BEAMER,

Improving adherence behavior

ACRON Symposium
November 7, 2023

Who are we

- **Aad R. Liefveld**
- Member Advisory Board Link2Trials
- Co-lead WP1 of BEAMER Project

- **Sjaak Bloem**
- Professor Health Care Consumers & Experienced Health at Nyenrode University
- Member BEAMER project team

The Challenge

- Patient non-adherence still is a significant issue across all therapeutic areas
- 200,000 premature death annually in the EU
- €125B avoidable healthcare costs each year in the EU
- Up to 50% (for elderly) avoidable hospitalizations
- Similar figures for other regions

(EU Health at a Glance report 2018)

But there is more

- Cost of absence for the EU is 2,5% of GDP[1] ($369B in 2019)
- Cost of absence in 2019 for the US is $575B[2]
- By 2030 20% of the world population will be 65+
- Over 65% will have multimorbidity
- By 2040 Europe will have more 65+ than 25-

1) Eurofound 2010 Absence from work report
2) Integrated Benefits Institute Full Cost Estimator 2019 data

And in Clinical Studies

- Early drop-out rates are still 25-30% on average
- Clinical Studies are better aligned to patients as a group
- Patient Engagement is about patient group level interests
- But a clinical study is a personal and individual experience
- Over 60% of protocol deviations can be linked to non-adherence
- Negative impact on efficacy of studies and cause of missing data

What has improved

- Patient centricity
- Better patient information
- Less burdensome treatments
- Shared decision making along the patient journey
- Apps to support patients with reminders
- Smart pill boxes
- Intelligent polypharmacy
- ……..

What did we miss?

- Behavioral science holds the missing piece of the puzzle
- Patients can be segmented by needs and limitations
- Patient support needs to match these needs and limitations
- Adherence is a dynamic process that needs follow-up
- Personalized interventions are required

(WHO Adherence to Long-term Therapies Report 2003)

BEAMER,
The project

BEhavioral and Adherence Model for improving quality, health outcomes and cost-Effectiveness of healthcaRe

- Led by Pfizer
- co-led by Merck KGaA
- Coordinated by the University of Madrid & PredictBy

Jan 28, 2020	Start preparing Call for Proposals
Jun 23, 2020	Launch Call for Proposals
Sep 29, 2020	Submission deadline
Sep 1, 2021	Kick-off BEAMER project
Aug 31, 2026	Planned end date

