Elements for optimising Orphan drug development – industry perspective

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ebe european biopharmaceutical enterprises

EuropaBio The European Association for Bioindustries

sobi Pioneer in Rare Diseases

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IRDiRC goals & making them count

- 200 new therapies & diagnostics by 2020
- Ambitious – need to use all avenues possible
  - Repurposing, off-label, medicines that are "stuck"
- Dichotomies: e.g., more than 1 treatment vs. pushing into areas of "unmet medical need"
  - What constitutes an unmet medical need?
- A collection of "uniques"
  - Each orphan has its own story
- Products need to get to the patients

Each step in the pathway has specific challenges

Discovery	Pre-Clinical	Clinical	Marketing Authorisation	Post-Authorisation

Discovery & target identification

- Identifying the right molecule for the right target
- Only partial knowledge of the disease
- Scarce medical expertise
- Limited identification of signals specific to a given rare disease

Discovery	Pre-Clinical	Clinical	Marketing Authorisation	Post-Authorisation

Pre-clinical development

- Poor understanding of the biology & pathophysiology of a disease
- Natural history / epidemiological data lacking
- Lack of science to guide animal models and/or computer simulations

Development of appropriate clinical programme (1)

- Finding eligible patients for clinical trials from small patient populations
- Under- or mis-diagnosed, lack of awareness
- Or – if more than 1 treatment?
- Geographically spread
- Centres of Expertise – few or none at all
- Ethical issues, paediatrics

Development of appropriate clinical programme (2)

- Traditional clinical trial designs not feasible
- Statistical data analysis methods not feasible
- Adaptive trial designs
- Defining & validating appropriate, feasible & meaningful end-points

Regulatory assessment & Marketing Authorisation

- Scarcity of data from previous steps
- Adaptive approaches earlier create questions around data
- Experts & expertise lacking or rare and scattered
- (Perceptions of) conflicts of interest?

Post-Marketing Authorisation – Regulatory

- Conditional Marketing Authorisations or "Exceptional Circumstances"
- Post-Marketing Authorisation commitments
- Registries

Post-Marketing Authorisation – Pricing, Reimbursement

- Higher price points

Post-Marketing Authorisation – Pricing, Reimbursement

REUTERS	3 January 2013	***"Entering the age of the $1 million medicine"***
BBC News NEWS SCOTLAND	15 January 2013	***"Orphan drugs: Remarkable drugs at remarkable prices"***
THE WALL STREET JOURNAL. WSJ	31 January 2013	***"Drug Makers See Profit Potential in Rare Diseases"***
Bloomberg	8 April 2013	***"Orphan Drug Prices Under Siege in Austerity-Minded Europe"***

