





Speed is crucial in any clinical care setting – especially in suspected sepsis. But today's incentives and one-hour sepsis bundle can promote an environment of speedy treatment without proper clarity.

Dr. Frank LoVecchio, Director of Research at the University of Arizona Maricopa Medical Center and longtime ED physician gives a realworld example:

Let's say a patient has been exerting himself outside and comes in with a fever. It triggers a lactate, which comes back at 2.1. Anything above a 2.0 is technically elevated so, in turn, that triggers another set of clinical interventions. Now, common sense would say it most likely isn't sepsis, but the elevated lactate opens the possibility. It introduces doubt – and the metrics further sow those seeds.

They force you, in a way, to make decisions you might not otherwise make if you had more time."

He speaks further about such time limitations:

You're supposed to see everybody within 10 minutes... get an EKG in 10 minutes...do your disposition within 180 minutes. Everything is on the clock, a real clock. If you start missing numbers, you start getting dings."

Dr. Murtaza Akhter, an emergency physician at the University of Arizona concurs. He adds that, when you're on the fence regarding a sepsis diagnosis, current incentives push you over:

The goal of incentives, certainly, is to nudge doctors in one direction. But some of us are more susceptible

to being nudged, depending on the circumstance. It's human nature. So, if you're on the fence about whether somebody is bacterially septic and there's a financial incentive or disincentive for missing it, guess what? You're going to do the bundle, even if you're leaning toward a non-sepsis diagnosis."

Critical understaffing only exacerbates the issue, which can cause delays in getting test results. It all puts doctors at a speed deficit from start to finish, intensifying the pressure to make snap decisions to to comply with metrics.

THE NET EFFECT IS

OVERTREATMENT – DRIVING

UP COSTS AND DRAGGING

DOWN THE QUALITY OF CARE.

### **MISALIGNMENT 2:**

# DOCTORS ARE PENALIZED FOR MISSING SEPSIS, BUT NOT FOR MISDIAGNOSING OR OVERTREATING

ED physicians are under intense scrutiny by hospitals and the Centers for Medicare & Medicaid Services (CMS). When they catch heat for missing a sepsis diagnosis, but not for misdiagnosing in the ED, there's little incentive for them to worry about the latter.

With so many patients fitting into systemic inflammatory response syndrome (SIRS) criteria, the overcaution is understandable – but also somewhat driven by fear of reproach. Hospitals and doctors want to mitigate:

- · CMS penalties
- · Exposure to lawsuits
- · Penalties imposed by their health system

Says Dr. LoVecchio:

If you miss a diagnosis, you risk getting a nasty-gram or negative performance review and costing the hospital its reimbursement. Even if there's only a 1 in 10 chance of that – even if it costs another \$10,000 – I don't know many doctors who wouldn't take that chance. None of us can afford to make waves."

With high professional stakes, it's no wonder doctors may feel personally pressured to "call it sepsis and call it a day." This system of asymmetric incentives can't help but contribute to overtreatment – and to an overutilization of resources already stretched thin. Ultimately, it's not clinicians who bear the brunt of it. It's the patient.

"The patient might get intubated or [exposed to] resistant bugs, but I get no harm. That's the true reality of it. It's the patient who gets penalized."

- Dr. Murtaza Akhter, emergency physician, University of Arizona



There's simply no incentive for doctors to revisit a diagnosis after they make one – especially as the patient moves from department to department and doctor to doctor, commanding resources along the way. One worry is changes could introduce more error.

Once a patient is on a particular workup trajectory, people see changing directions as a bit risky, and harder to do. If you change directions and you're wrong — like stopping antibiotics, for instance — and the person does have sepsis, they could suffer a poor outcome. And once a diagnosis is set, it requires less thought and trouble to go with the diagnosis they've been given than to rethink the diagnosis."

-Dr. Faheem Guirgis, emergency medical physician, and research fellowship director at UF Jacksonville There are other factors that complicate changing a diagnosis after it's made too, including:

#### **BURDEN**

It takes additional testing and evidence to justify a change in treatment.

#### UNDERSTAFFING

Already overburdened resources have little time to rethink a diagnosis afterwards.

#### **HESITATION**

Doctors generally acknowledge that, once a diagnosis has been made it's tough to change.

Dr. LoVecchio speaks candidly on that last point:

I think we as a profession sometimes are hard to change. Once we make the diagnosis or think we made the right call, we kind of go with that. Even with testing...if you say a test is 99.99% accurate and the patient doesn't have the bacteria, you're the one that quickly says, 'My patient is that 0.001%.'"

On opposite ends, we've seen how speed in making a diagnosis – and slowness in changing one. Can be a recipe for trouble. This exposes patients not only to overtreatment, but to other risks as well. Let's look at a few examples.

# THE UNINTENDED CONSEQUENCES OF

# MISALIGNED INCENTIVES ON PATIENTS

There are four, broad categories to consider:



### TOO MUCH ANTIBIOTIC, WHICH CAN LEAD TO RESISTANCE

While a single dose of empiric antibiotic might not lead to resistance, some patients in the ED may have previously been treated with antibiotic for other reasons too. An additional broad-spectrum regimen can increase bacterial antibiotic resistance in the patient. It can also breed antibiotic-resistant bugs that can infect the patient and others in the system.



### EXPOSURE TO HOSPITAL-ACQUIRED INFECTIONS

Patients can be exposed to multiple other infections while being treated, particularly in the ICU. If they were misdiagnosed as septic in the first place and infected after ICU admission, it's a worst-case scenario for patients and hospital.



### TOO MANY FLUIDS, WHICH PUT PATIENTS AT RISK OF OVERLOAD

Doctors debate the efficacy of administering fluids when not needed. At worst, there's a risk of fluid overload, which can lead to pulmonary edema. A positive fluid balance can also lengthen ICU stays. While the risk is low for most patients, most doctors would agree that giving patients treatment they don't need runs counter to delivering quality outcomes.



### MISDIAGNOSES CAN PUT CARE ON THE WRONG CLINICAL PATH

A misdiagnosis from the start can adversely impact patients in two ways. 1.) It delays treating the right condition in the right way. 2.) It can create a scenario where the wrong treatment is, in fact, even more harmful to their health.

Of the four, over-prescription of antibiotic is likely the most common, and can have impacts across multiple patients as antibiotic resistant bacteria can be spread. Says Dr. Guirgis:

Patients will stay on that same regimen of antibiotics frequently for days and days. If they don't have sepsis, they may still stay on them for quite a while. People don't want to stop them until they're really, really sure. So, I do think resistance, absolutely, is a big thing."

## NO EASY ANSWERS, BUT AT LEAST A PLACE TO START

Sepsis care is unsustainable, metrics around quality are poor, and spending is too high. Physicians are searching for a better way, and identifying the problems are the first steps in creating solutions. As this series continues, we'll dig deeper into what that "better way" might look like.

NEXT TIME, WE'LL LOOK AT TWO OF HIGH-QUALITY SEPSIS CARE'S BIGGEST ENEMIES – AND HOW DOCTORS' ROLES MUST CHANGE TO COMBAT THEM...

