Session 1 breakout group questions

Group 1+3:

1. *What can we as Statistics Leaders do to effectively interact with universities in shaping education programs and strengthen collaborations?*

2. *What can EFSPI Council do to support the interactions with universities in shaping education programs and strengthen collaborations?*

Group 2+4:

1. *What can we as Statistics Leaders do to effectively interact with universities in attracting future talent to the Pharma industry?*

2. *What can EFSPI Council do to support the interactions with universities in attracting future talent to the Pharma industry?*

Group 1

Summary of discussion: *What can we as Statistics Leaders do to effectively interact with universities in shaping education programs and strengthen collaborations?*

- Teaching
    - Curriculum development: Making curricula relevant and up to date
    - Guest lectures, workshops, case studies based on real pharma projects
- Collaboration
    - Support collaborative research projects between university faculty and pharma statisticians
    - Expose students to cutting-edge research create opportunities for networking
- Strategic Partnership
    - Internships and Partnerships
    - Joint programs
    - Funding and resources
- Outreach to students even at time of high school

Actions for EFSPI Stats Leaders

- Data Science vs Statistics
  - Clearly articulate the distinct value proposition of a statistician in the pharma context, differentiating it from the broader field of data science
  - Highlight importance of statistical rigor and domain expertise in drug development

- Talent scouting
  - Actively participate in university events (career fairs, open houses) to identify and recruit promising students

- Communication and Outreach: Exciting, Passion, not nerds!

Actions for EFSPI Council

- Not nearly enough academic collaborations

- There is difference between countries in academic approaches

    - Understand and map the academic landscape
    - Identify the Skills Gap
    - Awareness of Pharma stats: Students should be able to understand the role and impact of statisticians in drug development

- Diversity and Inclusion: Are we reaching a diverse enough pool of potential statisticians. Encourage under-represented groups to consider careers in pharma stats

- Guidelines for what each country educational system should do.
    - What does "good" look like
    - What does an "ideal" student looks like

Group 2

Summary of discussion

- **Perception of industry** by the universities is a concern? There are professors that do promote industry, but other that don't as we heard from our next gen speakers. Improve the perception that we are there to help patients.
  - A way to do this is for industry to present on their courses / guest lectures. Many of us give lectures on courses, but teaching – do we talk about what we do? Some cases of this but perhaps we can do more frequently.
  - Encourage our new starters to go back to their universities and tell the story of their experience in Pharma – facilitate a program like this (leaders help). May be a bit daunting for junior staff, but also a development opportunity. Message comes better from younger staff than the old dogs.
- Also **awareness of pharma as a career option**. Skill set not only from the "statistics" courses – need to reach other disciplines, such as maths. Underline the meaning of the work – we innovate to truly help patients. Don't only reach out to Masters courses – need to plant a seed earlier, Bachelors, maybe even earlier
- Bridge the gap between more academic conferences (like ISCB) and more industry conferences
- Invite students into companies, e.g. internships, but how reach the students so they know, how incentivize to apply? Challenge in EU due to the different countries having different systems – makes it complicated to have internship programs beyond the local country. Simpler in US and internship programs more common.
- Events can be helpful, examples:
  - Once per year in Germany there's a event for all pharma and all universities; BI initiated this. Companies present and students and their professors join. Started F2F, with Covid become virtual, company organizing it rotates.
  - NL example for PhD students in Utrecht, broader in not just Pharma.
  - Our next gen member noted that various industries came to events at the university, also with social emphasis, these were interesting and motivating for students. Free food!
- Academics want to keep their best students in academia?!

Actions for EFSPI Stats Leaders

- Coach new starters, indeed all staff, to feedback to the courses from which they joined

Actions for EFSPI Council

- Support advertisements for internships; post on the EFPSI site
- Also post videos of next / new gen statisticians
- Generate a pool of materials for e.g. presenting on our industry to students
  - Potentially also broader materials for use with students or new starters on ICH, CDISC, all those acronyms..

Group 3

Summary of discussion

- Concern there is still a negative view of Pharma in Academia
  - Need to do more PR with Academia to change perception

- Opportunities to co-develop curricula and have Industry members be involved in sessions [different views]
  - Is this the role of EFSPI Stat Leaders or others in stats groups?

- Help Universities and students understand the exciting career opportunities in Pharma
  - Sharing more information between Industry and Academia

- We need students to have a strong technical/mathematical foundation but students need to be prepared for the other business critical skills they will develop in role

- Could students have access to both an academic advisor and an advisor from Industry?

- Certain companies are already collaborating with certain Universities but there are more Universities to Pharma Companies
  - How do you effectively scale up collaborations?

- Are students getting enough options to mix theoretical courses alongside more practical courses?

Summary of discussion

- What is Pharma's role to impact education?
  - What are guiding principles?
  - Are these different across countries?

- What is relevant now in terms of education / foundation learning and in the future versus what used to be relevant?

- What options are there for different engagement models

- Pharma is competing against many Industries for strong statisticians, how do we differentiate and attract top talent?

- How do we ensure diversity and inclusion in students being recruited?

- Leaders remember valuable modules such as technical writing, presentation skills

- How to ensure students can remain future fit throughout their careers
  - Continuous learning

- Identify the timing of when certain skills are needed during a career

- Are companies providing fit for purpose onboarding to ensure there is a program of activities to advance the full range of skills required

Summary of discussion

- Students need different approaches to learning
  - Ability to experiment
  - Informal
  - Individual
  - There may be different ways to accelerate learning, specific to individuals

- Could mentors from Industry help give a window to students on what roles could be of interest to them in Pharma?

- In-silico and increasing use of AI will lead to an increased focus on core skills

- Students want to be involved in cool statistics, exciting science, what they feel matters
  - Pharma to better illustrate the latest innovative applications and there are many opportunities to be involved in developing advanced methods/designs

Actions for EFSPI Stats Leaders

- Co-ordinate across companies their external collaborations

- Share who has academic / faculty roles

- Define success measures – what is the end goal?

- Could more leaders take on positions at Board meetings similar to Ingrid?
    - Does Ingrid have any key learnings for others considering these roles?

Actions for EFSPI Council

- Develop a campaign/program of activities to highlight the latest roles and impact statisticians have in Pharma
- Collate what is similar or different across countries to maximise success and share
  - Cultural
  - Expectations
- Local associations share what they have collated in their society to collaborate with their academic institutions
- Better promote what is freely available to students considering joining the Industry
- Share this work by EFSPI with other Statistical Associations e.g. India, US, Asia
- Can students attend EFSPI events for free and promote this more in Universities

Group 4

Actions for EFSPI Stats Leaders

- Ensure the landscape within individual countries is well understood in terms of university courses MSc etc
    - As Leaders we need to share with each other, by country and by region
   - Do a profiling exercise to understand where the gaps are – what roles do we need as an industry that our current education systems are not offering
- Having connection with contacts at key universities, which will enable us to influence their awareness of the technical roles we offer
- Encourage the universities to build connections with high schools which we as Leaders can be involved with
- Can we draft a job description, with support from our NextGen community, Advise on onboarding material – bringing together existing material ICH training and non-statistical skills required
-"Lack of Acknowledgement" comment from NextGen statistician – how can we address this?

Actions for EFSPI Council

-Social media description of quantitative roles in industry
-Describe the statistical leadership skills that are outside the technical aspects of the role – project management etc, Insta blog with examples etc –"A day in the life of an industry statistician" (support from NextGen community),
What will this role look like in 5 years, 10 years time?

-Do we have an advisor/ representative on the EFSPI Council who is in academia, or at least in close collaboration?