UPPING THE ANTI

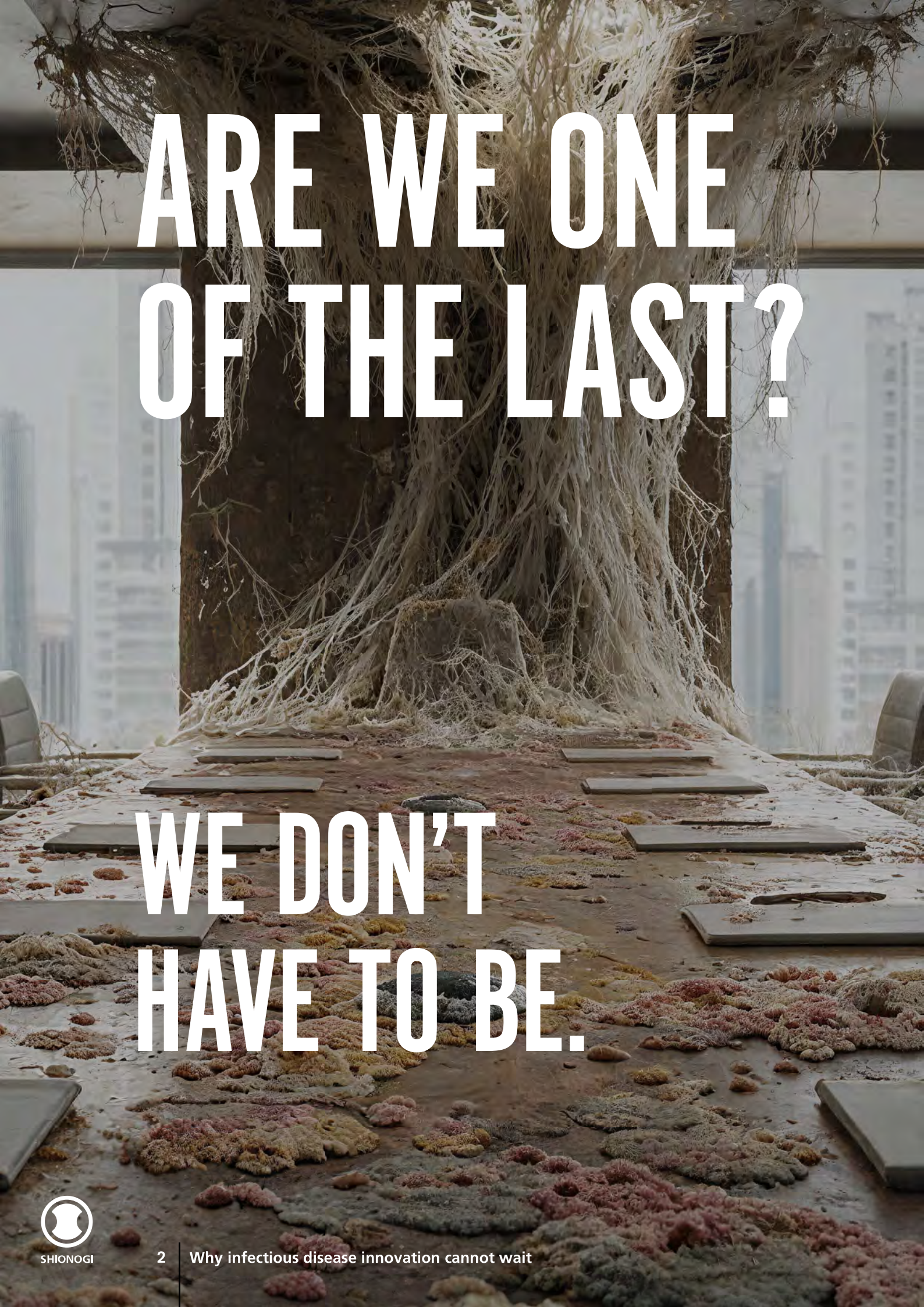
Antibiotics. Antivirals. Antifungals.

Why infectious disease innovation cannot wait

A call to sustain the science, investment and partnerships needed to stay ahead of infectious disease threats

NP-EU-NP-0382, November 2026

SHIONOGI


ARE WE ONE OF THE LAST?
WE DON'T HAVE TO BE.



A broken market is forcing difficult decisions in board rooms around the world, driving investment and innovation away from anti-infectives.

