





THE LIVER FORUM #2

21 APRIL 2015 VIENNA, AUSTRIA

SESSION 1: WELCOME & UPDATES

- Acknowledgments
- Operating Principles
- Liver Forum Goals & Objectives
 - Updates since Liver Forum 1
- Objectives for Liver Forum 2



STEERING COMMITTEE

- Co-chairs
 - Gary Burgess, Vectura
 - Arun Sanyal, VCU
- FDA
 - Lara Dimick, CDER/DGIEP
 - Ruby Mehta, CDER/DGIEP
- EMA
 - Elmer Schabel, BfArM
- Carol Brosgart, *UCSF*
- Laurent Castera, *Hôpital Beaujon*
- Stephen Harrison, *Brooke Army Med Center*

- Markus Peck, *MedUni Wien*
- Scott Friedman, Mount Sinai
- Veronica Miller, *HIV Forum*
- Massimo Pinzani, UCL
- Detlef Schuppan, Mainz Uni Med Center/BIDMC
- Jeff Bornstein, *Biogen Idec*
- Eric Hughes, *BMS*
- David Shapiro, Intercept
- Bill Baldyga, Patient Representative
- Tracy Swan, Patient Advocate





LIVER FORUM SPONSORS - 1

drug development & health policy facilitating collaborative research







































LIVER FORUM SPONSORS - 2

drug development & health policy facilitating collaborative research































FORUM STAFF

*Rob Besaw, MPH

- *Brenda Rodriguez, MBA, MSc
- Nivedha Panneer, MPH
- Ben Hauschild, MPH
- Myrna Cozen, MPH
 - Visiting Scholar
- Students, Interns, Fellows

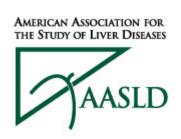


LAST BUT NOT LEAST!

Margie and David Poole and IHL team











LIVER FORUM OPERATING PRINCIPLES

Neutrality & Independence
Transparency & Accessibility
Inclusiveness & Collaboration
Efficiency & Productivity

NEUTRALITY & INDEPENDENCE

- Ownership
 - Collective ownership
 - Equal voice
 - Safe space for discussion, dialogue, and deliberation
- Leadership
 - Recognized leaders from all stakeholder groups



NEUTRALITY & INDEPENDENCE

Credibility

- Recommendations based on sound ethical principles and scientific evidence
- Let consensus evolve
- Participation restricted to scientific experts from organizations with commitment to advancing the field
- Not a venue for marketing, investors, journalists
 - Consensus information publicly available



TRANSPARENCY & ACCESSIBILITY

Funding

- All members invited to contribute according to ability to pay
- Voluntary contributions
- Seek as broad a funding base as possible
- Accountability
 - To member stakeholder groups
 - Frequent evaluation: Meeting the needs?
- Publication/dissemination



INCLUSIVENESS & COLLABORATION

- Open to all organizations with an authentic commitment to the scientific advancement of the field
 - Value diversity
 - Expert input from all stakeholder groups
- Volunteered contributions by members
- Optimal resource utilization
- Share information as possible
- Avoid unintended duplication



EFFICIENCY & PRODUCTIVITY

- Sustained disease specific focus
- Synchronous work process
 - "Information Democracy"
- Cross-pollination of ideas
- Standardization of research practices
- Design more efficient clinical trials
- Link silos!



LIVER FORUM RULES

- In-person collaborative sessions (vs meetings)
 - Closed by invitation, guided by inclusiveness principle
 - Public dissemination only after vetting by participants
- Chatham House Rules
 - Comments are not for attribution
- Everyone brings expertise
 - Experts do not officially represent organizations or agencies
 - Comments are off-the-record
- Everyone contributes
 - No passive observers



MANAGE ENTHUSIASM

- Maximum 2 experts from each company for inperson meetings
- More opportunity for involvement within working groups







THE LIVER FORUM GOALS & OBJECTIVES

THE LIVER FORUM: OVERALL GOALS

- Independent and neutral venue
 - ongoing multi-stakeholder dialogue
 - facilitate more efficient regulatory path for diagnosis and treatment of NASH and fibrosis
- Facilitate best science-based decisions, in real time, regarding efficacy and safety
 - Break down inefficiencies
 - Increase clarity
 - Benefit to the whole field, especially the patient



PRAGMATIC GOALS

- Work towards acceptance of biomarkers (all diagnostic modalities) for
 - Defining disease stage
 - Diagnostic and prognostic
 - Patient selection; inclusion/exclusion criteria
 - Intervention
 - Predictive, pharmacodynamic, and endpoint surrogate markers
- Facilitate the establishment of a natural history cohort
 - Placebo arm data, other data sources



