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# THE PINNACLE GAZETTE

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- Science
- Politics
- World News
- Sports
- U.S. News
- Business
- Technology
- Health
- Arts & Culture
- Science
- Local News
- Economy
- Lifestyle
- CE

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## Personal Stories Illuminate The Antimicrobial Resistance Crisis

Innovative solutions and advocacy cultivate awareness on the urgent need to combat antimicrobial resistance



The world is facing a growing crisis with antimicrobial resistance (AMR), posing serious public health threats as bacteria evolve and outsmart antibiotics. With increasing reports of drug-resistant infections, the situation demands urgent attention and innovative solutions.

The story of Mallory Smith is one poignant example of the impact of AMR on individuals and families. Diagnosed with cystic fibrosis at the age of three, Mallory's life became entwined with the complications posed by the deadly bacteria *Burkholderia cepacia*, leading to numerous health challenges and hospitalizations.

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Smith's battle began when *Burkholderia cepacia* colonized her lungs, rendering

transplant.

Her mother, Diane Shader Smith, has become an advocate for AMR awareness, believing personal stories can bridge the gap between the complex science of AMR and public perception. She emphasizes the importance of humanizing the statistics surrounding AMR to motivate action and policy changes.

Diane's efforts led to the establishment of the Global AMR Diary, which collects and shares personal stories of patients and caregivers affected by AMR. Through these narratives, she hopes to underscore the urgency of addressing AMR, noting, "People tend to respond to personal tragedies and personal stories."

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Another advocate, Vanessa Carter, understands this firsthand as she too faced the devastating effects of antibiotic-resistant bacteria. Following a severe car accident, Vanessa developed methicillin-resistant *Staphylococcus aureus* (MRSA) infections, which compounded her recovery process with additional surgeries and antibiotic treatments.

Like Mallory, Vanessa transformed her suffering and experience with MRSA infections to help raise awareness about AMR. She founded the AMR Narrative, aiming to provide platforms for those affected by drug-resistant infections to share their stories and educate others.

The experiences of individuals like Smith and Carter highlight the pressing need to combat AMR effectively. It serves as reminder of the personal impacts behind the statistics, urging both public and private sectors to react accordingly.

One of the formidable challenges with AMR is its invisible nature; many individuals are unaware of the threat until they—or someone they love—are affected. A recent study published in the *Lancet Infectious Diseases* estimated drug-resistant infections accounted for about 5 million deaths worldwide, yet

Public health experts warn of the potential danger as fewer new antibiotics are on the horizon to replace those becoming obsolete. The crisis of AMR is particularly alarming as children and vulnerable patients suffer more in resource-limited countries.

To better manage the threat of AMR, novel approaches to testing and treatment are becoming increasingly important. A recent study developed by researchers focuses on quantitative testing methods, such as the SYBR Green I/Propidium Iodide assay for rapid antibiotic susceptibility testing.

This innovative technique offers quick, accurate results, potentially within 60 minutes, allowing clinicians to make informed decisions about treatment. The speed and efficacy of this method significantly reduce the chances of unnecessary antibiotic use and the subsequent rise of resistant strains.

The study evaluated clinical isolates of *Escherichia coli* (*E. coli*), which is notorious for its contribution to AMR among pathogens. Traditional testing methods often take more than 16 hours to yield results, and during this time, doctors may administer broad-spectrum antibiotics, inadvertently contributing to the problem.

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With the novel SYBR Green I/PI method, researchers found impressive concordance rates with traditional methods. The researchers reported 100% accuracy for detecting *E. coli* susceptibility to certain antibiotics, marking a significant advancement for hospitals and clinics battling AMR.

education surrounding antibiotic usage, prevention, and resistance.

The advent of methods like SGPI-AST signifies hope for more effective clinical practices and potentially improved patient outcomes. Integrative approaches to personal stories and scientific advancement will be key to addressing AMR's challenges.

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AMR is not solely the concern of health professionals; it affects everyone. If awareness grows and actions are taken to limit unnecessary antibiotic usage, the tide of resistance may be turned back.

Finding resolutions to combat AMR is imperative, not just within hospital walls, but globally. Garnering public support through emotional narratives intertwined with scientific innovation is the path toward long-term solutions.

The fight against antimicrobial resistance is multifaceted, involving both individual actions and systemic changes. Each person has the power to contribute, whether through advocacy, education, or responsible antibiotic use.

It is clear—personal stories combined with innovative research create avenues for tangible solutions. The experiences of individuals like Mallory and Vanessa, intertwined with emerging technologies for testing, light the way forward for the collective fight against this looming health crisis.

### Sources

<https://www.cidrap.umn.edu/antimicrobial-stewardship/putting-face-invisible-threat-antimicrobial-resistance>

<https://www.europeanpharmaceuticalreview.com/news/232447/sustainable-qc-method-for-antimicrobial-quantification/>

<https://www.nature.com/articles/s41579-024-01095-1>