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**Subject Centricity & the  
“Patient Motivation Pyramid”**

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What is subject centrality?

## The start: Patients demanding a “seat at the table”



1990: massive demonstration of AIDS activists at the National Institute of Allergy and Infectious Diseases

Spawning a movement of patient advocacy

### Reference

*Anderson. Back to basics: HIV/AIDS advocacy as a model for catalyzing change. Report. Milken Institute, Faster Cures and HCM Strategists, New York 2011*



**“What I think was unique about them was that combination of theater to get your attention and their phenomenal analysis of things that actually make logical sense.”**

ANTHONY S. FAUCI, M.D., Director, NIAID at NIH

# Patient Centric drug development

## What is it?



Definition varies. Only 22 % of sponsor representatives felt there was agreement <sup>(1)</sup>.

- ...patients' experiences, perspectives, **needs**, priorities are captured and incorporated into drug development ... <sup>(2)</sup> .
- ...**needs** and concerns of ... patients ... represented ... <sup>(3)</sup>.
- values, preferences, **needs** of patients must influence “the design, conduct, dissemination of research” <sup>(4)</sup>.

Common denominator: **needs** of patients

### References

1. The Milken Institute. Expanding the science of patient input: The power of language, November 2016. <https://milkeninstitute.org/reports/expanding-science-patient-input-power-language> (Accessed Jan 12, 2021).
2. [FDA Patient-Focused Drug Development Guidance Series link](#)
3. [EMA Partners and networks link](#)
4. Schilling. Patient involvement in clinical trials: motivation and expectations differ between patients and researchers involved in a trial on urinary tract infections. Res Involv Engagem. 2019 Apr 1;5:15.



## Subject Centricity Focusing on needs



### On a **development level**:

As patients are the end-users of medicines, as well as taking all the risk, fulfillment of the **needs** of the patients should be the raison d'être of any medicine.

### On a **study level**:

For a trial subject to participate in a clinical study he/she has to feel **individual needs** to participate. This applies to **patients as well as healthy subjects**.

Satisfying needs of trial subjects requires an exchange of a services.

Satisfying needs of customers is the **definition of marketing** (Philip Kotler, 1980).

**FIRST:**  
define needs of subjects



**THEN:**  
offer service (trial design & logistics)

## Subject Centricity Why bother?



### Benefits



- **Clinical Benefit.** Improvement by patient's perspective on the indication, clinical endpoints, feasibility of the design of the trial and safety concerns.



- **Image.** In 2022 image of pharma ranking 24/25 with federal gov., just after oil and gas (Gallup).



- **Time.** Decreases approval timelines, almost half the recruitment time in neurology and oncology, improves retention, and the drug was 19% more likely to be launched (Informa, 2018).



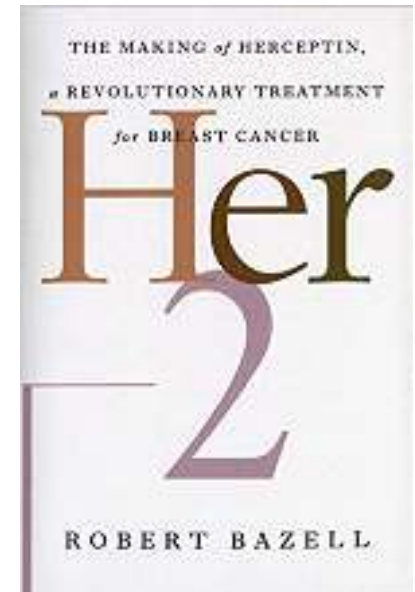
- **Money.** Net Present Value (eNPV) in oncology of patient centricity was up to > 500-fold the investment. (Levitan, 2018)

## Subject Centricity It helps! Examples of benefits.



- Crowdsourcing a clinical trial protocol for 6 weeks led to feedback from 102 patients and physicians, and resulted in 4 major protocol changes, avoiding protocol amendments <sup>(1)</sup>.
- Involvement of the National Breast Cancer Coalition (NBCC) has resulted in Herceptin **coming to the market 2 years earlier** <sup>(2)</sup>.

Only 5.2% of Phase II-III trials utilize patient-centric approach <sup>(2)</sup>.



