of Medicine³ suggests that the labelling of prescriptions at the pharmacy is currently a barrier to patient adherence. While information on the label is designed to help the patient take the medicine effectively, it can still create confusion.

For example, patients were asked for their interpretation of a label sticker asking them to "take two twice daily". Interpretation of this sticker ranged from taking one tablet two times every day, to taking 4 tablets over the course of the day.

Brief

Propose a design-led solution, or series of solutions, that would improve patient compliance with their prescribed treatment.

Scope

Your proposal may be targeted at any treatment/condition. You may choose to target a specific disease area if you wish, in which case you should make this clear.

You should consider all age groups; whilst it is often assumed that compliance is predominantly an issue for older people, it is common across all age groups as the supporting information describes. However, it is important to understand that the needs, problems and lifestyles are very different across age groups.

The solution should consider the requirements of different disease areas, in particular the difference between problems associated with long term treatment of chronic disease and short term treatment of acute conditions.

As part of your process, you may wish to consider generating a range of scenarios describing why people would be non-compliant and then proposing and evaluating potential solutions. You may consider grouping these approaches to seek common solutions.

² http://www.pharmacists.ca/content/cpjpdfs/jul_aug07/medication-adherence.pdf

³ <http://www.iom.edu/CMS/3793/31487/53764.aspx>

As compliance is partly a behavioural issue, you may wish to consider how knowledge from behavioural economics, which researches the way that people behave, can be invoked in the growing field of design for behaviour change. Behavioural economics⁴ shows, for example, that people's behaviour is strongly influenced by the way that other people behave, that people tend to be more concerned with events in the near future rather than the distant future, and that they are strongly influenced by how a particular problem is presented to them.

Design for behaviour change⁵ shows how knowledge like this can be used by designers to create experiences that can influence certain behaviours. This can be achieved in three broad ways; by enabling certain behaviours (by making something easier to do), by motivating behaviour (by changing attitudes or giving incentives), or by constraining behaviour (by making the alternative behaviours more difficult to do).

Things to consider when developing your proposal:

Empowerment

People need to be encouraged to take responsibility for their own compliance. How could design enable and motivate people to meet their health goals? How might solutions be tailored to help people maintain their compliance through building and enhancing rituals?

Understanding

Helping the individual to gain understanding of their condition, the possible treatments for that disease and the role of their medication, is critical to improving compliance. Education alone provides limited benefit – the key challenge is to ensure understanding across all age groups and all abilities.

Systems

Consider how different systems and services may be utilised to aid compliance and any subsequent supporting information. For example how can advertising be utilised to educate people about the importance of taking medications such as the NHS campaign to encourage people to complete their course of antibiotics?

Also consider how information systems can be utilised to aid compliance e.g. Weather Forecast broadcasting of air quality as an information source to people suffering from asthma or allergies.

Product design

The market is saturated with electronic gadgets designed as compliance reminders but which are largely unsuccessful. You may wish to consider simple product approaches that could add something new in this area, but these should avoid the use of disposable electronic systems because of the environmental burden they create.

Submission details

Entries must comply with the following:

- A3 boards (max. 4) showing design development and final designs
- a short, typewritten text (max. 400 words, sans serif, 14pt) expressing your idea development from research to final designs, to help position your proposal
- a further typewritten list of bullet points (sans serif, 14pt) detailing the principal benefits of the proposal
- any models or mock-ups should be submitted as photographs or printouts mounted on A3 board (this can be in addition to the four design boards)
 - do not submit 3D work at this stage
- one sketchbook only, related to the brief

If your submission includes a system or service, the delivery must include a written outline together with a visualisation of your system/service idea.

This must include the communication, through any medium you see relevant, of the following:

- evidence of exploration of the key issues, including collaboration with others
- a 'value proposition' for the system/service – including who will benefit, how it is provided, how it is accessed, how does it add value

Students short listed for interview will be asked to prepare a short presentation outlining their proposal

All work (except the sketchbook) should be submitted on A3 lightweight card and everything should carry the RSA label on the back; do not submit work in plastic sleeves or on foam board, metal, wood or Perspex, or in boxes; these requirements are in the interests of students to ensure the safety of their work whilst in storage and transit, and to ensure that it can be displayed for judging

⁴ A useful reference is Behavioural economics: seven principles for policy makers:

http://www.neweconomics.org/gen/z_sys_publicationdetail.aspx?pid=213

⁵ A useful reference is the Design with Intent Toolkit:

<http://architectures.danlockton.co.uk/2009/04/06/the-design-with-intent-toolkit/>

Schedule

Dates for submission of entry forms, fees and work

Thursday 19 November 2009

Deadline for Entry Form(s)/Fee(s) for all projects

(including *Directions Plus*)

Entry Forms/Fees should be sent under separate cover

– **not** with your entry – to:

RSA Design Directions Registrations
8 John Adam Street
London WC2N 6EZ
UK

Monday 16 November
– Friday 11 December 2009

Submission period for all project entries

(except *Design Directions Plus**)

Entries will be accepted at Brooks Transport Services Ltd on any weekday within the dates stated between 08:00-18:00, excluding weekends and bank holidays. Entries arriving after 18:00 on Friday 11 December 2009 may not be accepted

Please remember that all entries should be sent or delivered to:

Brooks Transport Services Ltd
Unit 2/15
Second Avenue
Bluebridge Industrial Estate
Halstead
Essex CO9 2SU
UK

All Entry Forms/Fees should be sent or delivered to:

RSA Design Directions Registrations
8 John Adam Street
London WC2N 6EZ
UK

**Design Directions Plus* – Submission date for entries for these projects is:
Friday 8 January 2010