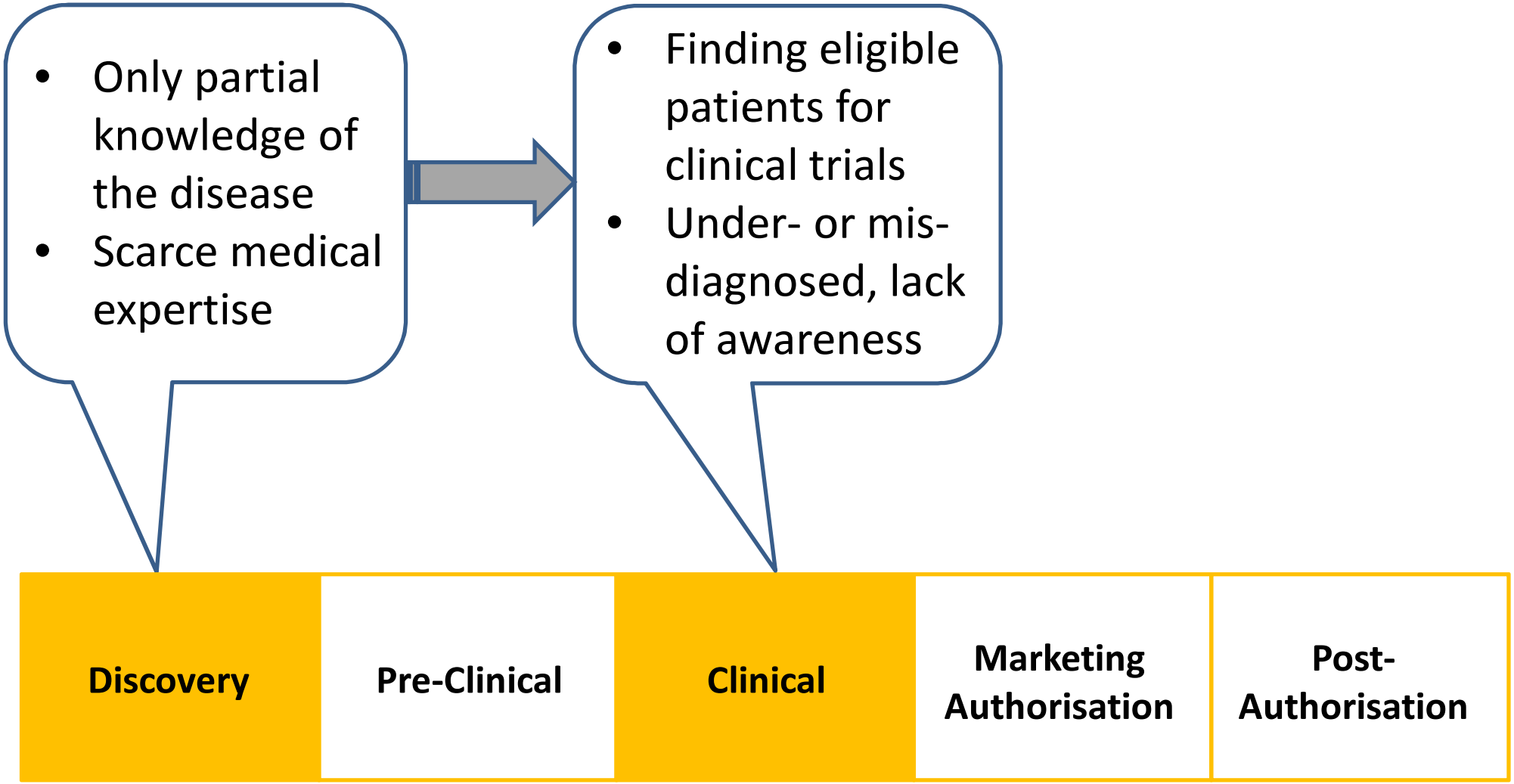
Post-Marketing Authorisation – Pricing, Reimbursement

- Higher price points ~ more controls (?)
- Medical – second opinion?
- HTA evaluation – methodological tools?
- Building infrastructure – Orphan drugs are often the first medicine / technological possibility to be available, require investment to educate, raise awareness

