



Understanding and improving decisions in clinical medicine (V): Jekyll and Hyde, the two faces of clinical reasoning

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“I think there’s little merit in virtue and little blame in mistake”

Fabrizio De André: Italian songwriter

Mr. A is a handsome 70-year-old man recently returned to Italy after a holiday in East Africa. He is in hospital due to a skin rash accompanied by persistent fever. He has now been hospitalized for a few days, but his case remains unsolved. Many laboratory tests, many instrumental examinations to investigate the presence of the most common as well as the most infrequent aetiologies to possibly explain a febrile rash after a journey in tropical areas. Consistently negative results. Doctors blunder around in the darkness looking for a challenging solution. Dr. Jekyll meets the patient for the first time after a few days’ rest away from the hospital. He is very fascinated by the patient’s journey. Listening to him, he remembers his past work experience in the same places. After a meticulous examination, he asks the nurse to obtain a blood sample to repeat HIV testing. “It is one of the first tests we did, and it was negative,” she replies, somewhat annoyed and surprised that Dr. Jekyll knew so little about his patient’s story.

Mr. B is an old hospital acquaintance. He is an addict who heroically survived many years of intravenous heroin. He carries on living on the street and occasionally comes into the Emergency Department complaining of real or alleged aches and begging for the usual dose of analgesics. Nearly one of the family.

Once again, he comes back to the hospital for the same reason. A pain in the left hemithorax that he blames on a fall of just a couple of days before. Hyde is the doctor on duty

that day. He has a few words with Mr. B. He finds out that Mr. B is very concerned about his sister, who has recently been diagnosed with breast cancer. He tries to reassure him. He visits him. Nothing of notice. A new chest X-ray is done. Nothing new as compared to the several exams carried out over the past months. He gives him the usual dose of analgesics before moving on to the next patient. At the end of a pretty hard shift, the handover between Doctor Hyde and his colleague is quick and cursory. He almost forgets to mention Mr. B. “Oh yeah, I forgot to tell you: Mr. B. is here again. Same old story. I did not discharge him because he is still in pain. Take care of him”; he points out to his colleague while heading the service exit.

Mr. A is rash had not an uncommon explanation. Mr. A actually had an acute HIV infection. The second test, carried out a few days after the first one, was positive. “Great diagnosis. Many futile tests when the answer was so simple!” the colleagues commented, with great respect and appreciation for Dr. Jekyll’s conduct.

Mr. B’s pain was not his usual pain. He actually had myocardial infarction requiring urgent revascularization. Doctor Hyde did not find out until the next day, after a fortuitous, and not quite friendly, encounter with his colleague. The successful interventional cardiology procedure was not enough to wipe out Doctor Hyde’s feelings of guilt and inadequacy.

Jekyll and Hyde are the same doctor, the same man, the same mind.

The doctor’s job is made up of good insights and bad mistakes. We appear as good professionals after a good insight and bad professionals after a bad mistake. It is easy for us to attach labels; it is even easier to be judgemental. We only see in black and white, although we wander on a gray scale. That is why, we do not realize that behind a good insight and a bad mistake, there might be the same doctor, even the same piece of clinical reasoning.

Cognitive science has taught us how the human mind uses mental shortcuts (also called “heuristics”) in decision-making [1]. A heuristic can be seen as a cognitive “rule

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of thumb” that we unconsciously apply to a complicated situation to make decisions more easily and efficiently, thus saving time and energy. The prevalence and implications of heuristics have been widely studied in fields outside medicine, and also increasingly acknowledged within the medical community since the 1970s [2]. “Fast and frugal” have then been defined, underlining how essential they are for cognitive survival [3].

Just after guiding us to a good insight, the same shortcut could generate a cognitive bias, and lead us straight into a mental trap. Doctors are surely exposed to such combinations in their stream of clinical decision-making. Not because they are weak, not because they are unaware, but simply because they are human beings. All decision-makers are at risk from bias, regardless their intelligence or any other measure of cognitive ability [4].

Notably, Jekyll and Hyde used the same shortcut in the clinical settings described above, namely, the so-called “availability heuristic”. Availability is adopted whenever doctors make judgments about the likelihood of a diagnosis based on how easily instances of a similar diagnosis come to mind. The recent or the stunning events make the brain especially susceptible to such bias [5].

“The umpteenth E.R. visit of the usual drug-addicted patient with his usual symptoms. I have seen him many times before; I know he needs his usual dose of analgesics this time, too”. Here is what Dr. Hyde thought when he visited Mr. B.

“Fever and rash after a trip. It is crucial to rule out an acute HIV syndrome. I have seen many similar cases before; I know how confusing a single test is, especially when it is done too early”. Here is what Dr. Jekyll thought when he visited Mr. A.

Both were guided by the unspoken principle “if I think of it, it must be important”. “What you see is all there is”, in Daniel Kahneman’s telling quip. Yet, what immediately comes to mind might or might not accurately track the target real-world processes.

The same doctor, the same man, the same mind, the same cognitive mechanism. Two opposite effects.

Cognitive science gave us the opportunity to discern the mechanisms of human decision-making.

Their contribution has surely been relevant in medicine. They provided the instruments to reconsider clinical reasoning in a new light, drawing attention to issues hardly considered before. However, the impact of these issues on the perception of mistakes (and successes) is still a most neglected aspect. Even today, although heuristics provide a significant contribution to medical errors (and successes), they

are marginalized in student’s education and disregarded in clinical practice. Realizing that we all could make mistakes in the same way and we all could face opposite outcomes through the same line of reasoning, we should reject the idea that fault and guilt lies behind every mistake. That is one of the many good reasons to go beyond a culture based on a shame-and-blame approach to errors in medicine, a culture that inhibits doctors from disclosing errors and encourages patients to help uncovering hidden mistakes. That is one of the many good reasons to push the system to take care of doctors who make mistakes and, possibly, to establish shared strategies to minimize the risk of error.

“Everyone makes mistakes, that is why there is an eraser on every pencil” has been said. It would be fair to complete by suggesting that “Everyone has good insights, that is why there should be a marker on every pen”. We are doctors, we are men, and we have minds. We all are Jekyll and Hyde at the same time. It is neither a boast nor a fault. We hold a pencil with an eraser in one hand and we hold a pen with a marker in the other.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Statement of human and animal rights This article does not contain any studies with human and animals performed by any of the authors.

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