Prioritizing High-Risk Diseases and Non-Trauma-Mediated Diseases in a Triage on Medical Sapiens Platform

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Medical Sapiens is a medical support computer system, whose main objective is to increase the diagnostic certainty. This database is supported by more than 1000 diseases, which have been configured based on 35 models of the human body. These models represent the different parts of the body in detail. Based on this idea, Medical Sapiens seeks to create a platform (MS2.0) that will triage 16 (non-trauma mediated) high-risk diseases mentioned in the abstract.

It is easy to question how a platform would be able to do such a task. MS2.0 would look at five main criteria: pain, fever, loss of consciousness, shortness of breath, and loss or alteration of some function. When looking at these five criteria, there are a series of factors and questions to consider. The information the platform receives should be as specific as possible in order to properly triage patients. By saying properly triage, this indicates prioritizing the patient's attention according to the severity of their condition.

The first criteria is pain. Some of the questions we want to ask include: Where is the pain? How long ago did the pain start? On a scale of 1-10, how bad is the pain (10 being the worst)? What is the intensity of the pain? We want to delve deeper and ask more specific questions such as: What happened to the pain? Does it radiate somewhere? Does the pain increase or decrease with something? These series of questions would lead to a higher possibility of diagnosing and triaging the patient properly. A similar concept follows with the rest of the criteria.

The second criteria is fever. Some of the questions to ask a patient are: How did the fever start and was it sudden or gradual? Has the temperature varied over time or has it stayed constant?

Once again, in order to be more specific, questions that could be ask include: Is the fever accompanied by pain, diarrhea, nausea, vomiting, cough, wounds, or skin alterations?

The third criteria is loss of consciousness. In this case, we would want to know: How long ago did this happen? Was this sudden or had this started earlier? Is there a wound? Was the patient hit and was there trauma? How long is the patient losing consciousness for? Is this the first time this has occurred? If possible, it would be helpful to know whether (or not) the patient is taking medications or in the middle of treatment for something or whether or not they have just stopped treatment.

The fourth criteria is shortness of breath and here it is important to know what the difficulty level of breathing is. When did this start and was it triggered by something? Is the shortness of breath accompanied by pain, coughing, fever, heart or pulse acceleration?

The fifth and final criteria is loss or alteration of some function. The factors to consider here are based on physical characteristics and mobility. Does the patient have altered movements or deformities in the face or get disoriented suddenly? Did the patient lose strength in the extremities, have intense headaches, have chest pain, or speak incoherently?

The decision criteria for triage will have weights that were obtained through the Analytical Hierarchy Process (AHP). The AHP is a method for organizing and analyzing complex decisions using math and psychology. This provides a rational framework for a needed decision by quantifying its criteria and alternative options, and for relating those elements to the overall goal. In this case, MS2.0, through the triage module, would output a good first approximation to one of the 16 diseases, but now taking into account the diagnostic lethality.

Overall, based on the five different components presented and their weights for triage, MS2.0 would be able to properly triage patients based on the severity of their condition.

In the situation where patients have to be triaged, it is important to consider all of the underlying factors, so that patients might be diagnosed and cared for accurately.