35%

decline over five years in antimicrobial pipeline projects among the seven large research-based pharmaceutical companies assessed by the 2026 Antimicrobial Resistance Benchmark.[1]

18

pharmaceutical companies were developing antibiotics in 1990. By 2020, there were five.[2]

Around 3,000

AMR researchers are estimated to be active globally, around one-tenth the number working in cancer research, while the number of researchers publishing in AMR has fallen by almost 50% since 1995.[3]

8

viral disease indications have novel antivirals in clinical evaluation - spanning just 6 of 14 viral families with pandemic potential assessed by INTREPID.[4]

19

fungal pathogens identified by WHO as priorities for research, development and public health action.[5]

‘The world faces an antimicrobial research and development crisis, with few new medicines in the pipeline.’[6]

World Health Organization, 2026

The growing threat

Infectious diseases do not wait. They remain a persistent and evolving threat to health. Bacteria adapt. Viruses emerge. Fungal threats are gaining ground. Yet the innovation system we rely on to respond is fragile: too few incentives, too few specialist organisations, too few people and too little time when the next crisis arrives.

We need to be prepared, and the challenge ahead is bigger than filling today’s pipeline. It is about creating the conditions to discover, develop, manufacture, supply, and use anti-infectives responsibly, and to create long-lasting innovations before they are urgently needed. Once capabilities disappear, it will be difficult to rebuild.

That is why the time to act is now. The antibiotics, antivirals and antifungals we may need tomorrow depend on the science, investment and partnerships we choose to sustain today.

Upping the Anti = stepping up ahead of the emergency

For more than 110 years, Shionogi has stayed committed to anti-infectives. In a field where many organisations have stepped back, long-term commitment is itself a preparedness asset.

Upping the Anti is about doing more than recognising the risk. It means backing the science, investing in capability and working with partners so that anti-infective innovation does not disappear.

For Shionogi, it means continuing to innovate, continuing to invest and continuing to collaborate across antibiotics, antivirals and antifungals.



Different pathogens. Same warning.

Antibiotics protect modern medicine. They support the delivery of surgery, intensive care, and continued innovation and delivery in other areas of modern medicine. But resistance erodes their value, while stewardship rightly limits unnecessary use. Society needs new antibiotics to be available, but public health depends on preserving them.

Antivirals are a race against time. Viral outbreaks can emerge rapidly. Drug development, however, takes time. A limited antiviral pipeline leaves the world exposed unless investment happens before an outbreak begins.

Antifungals show the blind spot. In 2022, the World Health Organization published its first Fungal Priority Pathogens List, identifying 19 fungal pathogens where public health importance and unmet research and development needs warranted greater attention. WHO highlighted that serious fungal infections, resistance, weak surveillance, limited diagnostics and unequal access show why infectious disease policies must go beyond antibiotics alone.[5]

The evidence is consistent throughout all three: when innovation stalls, preparedness weakens. Different threats need different tools, but they all depend on sustained science, resilient organisations, specialist people, smart incentives and partnerships that turn discovery into access.

