South African doctor sees drug-resistant HIV

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(AP) -- It's 8 a.m. and Dr. Theresa Rossouw is already drowning behind a cluttered desk of handwritten HIV charts - new, perplexing cases of patients whose lifesaving drugs have turned against them.

Her cell phone chirps. Her desk phone bleats. She scribbles notes on a planner, spins in her chair, juggles requests about labs and drug regimens.

Rossouw is on the front lines of a new battle in the fight against HIV: The drugs that once worked so well are starting not to work. And now the resistance is showing up in sub-Saharan Africa, home to two-thirds of the world's 33 million HIV cases.

Ten years ago, between 1 percent and 5 percent of HIV patients worldwide had drug resistant strains. Now, between 5 percent and 30 percent of new patients are already resistant to the drugs. In Europe, it's 10 percent; in the U.S., 15 percent.

In sub-Saharan Africa, where the drugs only started arriving a few years ago, resistance is partly the unforeseen consequence of good intentions. There are not enough drugs to go around, so clinics run out and patients can't do full courses. The inferior meds available in Africa poison other patients. Misprescriptions are common and monitoring is scarce.

The story of HIV mirrors the rise worldwide of new and more deadly forms of killer infections, such as tuberculosis and malaria. These

diseases have mutated in response to the misuse of the very drugs that were supposed to save us, The Associated Press found in a six-month look at soaring drug resistance worldwide.

In Rossouw's shabby little HIV clinic, the tragedy has arrived. She's increasingly bombarded with drug-resistant cases, and there's nothing in her arsenal of medicines to throw at them.

"For the first two or three years I was not seeing it. It was rare," she said, rifling through a patient's tattered record. "Now it is really daily. I think in the next five years, we are going to have such a need."

It's midmorning and Rossouw's first patient slips inside from the crowded hallway where up to 200 others wait on wooden benches. Monica, who only wishes to be identified by her first name for fear of discrimination, takes a seat.

Rossouw, 37, greets her warmly in their native Afrikaans. She is the only doctor - out of the six at Tshwane District Hospital's HIV clinic - who speaks the language, adding translator to her litany of other duties.

Monica, 45, looks and feels healthy. It's hard to believe she's had HIV for nearly a decade. Now she's faced with a new threat, one Rossouw isn't sure the patient fully understands.

Monica has widespread drug resistance - everything has stopped working. But she's not feeling the sting yet, and it's hard for her to believe a piece of paper that says her meds aren't working.

In sub-Saharan Africa, resistance rates have quietly climbed to around 5 percent in the past few years, and that's a substantial undercount. It's

hard to pinpoint resistance because most cases in the developing world aren't tracked. In some high-risk populations worldwide, HIV drug resistance rates soar as high as 80 percent, according to studies published in AIDS, the official journal of the International AIDS Society.

The United Nations estimates $25 billion will be needed to fight AIDS worldwide in 2010, but probably only half that sum will be available. That estimate doesn't account for drug-resistant strains, which could cost $44 billion by 2010.

Monica's slip came in 2004, when, distraught over her mother's death, she went off of her treatment for two months.

"I took the death badly," she said softly. "I had an appointment with the doctor and decided that now that my mom has died, I must die as well."

The HIV drugs used in Africa are very unforgiving, unlike the newer pills used in the West. Miss a dose here or take a pill late, and the virus quickly wins control. There are only a handful of drugs available in South Africa, and once those stop working there are no more options.

Rossouw found an obsolete HIV drug at another hospital and hopes it will keep Monica alive. But she's experimenting at this point.

South Africa began offering free HIV medication six years ago. With an estimated 5.7 million people infected - the most of any country worldwide - and 700,000 on therapy, Rossouw fears Monica is a glimpse of the future.

Each year more drug resistant strains are detected. There were 80 different documented strains in 2007; 93 in 2008, according to Stanford University's HIV Drug Resistance Database. And with 4 million people now on drugs in poor countries, experts fear resistance will rise.

By noon Rossouw, who also teaches, studies and researches at the University of Pretoria, has taken a dozen phone calls and dispensed advice to nurses, doctors, students and patients inside and out of the hospital.

Now crisis is hitting: A patient has been admitted after her HIV drugs began poisoning her system. Her pancreas is damaged, her life at stake. The HIV regimens used in Africa often have toxic side effects, and if left unchecked, the drugs meant to save patients end up killing them.

