QuickScan

of the technology impact of an AI model for the prediction of sepsis

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Question 1: What is exactly the problem? Is it really a problem? Are you sure?
The AI model aims to stop sepsis before it becomes a problem. Sepsis is a life-threatening condition that occurs when the body's immune system goes into overdrive in response to an infection. Sepsis is a serious problem, and early detection is crucial for improving patient outcomes and lowering mortality rates. Giving people a tool for quickly diagnosing and treating sepsis is the aim of the technology, which could ultimately save lives. Finding a solution is crucial because the problem is significant and annually affects millions of people.

Question 2: In which way can the technology be used to break the law or avoid the consequences of breaking the law?
The use of the technology to break the law or avoid punishment is not intended. But still, the technology might be used to violate privacy regulations if it collects and maintains personal data without the patient's consent. It is imperative to confirm that the technology conforms with privacy regulations and that its use is ethical and open-source.

Question 3: Does the technology register personal data? If yes, what personal data?
The technology will collect data, such as the patient's blood work results, age, BMI, and other relevant factors, the technology doesn't need to know to whom the data is connected.

Question 4: How is the identity of the (intended) users affected by the technology?
The technology should only be used only as a suggestion to tip medical professionals about the possibility of sepsis and in the process notify them of a patient that might require extra attention.
The technology should NOT be used to disregard the possibility of sepsis in a patient labeled with low prediction.
To achieve this the system will be designed with mind of this possibility as well as be provided with appropriate disclaimers

Question 5: Who are the main users/target groups/stakeholders for this technology? Think about the intended context by answering these questions.
The primary stakeholders and users of this technology are patients, hospitals, and healthcare workers. The technology is designed to be used in hospital settings, where it can help with patient sepsis early detection and diagnosis.

Question 6: Are you familiar with the fundamental shortcomings and pitfalls of data, and do you take this sufficiently into account in the technology?
The underlying limits of the data may affect the effectiveness of the sepsis prediction model, but if the model is highly accurate, it is less probable that these issues will have a significant effect. More emphasis should be placed on the question of whether the model will be sufficiently generalized to predict the likelihood of sepsis in patients with aberrant data from a different continent than the dataset.

Question 7: Does this technology have a built-in bias?
The small dataset provided by Johns Hopkins University is a reputable source, and assuming it is representative and unbiased, the model should not have any inherent bias.

Question 8: Is it explained to the users/stakeholders how the technology works and how the business model works?

It is crucial to explain to users and stakeholders how the technology works, its limitations, and its potential benefits.

Question 9: In what way is the direct and indirect energy use of this technology taken into account?

We can concentrate on other sustainability issues because the AI model for predicting sepsis uses very little energy to operate. In terms of the technology's potential impact, as it develops, it might eventually be used as a more effective substitute for conventional testing methods for the diagnosis of sepsis.

The AI model may also be used to diagnose sepsis in remote or under-resourced locations where conventional testing is not feasible or is either prohibitively expensive or unavailable. This might increase underserved populations' access to healthcare and lessen healthcare disparities.

Question 10: What could possibly happen with this technology in the future?

In the future, if the technology advances , an AI model for predicting sepsis could potentially have a significant impact on public health by improving the accuracy and speed of sepsis diagnosis. Patients may receive faster care and experience better outcomes, which would lower mortality rates and ease the strain on healthcare systems.

Healthcare professionals may start to rely more on AI models for sepsis diagnosis as the technology is adopted more widely, which may change medical workflows and practices. Additionally, this might improve patient education by making people more cognizant of the signs of sepsis and encourage them to seek care sooner.