A European Initiative

The BEAMER Vision

Patients

- Better supported

- Able to take more control over their health

- Made easier to stick to their treatment

- Better outcomes and quality of life

- Improved patient experience

Pharma Industry

- Better informed about patient needs and drivers of adherence

- Better able to design and personalise effective patient support programmes

- Better able to assess impact of adherence on drug effectiveness

- Better able to address health inequalities

Healthcare Providers

- Better informed about patient needs and drivers of adherence

- Able to direct patients to effective patient support programmes

- Able to identify patients most likely to need personal support

BEAMER will deliver
a disease-agnostic model to segment the population based on actionable factors and predict adherence behavior
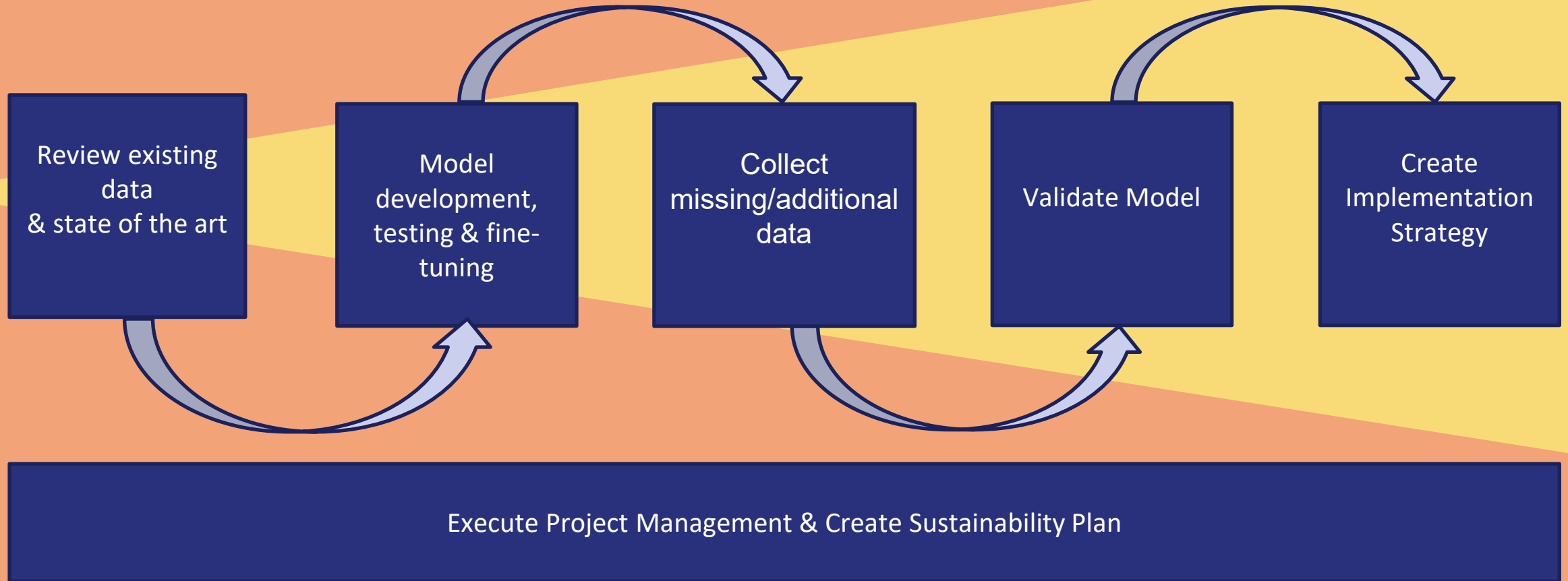
The BEAMER model can be used
to build solutions that enable HCPs to
improve adherence behavior by providing
personalized patient support

The BEAMER model will provide outcomes that enable healthcare stakeholders to develop products and services that are better aligned with the patients needs and limitations

A structured and managed approach

beamer

| Review existing data & state of the art | Model development, testing & fine-tuning | Collect missing/additional data | Validate Model | Create Implementation Strategy |

Execute Project Management & Create Sustainability Plan

Project Scope

Behavioural model of adherence to treatment

- Patient understanding, not solutions

- Disease-agnostic

- Chronic / long-term conditions

- Real world setting

- Self-care

Potential BEAMER Application

Model groups patients based on causes of non-adherence and associated support needs

Healthcare industry applies model and guidance to create solutions for their population

Digital support

Patient information

Personal intervention
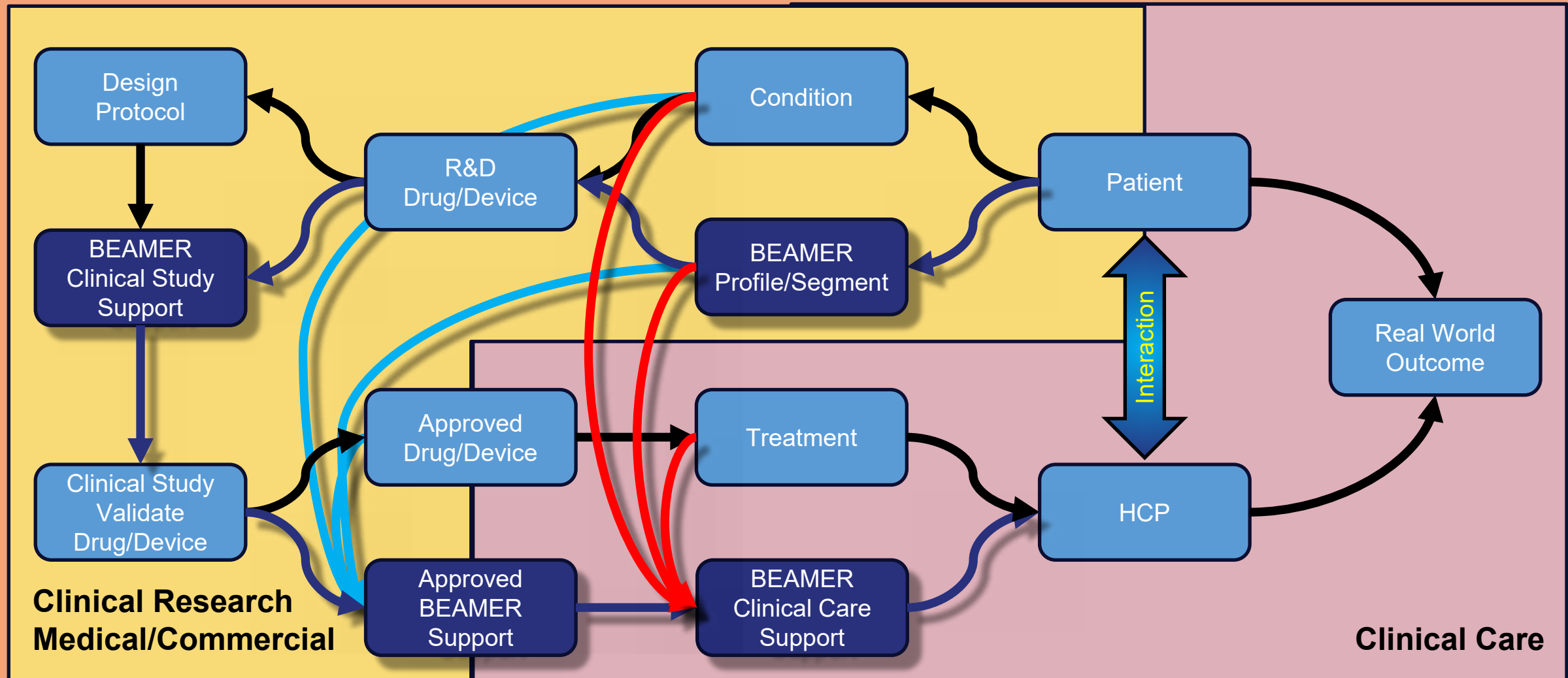
Patient Questionnaire