LIVER FORUM 1 NOVEMBER 2014

- Official launch of The Liver Forum
 - Meet and get to know the players
 - Understand process and governance
- Understand regulatory perspectives
 - EMA and FDA
- Recommend initial working groups



PROGRESS SINCE LF 1

- Published LF1 meeting report
- Recruited new members
- Membership survey
 - elicit feedback
 - volunteers for working groups members and leadership
- Established Working Groups
 - Recruit leadership
 - Recruit working group members
 - Initiate discussions & deliberation towards first series of manuscripts
- Establish funding base
- Recruit additional staff



LIVER FORUM 2 OBJECTIVES

- Update on EU and US regulatory perspective/experience in this field
- Update on preliminary deliberations within working groups
 - Various stages
- Feedback on strategy/approach for working groups
- Feedback on strategies moving forward









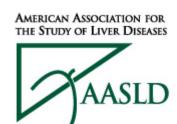
SESSION 2: REGULATORY PERSPECTIVES & UPDATES

Moderators: Gary Burgess, Arun Sanyal

Presenters/Discussants:

Elmer Schabel, BfArM/EMA

Lara Dimick, FDA







SESSIONS 3, 4, 5: WORKING GROUP UPDATES

WORKING GROUPS

- Data Standardization
 - Joanne Imperial, Andrew Muir
- Definition of Disease Stages
 - Stephen Harrison and Sophie Megnien
- Pediatric Issues
 - Joel Lavine, Krishna Polu, Miriam Vos



WHY, WHAT, AND HOW

- Address gaps identified during Liver Forum 1
- Work towards overall goal of biomarker acceptance
- Start with small steps
 - What do we need to/can we put in place to help achieve the larger goal?
- WG's are interrelated
 - Strategic to focus on specific angle/perspective, then integrate



BIOMARKERS & ENDPOINTS (CHRIS LEPTAK, LF 1)

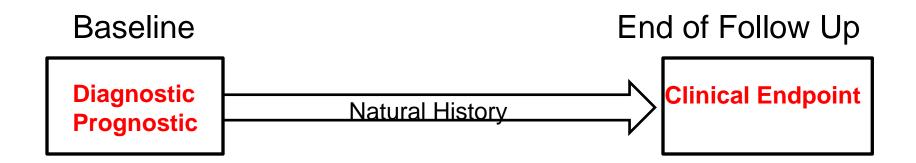
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Disease focused

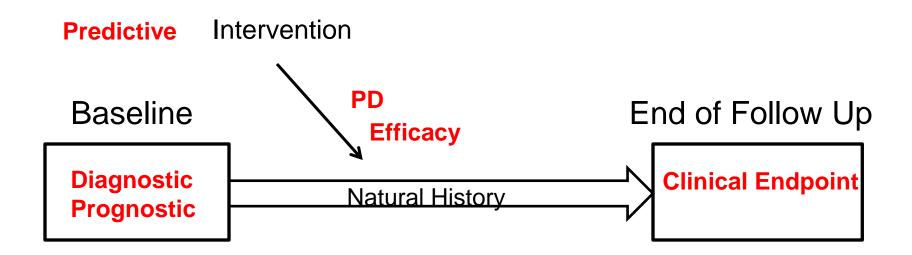
- Natural history
- Absence of intervention
- Diagnostic
- Prognostic

Response to Intervention

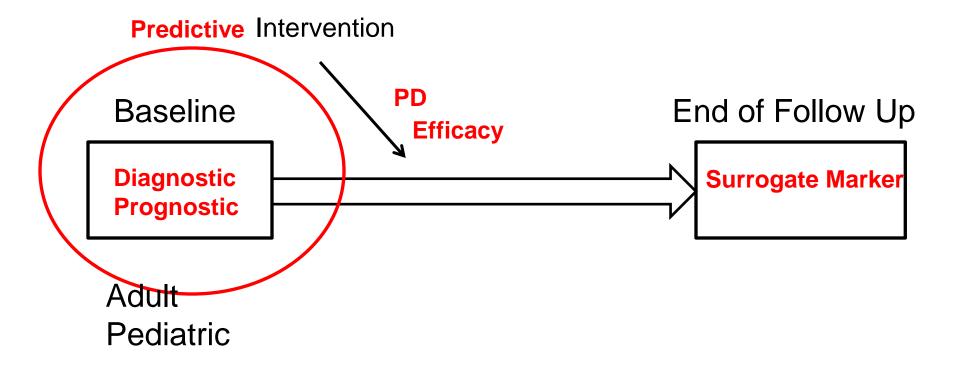
- Predictive
 - Efficacy
 - Safety
- Pharmacodynamic
 - Dose selection
- Efficacy
 - Predicts clinical outcome