The Innovation Imperative: The Future of Drug Development, Part I: Research Methods and Findings, The Economist Intelligence Unit, 2018.

1. Robert Bazell. Her 2. The Making Of Herceptin, A Revolutionary Treatment For Breast Cancer. Book. Aug 25, 1998
2. Informa UK Limited. Trialrove. Pharmaintelligence, 2018. Data: 2012-2017. <https://pharmaintelligence.informa.com/> (Accessed Sep 13, 2020).

Tool to define the needs of subjects.

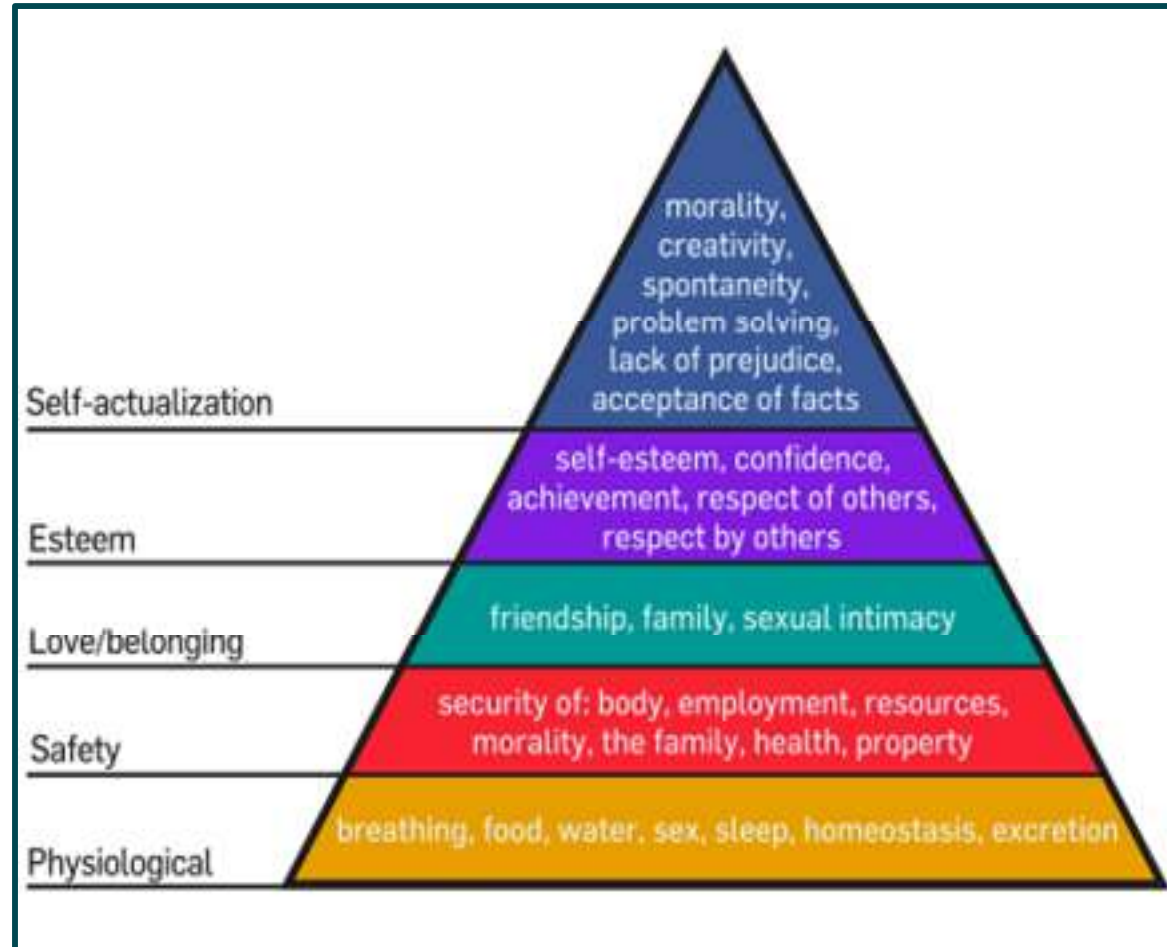


## Subject Centricity Defining the needs



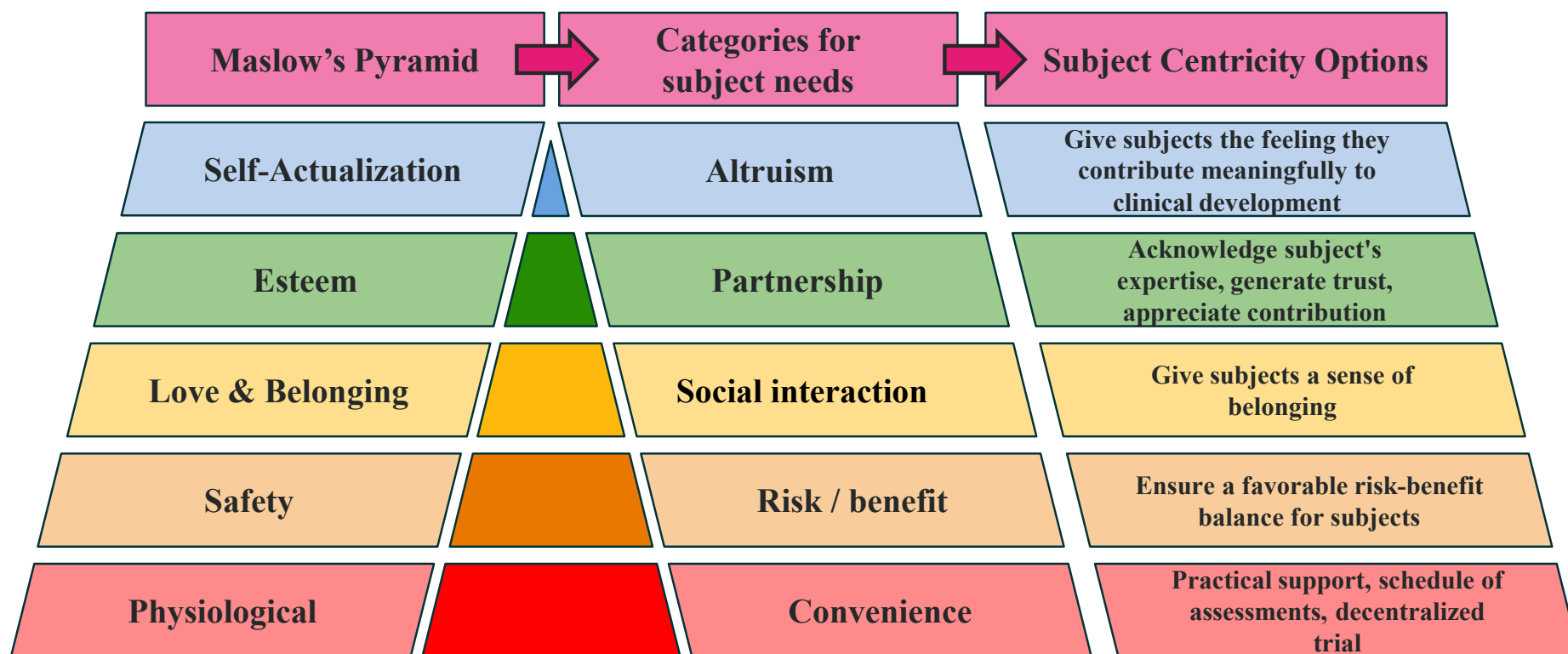
Abraham Maslow

- NY psychologist, from immigrants from Kiev
- 1943 Maslow's **hierarchy of human needs**
- Pyramid created (not by him) as an illustrative device of Maslow's theory.



# Subject Centric drug development

## Identifying subject needs: the Subject Motivation Pyramid



Using the tool,  
Identifying needs,  
**options** to satisfy their needs

## The Patient Motivation Pyramid

### Level 1: Convenience



**Planning**, need to fit agenda of the subject: consider short visits, online data collection, and **flexibility** in time and days of the visits. Subjects with daytime job prefer visits in the early morning or late afternoon/evening during weekdays.

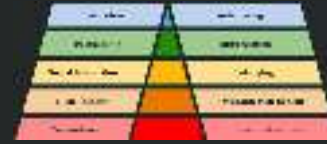
**Practical support:** **monetary compensation, parking, travel, lodging, meals, night rest, showers, internet, privacy, accommodate exercise during in house stays.**

**Protocol:** Consider **invasive procedures only in subgroup. Limit (meal) restrictions. Consider home sampling, home assessments, & home dosing versus clinic visits.**



# The Subject Motivation Pyramid

**Level 1: convenience. Housing.**



*Guinea pig*

or

*Special guest*



This is not a hotel!