Personalized Support

Digital tools commissioned to provide online patient support
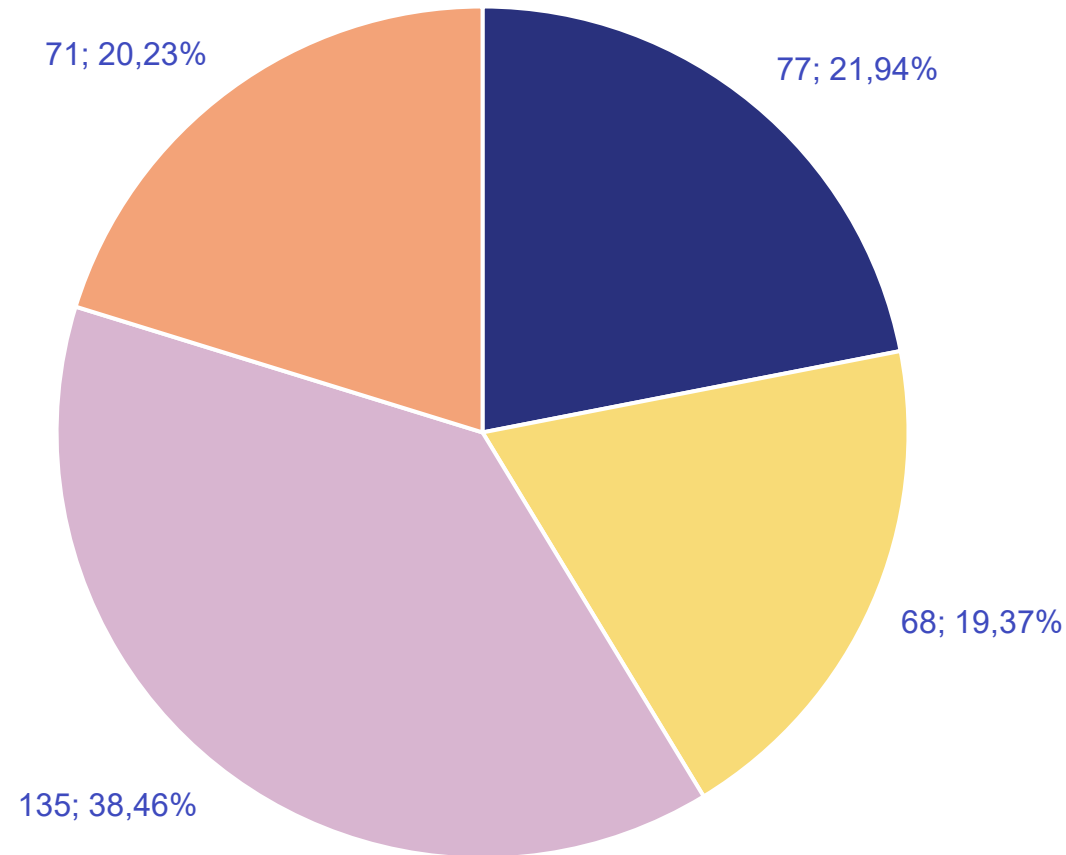
Patient information modified to improve patient understanding

HCP informed of patients likely to require personal intervention

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A Future With BEAMER

Is There a Need for BEAMER?