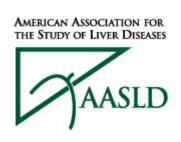


Adult Pediatric



Adult Pediatric









SESSION 3: Toward Data Driven Collaboration

Moderators: Veronica Miller, David Shapiro

Presenters/Discussants:

Bettina Hansen; Borje Darpö

Joanne Imperial; Scott Friedman; Rohit

Loomba, Rob Myers

DATA STANDARDIZATION WORKING GROUP

- Co-chairs: Joanne Imperial, Andrew Muir
- Working Group members:
 - Manu Chakravarthy
 - David DeBrota
 - Lara Dimick-Santos
 - Dean Hum
 - Sophie Megnien
 - Dan Peres
 - Stephen Rossi
 - David Shapiro
 - Brent Tetri



facilitating collaborative research

TOWARD DATA-DRIVEN COLLABORATION

drug development & health policy

- What can we learn from studies of surrogate endpoints in PBC trials?
- What can we learn from standardization of ECG/QT criteria for inclusion in NASH trials?
- Working group strategy and feedback

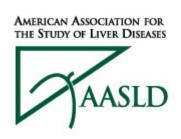


DATA STANDARDIZATION WORKING GROUP

Proposed Strategy

- Create overview of baseline variables in current clinical trials
 - What is level of variability?
 - Stratification?
- Explore potential of endpoints for future trials
 - Static vs. dynamic
- Consider multi-sponsor sub-studies within academic networks
 - Explore different funding mechanisms









SESSION 4: SPEAKING A COMMON LANGUAGE: DEFINITIONS

Moderators: Markus Peck, Arun Sanyal

Presenters/Discussants:

Sophie Megnien, Stephen Harrison

Laurent Castera, Jude Oben, Rebecca Taub

DEFINITIONS WORKING GROUP

drug development & health policy facilitating collaborative research

Co-Chairs

- Stephen Harrison
- Sophie Megnien

• Working Group Members

- Helena Brett-Smith
- Tony Coombs
- Marcelo Costa
- Lara Dimick
- Greg Everson
- Scott Friedman
- Mike Hambleton
- Dean Hum

Members, continued

- Joanne Imperial
- Ruby Mehta
- Melissa Palmer
- Markus Peck
- Dan Peres
- Vlad Ratziu
- Arie Regev
- David Shapiro
- Chinwe Ukomadu
- Teresa Wright





DISEASE DEFINITIONS WORKING GROUP

Proposed Strategy

- Summarize current state-of-the-science
 - Where are the gaps, pitfalls?
- To what extent can we standardize/derive consensus based on current science?
- What opportunities exist for advancing the science?
 - Histological, radiological/imaging, functional
 - Dynamic vs. static
- What are the opportunities for collaboration?



DEFINITIONS WORKING GROUP

Proposed steps

- NASH: define
- NASH: diagnose
- Gaps/Flaws of current methodologies
- Integration of new science into field









SESSION 5: PEDIATRIC/ADOLESCENTS

Moderators: Carol Brosgart, Gary Burgess

Presenters/Discussants:

Joel Lavine, Krishna Polu, Miriam Vos

Dennis Grasela, Stefan Neubauer

PEDIATRIC ISSUES WORKING GROUP

- Co-chairs
 - Joel Lavine
 - Krishna Polu
 - Miriam Vos

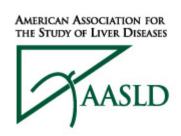
- Working Group members
 - Rajarshi Banerjee
 - Lara Dimick-Santos
 - Martine Kraus
 - Sophie Megnien
 - Ruby Mehta
 - Christine Murray
 - Stephanie Noviello
 - Debra Silberg



PEDIATRIC WORKING GROUP

- Proposed Strategies
- Address gaps in knowledge
 - Natural progression, long term consequences
- Biomarkers/diagnostics for pediatric and adolescent population
 - Urgency to replace liver biopsy
- Opportunities for collaboration









SESSION 6: SUMMING UP & NEXT STEPS

Gary Burgess

Veronica Miller

Arun Sanyal