Feels like 5-stars 😊

A typical phase 1 ward.  
Lacks “coziness”.  
Would **you** like to stay here 1-2 weeks?

Make it “an experience”.  
Consider pampering subjects.  
Especially patients & elderly.

## The Subject Motivation Pyramid Level 2: Risk and benefit



### Risks

During development **effective communication** on risks is crucial.

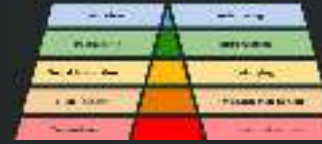
Healthy subject may be reluctant to receive a radioactive dose, participate in First-in-Human studies or have a spinal puncture.

For patients, the emphasis on safety depends on the disease & availability of an alternative treatment.

After Market Approval, side effects can result in significant nonadherence, as for instance diarrhea after antiretroviral therapy in HIV patients. In this case, input on the risk-benefit by patients resulted in a **lower recommended dose**.

## The Subject Motivation Pyramid

### Level 2: Risk and benefit

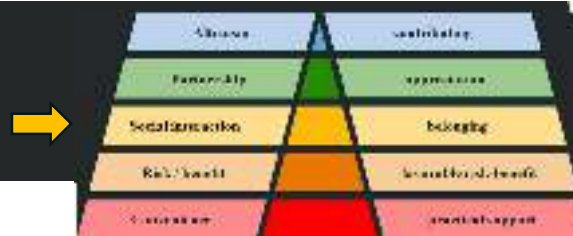


### Benefits

Novel Mode of Action → new clinical endpoints may be needed.  
*How? Discuss with patient advocacy groups.*

*How? Post-trial access to treatment*

## The Subject Motivation Pyramid Level 3: Social Interaction



Humans (and ) need to feel a sense of belonging.

Subjects like to be personally connected to trial staff <sup>(1)</sup>. Some healthy volunteers participate for social reasons, sometimes even during the X-mass holidays.

- *Facilitate social interaction between staff and subjects.*
- *Accommodate visits of family or friends during in house stays.*
- *Mobile applications can give patients access to friends, family, trial personnel, mobile Health Care Providers, and physicians, all remotely.*



1. Avedisian J, Azzi, N. The patient centered clinical trial. *The Pharma Review*. 61-65. March-April 2015



## The Subject Motivation Pyramid Level 4: Partnership



### Acknowledge subjects' expertise

- Ataxia patients may value improved dysarthria more than improved walking since they prioritize communication.
- Postburn itch is a major problem for patients with burn injuries.
- Patients with Duchenne's are more focused on being able to use their fingers so they can use their phone than on life expectancy.

*Use patient advocacy groups.*

*Involve healthy subjects in ICF content*

### Build trust

- creating trust & **transparency** can ease concern and improve motivation

### Appreciate

*Thank you note, sending Christmas and/or birthday cards*



## The Subject Motivation Pyramid Level 5: Altruism



Contribution to drug development is an important motivation to participate.

Evaluation of Subcutaneous Proleukin (Interleukin-2) in a Randomized International Trial (ESPRIT) study <sup>(1)</sup>: **90% of the patients** indicated that motivation to participate involved making a contribution to society.

See Jelle's presentation for healthy subjects

*Give additional information on unmet medical need addressed by the study IMP.*

*Provide examples of successful developments supported by previous studies.*

*Provide trial results in nontechnical languages.*

1. Wendler D, Krohmal B, Emanuel EJ; ESPRIT Group. Why patients continue to participate in clinical research. *Arch Intern Med*. 2008;168(12):1294–1299.

## OPINION ARTICLE

## The Patient Motivation Pyramid and Patient-Centricity in Early Clinical Development

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**Abstract: Background:** It has been recognized that patients should be involved in the design of clinical trials. However, there is a lack of agreement on what patient-centricity means.

**Methods:** In this article, a Patient Motivation Pyramid based on Maslow's theory of human motivation is introduced as a tool to identify patient needs. This pyramid is used to make a comprehensive

Thank  
you 😊

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