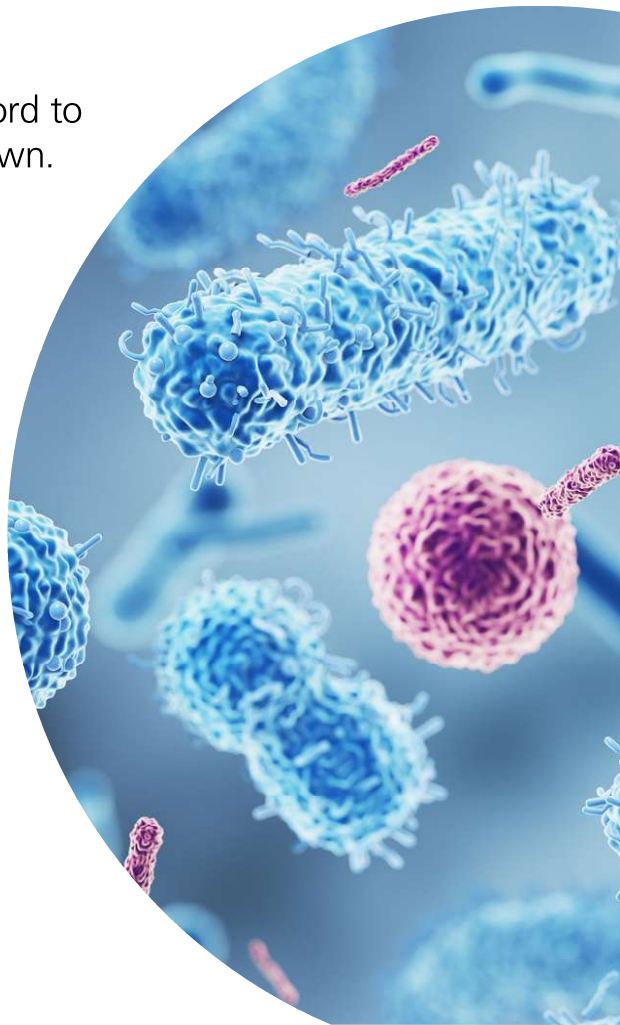
The evidence is clear

The pressure is visible. More than one million people die each year as a direct result of drug-resistant infections, and antimicrobial resistance is associated with more than four million deaths overall. Yet the 2026 Antimicrobial Resistance Benchmark found a 35% decline over five years in antimicrobial pipeline projects among the seven large research-based pharmaceutical companies it assesses.[1]

Smaller companies are carrying much of the early science, but the model is fragile. BIO found that small companies had discovered 81% of antibacterial therapeutics being tested clinically in the pipeline it assessed, while antibacterial-focused companies attracted far less venture capital than oncology companies between 2011 and 2020.[7] The AMR Industry Alliance has estimated there are only around 3,000 active AMR researchers worldwide.[3]

The gaps extend beyond antibiotics. INTREPID found novel antivirals in clinical evaluation for only eight viral disease indications across six of 14 viral families with pandemic potential.[4] WHO has identified 19 priority fungal pathogens and called for stronger surveillance and laboratory capacity, research, development and public health action.[5]

The message is simple: we cannot afford to let infectious disease capability run down. The pipeline of tomorrow depends on the people, platforms, stewardship, partnerships and policy choices protected today.



At least 8

pandemics have been caused by viral pathogens in the 20th and 21st centuries.[8]

More than 1 million

people die each year as a direct result of AMR.[3]

Every year, an

estimated 6.5 million

invasive fungal infections occur worldwide.[9]

58%

of known infectious diseases have been aggravated by climate-related hazards, with the annual risk of extreme epidemics projected to increase up to threefold in coming decades.[10,11]

How Shionogi is ‘Upping the Anti’

At Shionogi, we know the importance of sustained innovation across anti-infectives. That’s why we are proud to continue to focus so much of our efforts on innovating across antibiotics, antivirals and antifungals.

Innovating when it matters. Shionogi continues to support infectious disease science and explore opportunities to address current and emerging threats. In the 2026 Access to Medicine Foundation AMR Benchmark, Shionogi is recognised as one of only three companies continuing to pursue innovative antimicrobial R&D and is noted as having the most innovative antimicrobial pipeline among the companies assessed.[1]

Investing for the long term. In 2023, Shionogi acquired Qpex Biopharma Inc., a US-based antimicrobial R&D company. In 2024, we announced the Shionogi Qpex discovery lab in San Diego, bringing together scientific expertise to strengthen anti-infective discovery and development.[12]

Collaborating to change the model. Shionogi works with like-minded partners across governments, health systems, industry and the third sector to address infectious disease challenges. This includes pioneering payment models that support stewardship and collaborations designed to improve and accelerate global access to medicines.[13]

This is what Upping the Anti looks like in practice, we are staying in the field, building capability, backing the science and working with others to make innovation count.

What needs to happen now

To keep infectious disease innovation alive, four things matter most.

1. **Reward readiness, not just volume.**
   Build incentives that reflect the value of having anti-infectives available when needed, including where stewardship limits the use of medicines, or where preparedness depends on maintaining stocks for future outbreaks or emergencies.
2. **Protect the people behind the science.**
   Keep specialist skills, institutional knowledge and development infrastructure in the field.
3. **Join up the pathway.**
   Connect discovery, development, regulation, manufacturing, supply and responsible access.
4. **Build the system around the medicine.**
   Invest in diagnostics, surveillance, laboratory capacity, prevention and stewardship so innovation delivers real-world impact.

The choice

We can wait for the next crisis and try to rebuild what has been lost. Or we can act now to sustain the science, people, partnerships and incentives that make future responses possible.

Shionogi is choosing to act. We are Upping the Anti by continuing to innovate, invest and collaborate across antibiotics, antivirals and antifungals. But health security is a shared endeavour. To protect modern medicine and prepare for future infectious disease threats, the wider ecosystem must step up too.

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