

## **So How Do We Light Up The Hype?**

Yes, that is the exact question for policy and practice team to answer. Our project might help to resolve one of the most improbable issue all around the globe through synthetic biology. We might also pave the way to the future of health technology for the upcoming years. Hi, Vax! raises an issue that is close to our society, which is HIV/AIDS. As a student, it is our duty to raise people's awareness towards this health issue and also to disseminate this evolving technology to the population. Therefore, on September 8th 2016, we successfully held an event as one of our social engagement projects, called Synbio Day 2016 : *Integrating Technology and Socio-culture Perspective*.

## **Background**

As a country with diverse cultures and religions, people might have doubts and fears toward the idea of vaccine based on their personal beliefs. To overcome this, education is one of the way to expand our way of thinking. Since synthetic biology is a multi discipline field, we are aiming to reach more people from different backgrounds. That is why we open the reservation for public, especially for academics and collegiate level. We targeted students not only from health, natural science or technology major but also students from social science, hoping that they are also exposed by the information. University students and academics are flexible and have the power to reach out all levels of society, from the government to the needy. With empathy and the quality of critical thinking, they can determine which suitable way to approach the people and to make recommendations for the government.

## **The Event**

Our first social engagement's theme is *Integrating Technology and Socio-culture Perspective*. We basically want to spark interest among social science students so we decided not to wrap up this event with too technical or too scientific context. So our topic mainly discussed about Indonesia's social and culture background that linked to technology development regarding to the perspective towards HIV/AIDS. Through Synbio Day 2016, we managed to strengthen community participation by collaborating with the main student body of Universitas Indonesia. Also, to gain public curiosity, we also came up with the idea to conduct a youth-friendly approach by making Synbio Day 2016 a one-day event that consists of four sessions. Even more, to draw audience's attention, each material is wrapped up in different ways.

As an opener, *Session One : How to Build an Organism* is presented by UI iGEM bronze medalist team leader who talked about synthetic biology in general. We emphasize more on introducing and making a clear position on how synthetic biology affect and change our lives with simple analogies. To make this

less boring, as an introduction for the following material, we started off with an Indonesian short movie (featured as an official selection from the Bio-Fiction Science Art Festival 2014 in Austria), rather than just conducting this session with scientific presentation. Mr. Adi Nugroho Harlianto's witty explanation made the presentation easy to understand with a glimpse of laughter within the session.

After getting the overview of basic synthetic biology, we then drifted the audience deeper into our discussion with the second part of our event. *Session Two : Future Scheme of HIV/AIDS* allows the audience to take part in a mini talkshow given by four speakers from different scientific backgrounds. This session aimed to increase people's awareness about HIV/AIDS and its status quo, here in Indonesia. We then let the audience to put a big question mark on what if HIV/AIDS vaccine is discovered, throughout the session.

That is why we invited four speakers which have been dealing with the issue for a long time to give us viewpoint from clinical, health policy and psychosocial aspects. We had dr. Adi Sasongko, MA who brought the issue from his point of view as a psychosocial expert, while Prof. dr. Zubairi Djoerban, Sp. PD-KHOM raised the problems with his experience as a doctor and the Head of Indonesia AIDS Society. Our third speaker, Dr. Ede Surya Darmawan, SKM, MDM, is a public health professionals and specialized in health policy also gave us insight about the current condition of government's program regarding to HIV/AIDS. Last but not least, we had our mystery guest named Mrs. Pris, a single mother who has now been living with HIV/AIDS for almost a decade.

The topics we discussed round up three subtopics which are the status quo of HIV/AIDS, current treatment and the future scheme of HIV/AIDS if the vaccine exists. We also talked about the discrimination addressed to people with HIV/AIDS. From the discussion, we knew that people still generalize negative stigma on those who are infected with the virus which harm their life on so many aspects, including their social life and even the opportunity to get a decent job. Not to mention the discrimination they get when they go to health care facilities. With Indonesia's current public insurance, their needs of health care and medicine are still not covered. This predicament makes them suffer more since they have to stop taking the medicine.