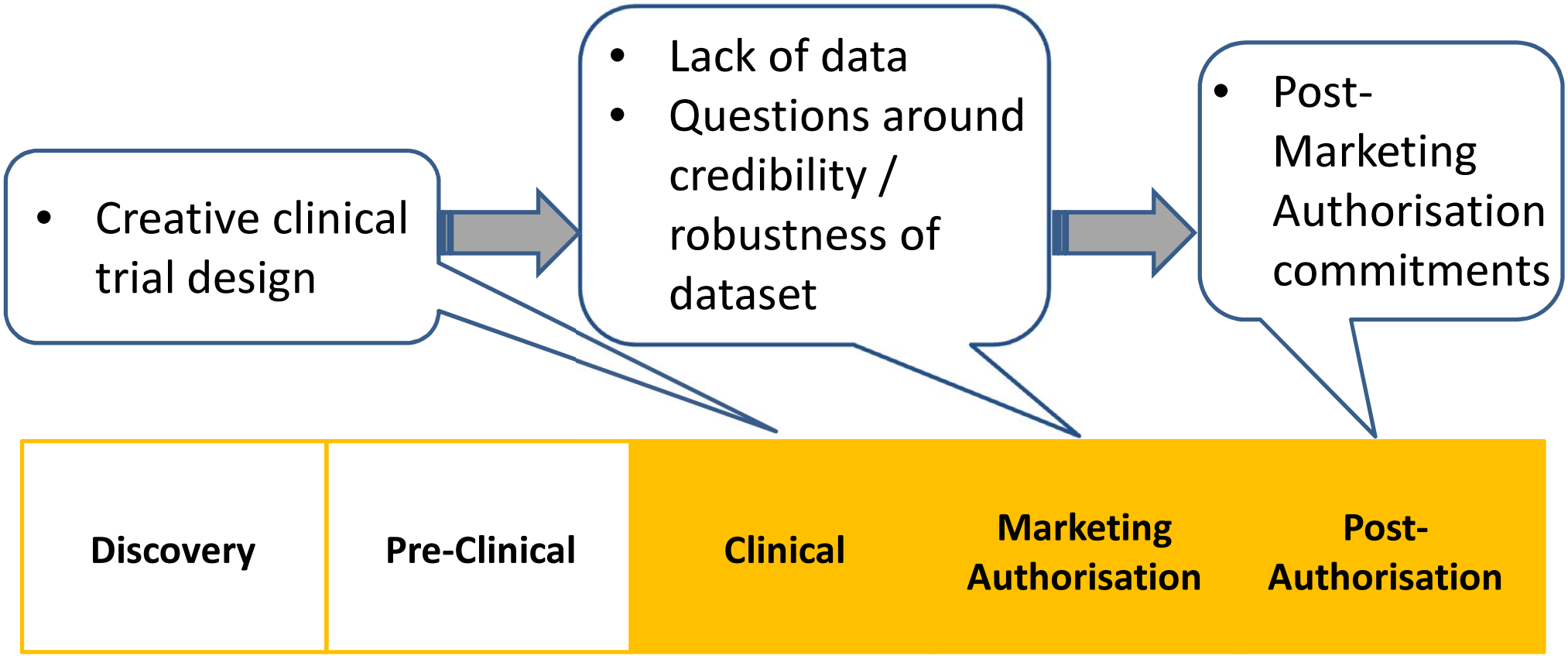
The end-market is important

- If there is no [“certainty” of] patient access
  - The therapy risks being worthless (however great the science may be)
  - The investment case – and, therefore, chances of it ever becoming a therapy – remains shaky at best
- Some of the areas that will deliver the IRDiRC targets are those most subject to challenges
- Do not “put new wine into old wine-skins”
  - Public-Private Partnerships for drug development will require new funding / reimbursement mechanisms

