PATIENT INNOVATION
Sharing solutions, improving life

INNOVATION AND ENTREPRENEURSHIP IN HEALTH

Solutions developed by citizens (user-innovation)

Helena Canhão, MD PhD
CHRC, NOVA Medical School & Patient Innovation
FORD T Model
FORD T Model
Converted by users into snowmobiles, trucks and tractors
Why transport the bag... if the bag can transport you?
To what extent is this phenomena relevant in healthcare?
Michael Seres, Crohn’s Disease with ileostomy, UK
David Day, father of Cystic Fibrosis patient

Computer games
Kylie’s father
the intravenous backpack

Debby Elnatan
the Upsee – a mobility device for children
Ivan Owen, USA
Nuno, 3D printed prosthetic hand, Portugal
Project

Offer a hand

"Offer a hand" is a project that consists of designing, printing and giving, for free, 3D printed hands and arms to kids from all over Portugal who need a prosthesis.

The project "Offer a hand" was one of the winners of the Santa Casa da Misericórdia Challenge and the Fidelidade Comunidade prizes that reward social inclusion and healthcare promotion projects. This award allows us to contribute to the development and production of low-cost 3D printed prosthesis for up to 20 children.

Rodrigo was the first child to receive a 3D printed prosthesis under this project.
OFFER YOUR HAND

Promoted by:

PATIENT INNOVATION

Awards winning project:

[Santa Casa] [challenge] [Prêmio Fidelidade] [Comunidade]
Innovation by patients with rare diseases and chronic needs

Pedro Oliveira, Leid Zejinovic, Helena Canhão and Eric von Hippel

Abstract: We provide the first empirical exploration of disease-related innovation by patients and their caregivers. Our aims were to explore to what degree do patients develop innovative solutions; how many of these are unique developments; and do these solutions have positive perceived impact on the patients' overall quality of life? In addition, we explored the factors associated with patient innovation development, and sharing of the solutions that the patients developed.

Methods: We administered a questionnaire via telephone interviewing to a sample of 500 rare disease patients and caregivers. The solutions reported were pre-screened by the authors for their fit with the self-developed innovation aim of the study. All the reported solutions were then validated for their novelty by two medical professionals. Logistic regression models were used to test the relationships between our key variables, patient innovation and solution sharing.

Results: 263 (53%) of our survey respondents reported developing and using a solution to improve management of their diseases. An initial screening removed 81 (16%) solutions for being an obvious misfit to the self-developed innovation aim of the study. This lowered the sample of potentially innovative solutions to 182 (36%). Assessment of novelty and usefulness of the solutions, conducted by two medical evaluators, confirmed that 40 solutions (8%) were indeed novel, while the remaining 142 (28%) were already known to medicine. The likelihood of patient innovation increased the disease had 1 year (OR 2.0, p < .05) and the innovation fit together.
The solutions significantly improve their quality of life...

But they rarely diffuse (e.g. only 5% are show to medical professionals)

<table>
<thead>
<tr>
<th>Quality of life differences</th>
<th>New to the world</th>
<th>New to the patient</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Patients mean (SD)</td>
<td>Caregivers mean (SD)</td>
</tr>
<tr>
<td>Products</td>
<td>2.2 (1.5)</td>
<td>1.7 (1.4)</td>
</tr>
<tr>
<td>Services</td>
<td>1.8 (1.4)</td>
<td>2 (1.7)</td>
</tr>
<tr>
<td>Total</td>
<td>2 (1.4)</td>
<td>1.9 (1.6)</td>
</tr>
</tbody>
</table>

*Oliveira, Zejnilovic, Canhão and von Hippel (2015)*

Patient Innovation: Sharing Solutions, Improving Life
PATIENT INNOVATION platform

http://www.patient-innovation.com
1,5 innovations/day

- Out of 2000 submissions; about half are rejected at medical “screening”
- From over 70 countries from US to South Korea
Platform Evolution

Patient Innovation has made some significant changes to its platform since its launch, back in 2014.

What started as an academic repository of medical innovations developed by patients, caregivers and collaborators has grown into a multilingual platform that encourages people from all around the world to post, share, discuss and evaluate solutions, tips and adaptations that can make life more comfortable and happier for the community.

It became a centralized place for the posting and sharing of innovative solutions that help improve people’s lives. Patient Innovation recently unveiled its new homepage and the whole website in German.

The team is always working to improve the platform’s design, content and usability.

In December 2019, Patient Innovation achieved another milestone: 1200 live solutions developed by members of the community and curated by the Patient Innovation medical team. With the help of our community, the Patient Innovation database is growing every day.

Share your solutions now at www.patient-innovation.com
Our Vision
THE PATIENT INNOVATION PLATFORM

Each patient, caregiver or collaborator is a potential innovator.