LinkedIn Online Poll August 2023	
Audience	Clinical Research Professionals Group
Size	193.909
Visibility	16,42%
Response	351
Question	If there was a tool to predict the adherence behavior of patients during clinical studies, then how would you use it?

Pie chart labels:
- 77; 21,94%
- 68; 19,37%
- 135; 38,46%
- 71; 20,23%

Legend:
- As an inclusion criterion
- To fine-tune the study protocol
- To support patients
- To focus on high-risk patients

Achievements & Next Steps

What we have achieved

- Definition of adherence

- Definition of actionability

- Definition of success

- Initial Patient Questionnaire developed

- From existing research identified two models relevant to our aims

- Identified key factors most likely to impact patient adherence

- Collected initial stakeholder inputs for model and interfaces

Adherence to treatment definition

Adherence to treatment is the process in which the patient engages in a health, technology or medication treatment, that was agreed upon together with a health care professional. Adherence includes meeting the following conditions that are relevant to the treatment:

1. Taking prescribed medication correctly at the minimum clinical threshold agreed upon, including initiation, dosage and persistence;

2. Carrying out recommended health behaviours such as attending follow-up appointments and/or implementing lifestyle changes (e.g., avoiding certain foods or engaging in specific exercise), at the minimum clinical threshold agreed upon.

Actionability definition

Availability of information that can automatically prompt the best decisions about care at the point in time when clinical decisions need to be made. Implicit in this definition is integration of the information into a comprehensive workflow, as well as the ability to utilize information from many different sources by various stakeholders.

For BEAMER, success will be when key stakeholder can use and benefit from this disease-agnostic behavioral model to understand patient needs and improve adherence via personalized patient support options.

Success definition

Boiled Egg Model
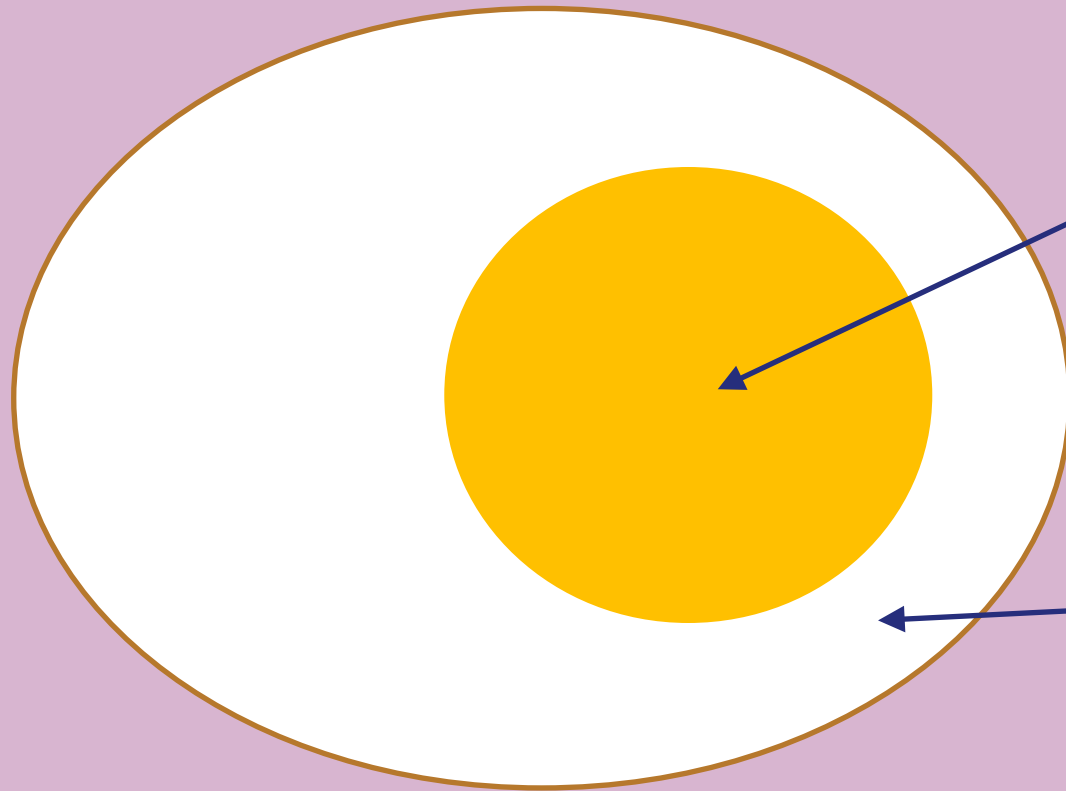
Behavioural Core
Predicted by patient questionnaire on psychological and behavioural variables.
Addresses **how** to provide better support