The challenges “at each stage” are linked

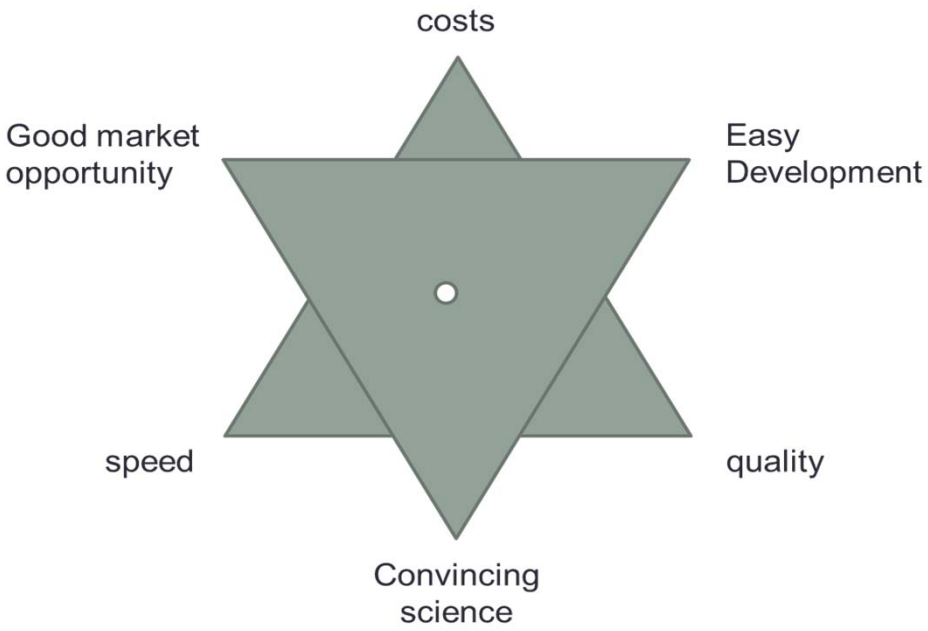


…and the “solutions” at one stage might create different issues



The “target” of success might end up being very small

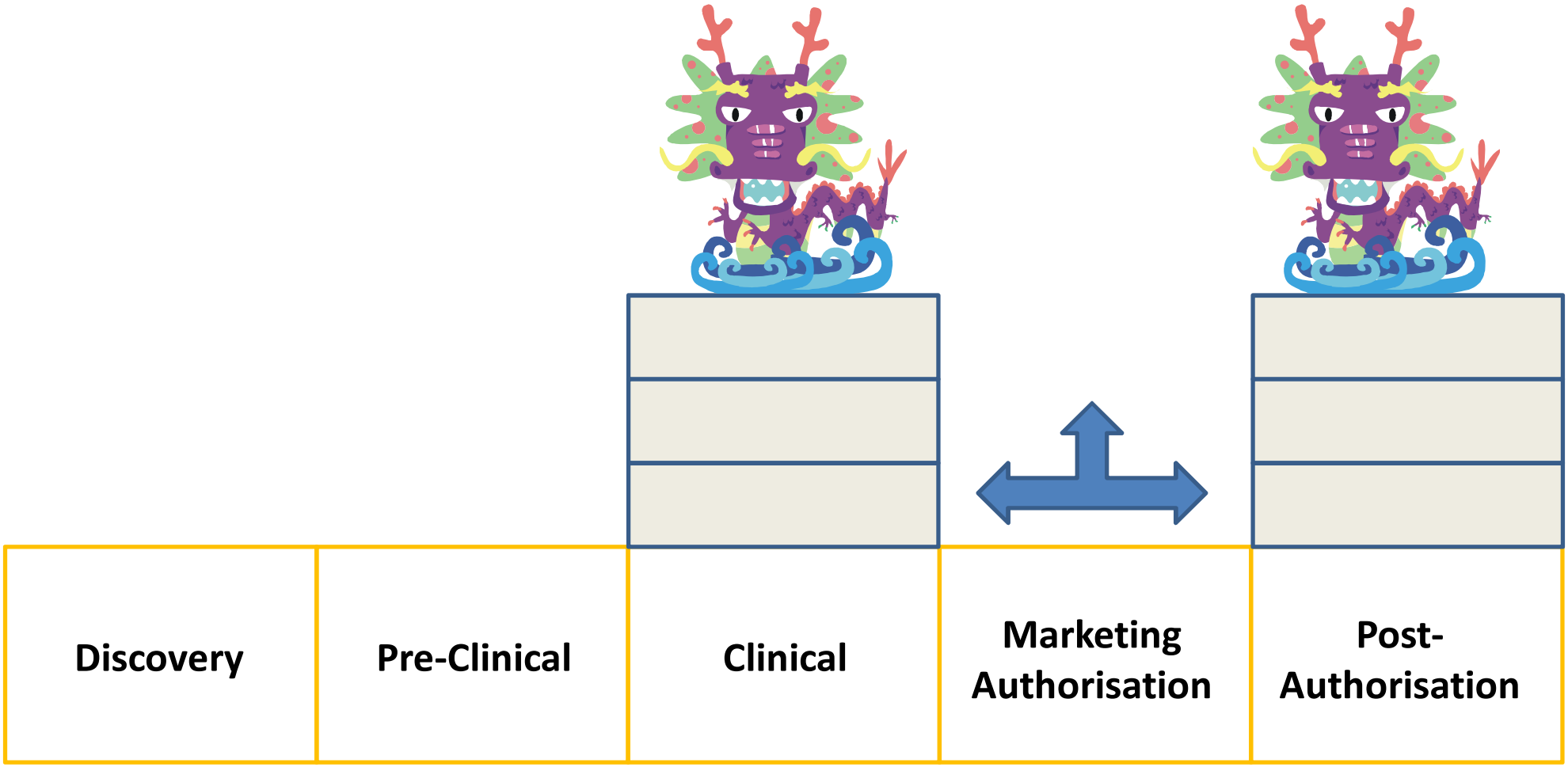
“ Of the more than 270 publicly traded biotechs in the U.S., only about 40 are profitable….While the driver of success used to be mainly scientific, it’s now more important to have “market awareness of how a product fits into the competitive landscape, what payers are doing, and how the product might fit into the portfolio of a potential partner.”



http://www.bloomberg.com/news/2011-06-14/research-funding-grows-scarcer-for-early-stage-biotech-companies.html

Soliris and the orphan drug pricing conundrum – too effective for reimbursement in UK market? Firstword – viewpoints - March 13th, 2013
Coloring the future of market access orange - Scrip 12 March 2013

