

SINGAPORE INDIA HACKATHON

Students propose solution to prevent reuse of syringes

PEC alumnus in six-member team that bagged 6,000 SGD



Prime Minister Narendra Modi honours students at the IIT-Madras. Tribune photo

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Sukrit Gupta, a computer science graduate (2015 batch) of Punjab Engineering College (PEC), who is currently pursuing PhD at the NTU, Singapore, was part of the team that proposed a solution, along with a working prototype, for preventing the reuse of syringes and needles in hospitals and immunisation camps during the Singapore India Hackathon.

The team won 6,000 SGD cash prize at the Singapore India Hackathon event held at the IIT-Madras and was encouraged to file a patent and establish a start-up. The hackathon is an initiative of Prime Minister Narendra Modi.

The team proposed 'colour-changing syringes' that will use chemically programmable irreversible photochromic inks. This ink on syringes will turn blue after they're taken out of the packaging within a given amount of time. The photochromic dye in syringes will change colour when exposed to light irreversibly, and will help patient distinguishes a used syringe from an unused one.

The problem — reuse of syringes

The team raised concerns that the malpractice of reusing medical waste continues unabated in several developing countries. The medical staff reuses syringes (on

patients) and intends to resell the unused syringes in the market. The rural population is not literate enough to check this.

“The WHO estimated that in 2000, 40 per cent of the 16 billion injections were administered with reused equipment globally. This led to 21 million new Hepatitis B cases, 2 million new Hepatitis C cases and 260,000 HIV cases,” read the proposal.

The solution

The proposal was aimed at making the naive patients aware of syringes being used. The proposal read: “Patients choose hospitals on trust, cost and facilities. By manufacturing these syringes, we are setting a new standard in trustworthiness. Awareness regarding colour-changing syringes will instil patients’ confidence in the quality of treatment.”

Source: <https://www.tribuneindia.com/news/chandigarh/students-propose-solution-to-prevent-reuse-of-syringes/842878.html>