We are driven to work, everyday, on a non-profit platform that connects patients, caregivers and collaborators and enables the sharing of solutions, devices and knowledge, otherwise unknown to others.

"Doctors make the worst patients. Maybe in the future patients will make the best doctors."

Carlos Moedas
Former European Commissioner for Research, Science and Innovation
1st Patient Innovation Awards Ceremony, Lisbon, 2015

THE PLATFORM PATIENT INNOVATION HAS MORE THAN 1200 SOLUTIONS ONLINE.

How does it work?
The Patient Innovation Platform is an international, multilingual, totally free-of-charge venue for patients, caregivers and collaborators of any disease to share their innovations within the community. The platform allows searches by disease, symptom, location, type of activity, device and therapy. It is available online at:

patient-innovation.com

Research and management team
The Patient Innovation Project has resulted from the joint research and international cooperation of scholars (in the health sciences, management, engineering and law), healthcare practitioners and institutions that are committed to help promote knowledge and solutions that can improve patients' well being.
Projects

Patient 2 Entrepreneur (P2E)

P2E is a consortium which involves Católica Lisbon School of Business and Economics, Nova Medical School, Nova School of Business and Economics, Luz Saúde and Orange Bird.

This project, relying on the Patient Innovation platform and on all partners, aims to empower patients by valuing innovation and promoting entrepreneurship. Here’s how it works:

Releasing the power of users

Patient Innovation is part of the consortium for the research project "Releasing the power of users - articulating user interest to accelerate new innovative pathways in digital health and welfare sector".

This project is funded by the Norwegian Research Council and aims to develop a greater understanding of the users by identifying the attitudes, concerns and expectations of users related to welfare technology.

The project is currently being lead by Tatiana Iakovleva, professor of entrepreneurship at the University of Stavanger UiS Business School, and includes international partners such as Norwegian Smart Care Cluster, Copenhagen Business School, University of Twente, University of Manchester, University of Michigan, University of Southern California, Western Norway University of Applied Science and Queensland University of Technology.
Esta é a primeira série de **bootcamps com o objetivo de ajudar doentes e cuidadores informais** a implementar e levar para o mercado soluções inovadoras desenvolvidas pelos próprios.
The plan

40-50 candidates (teams)

May 2020

Selection

10 teams

3 or 4 members

June 2020

Kickoff workshop

Copenhagen

September 2020

WP4

DESIGNING THE BUSINESS PLAN

Barcelona

October 2020

WP5

CONSOLIDATING, IMPLEMENTING & DIFFUSING

Copenhagen

First of a series of annual PI Bootcamps

Portfolio of patients’ innovations to market

Unique Bootcamp knowledge
PATIENT INNOVATION AWARDS

1st Edition
Calouste Gulbenkian Foundation

2nd Edition
Web Summit 2016
Europe’s largest and most important technology market place

3rd Edition
Calouste Gulbenkian Foundation

Carlos Moedas, European Commissioner for Research, Science and Innovation;
Marianne Thyssen, European Commissioner for Employment, Social Affairs;
The President of the Portuguese Republic, Professor Marcelo Rebelo de Sousa.
Palais Brongniart, Paris, France
Dec 2nd 2019, 6pm
Awards & recognitions

Recognition by United Nations Secretary General Ban Ki-moon

For its contribution to the UN’s SDGs
- Good health and Well-Being & Industry
- Innovation and Infrastructure
In the media

**Austria**: LT1, Neues Volskblatt; Reader Digest  
**Belgium**: Horizon Magazine;  
**Brazil**: El País (Brazil); Reader Digest  
**Canada**: Canoe;  
**Cyprus**: CYBC;  
**France**: Reader Digest  
**Germany**: Reader Digest  
**Italy**: Il Sole 24 Ore;  
**Kenya**: Business Daily Africa;  
**Luxembourg**: Luxemburger Wort, Tageblatt;  
**Paraguay**: Reader Digest  
**Poland**: Wyborcza, Human, National Geographic Polska;  
**Portugal**: RTP 1/2/3/Internacional, RDP Internacional, SIC, SIC-N, TVI, Expresso, Público, DN, JN, Observador, Sol, Sábado, Visão, Diário Económico, Jornal de Negócios, Exame, Dinheiro Vivo, Antena 1/2, Radio Renascença, TSF;  
**Russia**: Clip;  
**Spain**: El País, El Independiente de Granada; Selecciones  
**Slovenia**: VAL 2020 Radio Slovenija;  
**Switzerland**: World Economic Forum, Neue Zürcher Zeitung;  
**UAE**: Akbar El Emarat, MBC;  
**USA**: Huffington Post, NEJM Catalyst, Florida Today, Miami Herald, Medgaget, MGH Proto Magazine, Business Insider, Reader Digest, among other.
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