Until now, we still haven't found the cure yet to solve this problem once and for all. ARV is still the only life prolonger for HIV/AIDS patient. But, even Mrs. Pris decided not to take the ARV as her treatment option due to the side effects that may affect her daily life. Moreover, ARV needs to be consumed every single day throughout their lifetime. The requirement of high compliance makes some patients do not take ARV as their medical treatment. Instead, they only manage a healthy lifestyle and do things that wont

infect others, just like Mrs. Pris does. This compliance issue also leads to another thing. Every patient at the beginning of their sickness will get the first line medicine. If the patient does not take their medicine according to the guidelines, then sooner or later it may cause resistance. Indonesia's government covers ARV only for the first and second line. Unfortunately, if the patient health status is terminal and have to take the third line, then the expenses in on their own and as we know it will cost them a lot of money.

The ultimate question is will vaccine justify drug use and free sex? Most people might share the same question once the idea of vaccine is popped up. All the speakers agree that vaccine will be the best option for curing HIV/AIDS, might eradicate the disease from this earth, help the government to reduce the cost for HIV/AIDS long term treatment and medication, and will stop the stigmatization towards the patients. But, we cannot deny the possibility of misuse and misunderstand of this breakthrough invention. Therefore, we should educate and convince others that if the goodness and benefit of developing vaccine is greater than the harm, then why hesitate? More study should also be conducted to get more evidence and data to make the availability of vaccine do come true.

After hearing the experts, we gave the motion to our friends from English Debating Society Universitas Indonesia to walk down the issue through a philosophical debate exhibition as our **Session Three : HIV : Should We Develop A Cure?** began. There were two teams consist of 3 undergraduate student members each on behalf of the affirmative team (the government) and the negative team (government's opponent). The argument was about pro and contra towards whether or not should we develop vaccine for HIV/AIDS using the government's budget. The rousing debate generated some points as the result. The negative said that :

- HIV vaccine will promote the immoral practice among people
- HIV vaccine research takes long time and high cost
- Social cultural speaking, our people are still very conservative to face innovation like this
- Better to educate people first to avoid immoral practices that can lead to HIV /AIDS
- HIV vaccine research is not urgent. It has been done by another advanced country, therefore when we start our own research we will be way steps behind

While the affirmative said that HIV vaccine promotes opportunities to those infected by HIV/AIDS so that more people will have chance to get better. Also, government has obligations to protect its people from harm and government should never determine whether or not someone is sinful and then neglect their rights as a human being.

The aim of the debate is to open broader mind on how should we respond to issue that confront religious and cultural beliefs. This 40 minutes debate then gave the audience the freedom to choose whatever their stand towards the motion.

On the last 20 minutes, Mr. M. Farhan Maruli as our UI iGEM 2016 team leader gave a brief presentation about what we have been making in these past 8 months from the lab to the street. We also made this opportunity as a momentum to gain support from the audience, especially from all of our friends in Universitas Indonesia.

At the very end, we collected the pretest and posttest we distributed to the audience before and during the event. All 110 audiences answered all 10 questions from the pretest and posttest. The result is quite satisfying. Their basic knowledge of synthetic biology and HIV/AIDS increased by 4 points from the average pretest score which is 81 points, to the average posttest score which is 85,4 points. This means, they already have the information about those two issues before they come to the show. And after that, they gain more information to complete their knowledge.

Attended by people from Jakarta to Sumbawa, Synbio Day 2016 was a big success which was independently run by only 14 iGEM members. Synbio Day 2016 also established cooperation with some local media partners and sponsored by several private institutions and companies. Another surprise we got from this event is at the end of the day, a lecturer from Universitas Bung Karno and also a researcher in Universitas Indonesia Center of Study For Government which located in Jakarta named Mr. Haryo Ksatrio Utomo, interested in our topic we brought on Synbio Day 2016. He then met us and expressed his excitement by offering us a collaboration in interdisciplinary research focused on analyzing synthetic biology from social and politic aspects. Thus, for few years to come, we have a sustainable collaboration with Universitas Bung Karno.

## **Conclusion**

As we came to the end of the show, we can finally jump into conclusion. All of our speakers came from different backgrounds yet they speak the same mind. ARV is now the only prevention and life prolonger for people with HIV/AIDS. Although the incidence have dropped down these past decades, there is still no cure for this so called death sentence disease. Vaccine can be the best option to prevent and even to cure people with HIV/AIDS. Negative stigmatization towards HIV/AIDS as a “death sentence” disease might also be no more so people with the disease can live peacefully. In the future, as more people starts

to recognize that vaccine can promote opportunities for those who are infected, we believe that vaccine is going to be more acceptable and considered as an option.