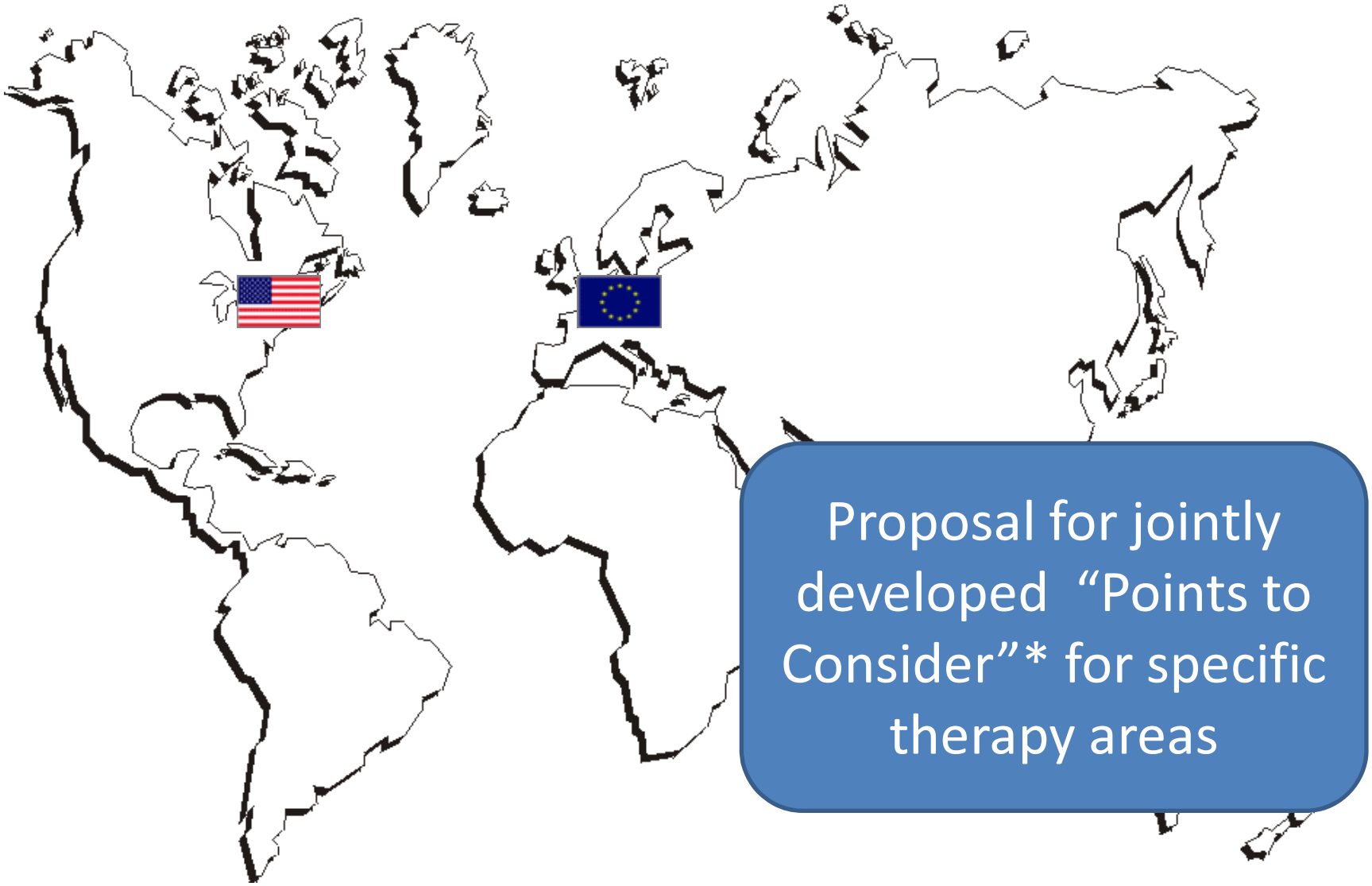
Fears?


Discovery
Pre-Clinical
Clinical
Marketing Authorisation
Post-Authorisation

The promise of IRDiRC – making the goals attainable, by providing the platform for dialogue

- Dialogue – really connecting = key to success
- All roles & responsibilities involved
- Need to really understand the science at all stages
- Regulatory guidance on what is “disease-modifying”
  - But how to know it & show it
- Operating in different geographies
- Build understanding of each other’s roles, responsibilities & points of view
  - Gene therapy
  - Can we do it … is there a value worth paying for?
- Early dialogue →→ ongoing dialogue