Structural factors
Registries and other data sources
- Socioeconomic factors
- Patient related factors
- Treatment related factors
- Condition related factors
- HCP related factors

Provide context for relative adherence prediction

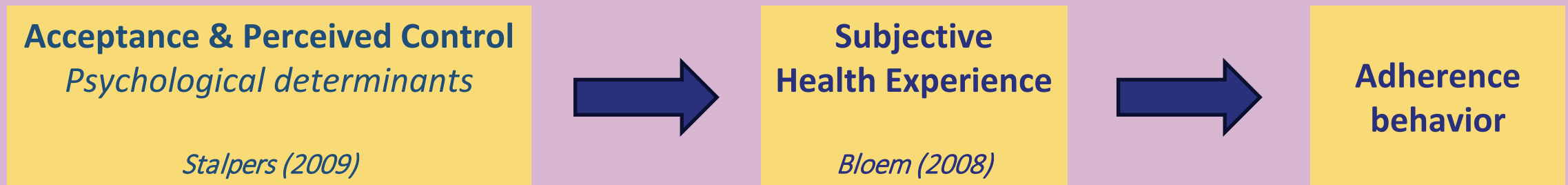# Significant factors for Adherence

Psychological

- Acceptance of condition

- Perceived control

- Priorities / necessity

- Concerns

- Locus of control

Structural

- Demographics – age, gender

- Education level and availability

- Condition progress and severity

- Treatment complexity and duration

- Co-morbidities

Theoretical Framework: Subjective Health Experience (SHE)

- In line with basic psychological insights, the **subjective experience** of **health** can be identified as **the driver of health-related behaviour** and therefore impacts **adherence to treatment**

Acceptance & Perceived Control
Psychological determinants

Stalpers (2009)

→

Subjective Health Experience

Bloem (2008)

→

Adherence behavior

2023 and onwards

- The theoretical and empirical data support each other

- They identify very similar key factors

→ Confidence that we are in the right place to develop a genuinely useful and innovative model

Next steps:

- Collect additional data to fine tune the factor descriptions and ensure model robustness

- Design, build, validate, and prepare implementation

BEAMER,
Who will benefit

Key Stakeholders

- Patients and Caregivers

- Healthcare Professionals

- Pharma Marketing & Sales

- Pharma Medical Departments

- Pharma R&D

A patient will…

- Be treated as an individual, human being again. Not just a patient.

- Feel acknowledged and appreciated again

- Get the right support at the right level and the right time

- Get the right information in the right form and from the right source

A healthcare professional will…

- Further understand adherence behavior so you can better take care of those with a condition or disease

- Make the most of many more support tools at your disposal

- Provide the right level of support at the right time

- Improve the patient experience

A Pharma representative will…

- Group clinical and behavioral characteristics into determining factors to develop more targeted approaches, strengthen adherence and improve clinical outcomes

- Boost patient quality of care/patient experience by offering appropriate support tools based on their individual needs

- Limit early drop-outs, reduce time and costs of clinical studies

BEAMER,
Why you should get involved

An opportunity for Key Stakeholders

- Share your perspective
- Share your needs and wants
- Secure the validity of the model
- Secure adoption & implementation
- Maximize your benefits

It is not a matter of if, but when.

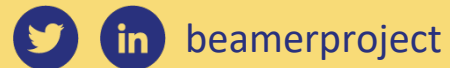At one point in time, you and I will either be a patient or a caregiver.

Join BEAMER,

Because better care means a higher quality of life.

Thank you!

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www.beamerproject.eu

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