Rossouw orders the woman off the meds. If she survives, Rossouw figures she'll be adding her name to the black binder atop her desk, a list with names of about 200 patients failing at least one round of therapy. A few, like Monica, have reached the end of the line.

"What if they start spreading that resistance in the community?" Rossouw says, shaking her head. "I don't think any of us actually sat down and thought about the consequences of widespread resistance in the population. We don't have enough money as it is."

There are 8,000 patients who crowd into the clinic. Of those, 5,000 are taking antiretrovirals. The rest are forced, under South African guidelines, to wait until their immune systems weaken more.

Rossouw came to this battered public hospital in 2005, after realizing she was bored with a comparatively tranquil private practice. What she saw there leads her to blame private doctors who mismanage patients for the rising resistance. They prescribe the wrong meds, she says, and miss failing therapy.

"They just start them on treatment and hope it's going to solve all of their

problems," she says.

Rossouw monitors everyone's blood in her clinic for changes in the virus so she'll know if their drugs are losing potency. In smaller private practices or poor neighboring countries like Malawi, doctors don't have the tools necessary to check how much virus is in the body, a key way to note drug resistance.

A study published earlier this year found widespread drug resistance in Malawi, where doctors were following the World Health Organization's treatment guidelines.

"Right now, treatment rollout is in the honeymoon of success and we haven't treated enough people for long enough to start seeing some of the consequences of what we're doing," said Dr. John Mellors, an HIV drug resistance expert at the University of Pittsburgh. "People tend to be naive and optimistic that the boogie man's not going to come. It's coming. This virus is no different than any other pathogen throughout history that we've chased with antimicrobials, and it's always one step ahead of us."

Down a dingy hall and outside across a concrete walkway is the pediatric unit where some of Rossouw's most stubborn resistance cases are treated. One 6-year-old girl does not respond to any drugs, despite taking them properly. It's a mystery case that baffled some of the world's leading drug resistance experts.

This afternoon it's time for 4-year-old Mashamaite's appointment. Born HIV free, this toddler's diabetic mother died when he was 4 months old. His aunt, who had also just given birth, offered to breastfeed and raise the baby. But she didn't know she was HIV-positive. She infected

Mashamaite and then she died. Before he ended up back with his dad and stepmother, his treatment was stopped for two to three months, allowing drug resistance to build.

Now first-line HIV drugs don't help Mashamaite, so they're trying the second and last option.

Rossouw and her colleagues say kids are perhaps the hardest to treat because they depend on someone else to make sure the meds are swallowed. Often, because AIDS has ravaged so many South African homes, the child bounces among surviving relatives. Sometimes teenage siblings are tasked with diluting the pills and squirting them into the little mouths with syringes.

Mothers are another difficult category. In a country where nearly 30 percent of all child-bearing women are infected, drugs given during delivery have helped prevent many babies from being born with HIV. But moms in Africa are often given just one dose of a single drug during birth - which can produce enough resistance to take out an entire class of drugs and severely limit treatment options for them later on.

In Rossouw's office, the phone hasn't stopped ringing and the nurses haven't stopped interrupting her. A signature here, a prescription there. As the afternoon sun begins to sink, the clinic's hallway has cleared. Rossouw is the last one to leave.

She locks the door and strides across the campus, up three flights of stairs into the main hospital.

"Hello!" she calls to Freddy, an aging patient, gaunt and weak.

He tells her he stopped taking the pill, 'the big one,' that was causing nonstop diarrhea. He took the others, he says, until they ran out.

"Sometimes I take them and sometimes not," he says, his voice faint. "If my stomach isn't running, I'm strong, strong, strong. When I run out of drugs, there's no money for transport to the clinic."

Rossouw grips his hand while sitting on his bed.

"I'm worried that we don't have any options left. You look to me now like you looked without treatment," she says. "Do you think maybe there might not be any more treatment?"

"No," he says, looking away. Understanding. "Those ones that make me sick ... maybe if I can get others, I'll feel better. I'm always vomiting. I want to try everything that can help me."

This small rally of hope is all the doctor needs. She orders tests to determine if there are any drugs left that might work. She will attempt to resurrect him, choosing from her slim selection of pills.

It's now evening and Rossouw heads for dinner, relaxing at a restaurant with her husband and their 7-year-old daughter. But just as the pizzas arrive, the doctor's tireless cell phone sings again.

She answers. Her voice cracks. The tears come before she can push her chair back.

For the first time in her hectic day, she takes a moment alone to grieve for a patient even she couldn't save.