Effective trans-Atlantic dialogue already a huge value-add



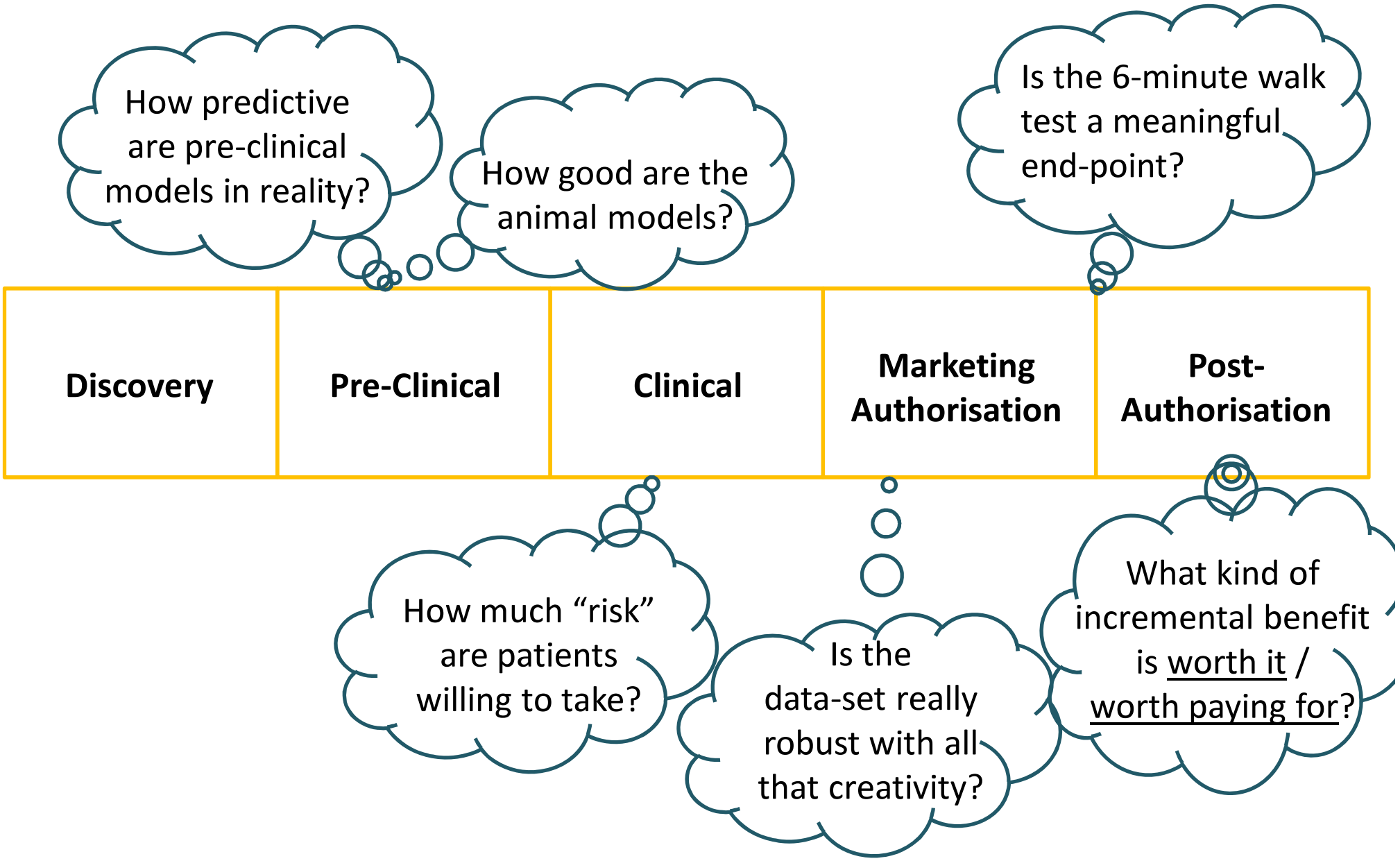
Proposal for jointly developed "Points to Consider"* for specific therapy areas

Multiple different factors influence go / no-go decision

- Confidence in your molecule:
  - Needs to be scientifically possible
  - Needs to be possible from a regulatory perspective
- Confidence in time & costs to know:
  - You may be able to generate the data, but how long will it take?
- Need to be able to make a convincing, holistic story
  - Internal: competition for resources
  - External: investors
- Ability to reduce and/or manage

  ↑ chance of success, confidence ↓ uncertainty, costs

Your point of view may depend on what your role is



A platform to identify issues – a platform to talk

- Simply an interest to know will already add value
- If “we” do this – what is the consequence for “them”?
- Why are they doing that / saying that?
- Interactions between one piece of legislation and another
- Interactions between regions
- Anomalies & contradications – enhanced dialogue but cuts in fee reductions at same time

Lessons learned?
Linking steps will work if we all keep our eye on the goal

- How can I contribute?
- Who should I be talking with?
- How can I help?