

New superbug could be epidemic, scientists find

Chinese scientists have discovered a new drug-resistant strain of bacteria that can spread stealthily and has epidemic potential.

The superbug is a strain of *Salmonella typhimurium* whose plasmid – mobile DNA that can be easily copied and shared between bacteria – contains the MCR1.6 gene, a newly discovered variant of the drug-resistant MCR1 gene.

“This is the first time the MCR1.6 gene has been found in *Salmonella*, a common foodborne pathogen, and from a healthy carrier,” said Kan Biao, deputy director of the Chinese Center for Disease Control and Prevention’s National Institute for Communicable Disease Control and Prevention.

MCR1 and its variants could help bacteria resist polymyxins – a last-resort class of antibiotics that includes colistin, the most potent, but toxic, antibiotic – according to studies by the institute, the results of which were published this month by *Antimicrobial Agents and Chemotherapy*, a journal produced by the American Society for Microbiology.

Bacterial infections caused by the MCR1 gene and its variants are treatable with other antibiotics, “but often at the cost of killing good bacteria and breaking the body’s microflora balance”, Kan said.

Kan’s team first discovered the MCR1.6 gene in a 2014 fecal sample of a 46-year-old woman from the Guangxi Zhuang autonomous region.

“The situation is alarming because healthy individuals may have been unknowingly spreading this superbacteria for years. *Salmonella* is one of the major micro pathogens of food poisoning and can cause diarrhea and vomiting. A drug-resistant version could pose a serious threat to public health.”

Kan added that the superbug has the possibility of becoming an epidemic, similar to the typhoid outbreak in the early 20th century, when a healthy female carrier, Mary Mallon, is believed to have infected two dozen people with typhoid fever while displaying no symptoms.

Since its discovery in 2015, the MCR1 gene has spread to more than 30 countries, including the United States, the United Kingdom, Canada, India and Malaysia, according to Kan.

“The MCR1.6 gene or other MCR1 gene variants might begin to appear in other countries,” he warned. “A conservative estimate of more than 3 million Chinese suffer from *Salmonella*-related illnesses each year, with children and the elderly most at risk.”

Salmonella outbreaks also occur in the US on a regular basis, with the last major outbreak in late November, according to the US Centers for Disease Control and Prevention.

To tackle the superbug issue, governments should strictly regulate the use of antibiotics in livestock farming, educate the public on antibiotic uses, strengthen surveillance of resistant bacteria, and promote research and development of new antibiotics, Kan said.

For the general public, “something as simple as washing your hands, cooking food properly and strictly following a doctor’s prescription for antibiotics can greatly reduce the chance of catching a serious infection”, he added.

[Press release: Justice Secretary announces plans to create 5,000 modern prison places](#)

- New builds to create up to 2,000 construction jobs and generate millions of pounds to British economy
- Builds on the government’s commitment to create up to 10,000 modern places, aimed at reducing overcrowding and creating the right conditions for reform.

Justice Secretary Elizabeth Truss has today unveiled plans for the building of 4 new prisons in England and Wales – creating 5,000 modern prison places and replacing old and overcrowded establishments with new, fit for purpose buildings.

Sites in Full Sutton in Yorkshire; Hindley in Wigan; Rochester in Kent and Port Talbot in South Wales have been earmarked for development as part of the government’s commitment to build up to 10,000 modern prison places by 2020, backed by £1.3 billion to transform the estate.

As well as creating modern establishments fit for the twenty-first century, the proposed new builds will also act as a boost to regional economies across the country – creating up to 2,000 jobs in the construction and manufacturing industries and new opportunities for local businesses.

Final decisions on the new prisons will be subject to planning approvals, as well as value for money and affordability.

Justice Secretary Elizabeth Truss said:

We cannot hope to reduce reoffending until we build prisons that are places of reform where hard work and self-improvement flourish.

Outdated prisons, with dark corridors and cramped conditions, will not help offenders turn their back on crime – nor do they provide our professional and dedicated prison officers with the right tools

or environment to do their job effectively.

This significant building programme will not only help create a modern prison estate where wholesale reform can truly take root, but will also provide a thriving, economic lifeline for the local community – creating hundreds of jobs for local people and maximising opportunities for businesses.

Today's announcement comes weeks after the opening of HMP Berwyn – the new, modern prison in north Wales which will hold over 2,000 prisoners. The construction of this new prison has already contributed over £100 million to the local economy and created around 150 jobs and apprenticeships before doors have even opened.

In creating a modern prison estate, old and inefficient prisons will be closed and replaced by the new accommodation. A programme of valuation work will now begin to help inform further decisions about the estate. Announcements on prison closures will be made later in the year.

Today's announcement builds on ambitious reforms to improve safety in prisons, including an additional £100 million to bolster frontline staff by 2,500.

This wholesale, organisational reform will be supported by measures within the Prisons and Court Bill, which will set out a new framework and clear system of accountability for prisons, building on the wide-ranging reforms set out in the Prison Safety and Reform White Paper.

1. We will be applying for outline planning permission for new prisons in Yorkshire, the North West, Kent and South Wales.
2. A Written Ministerial Statement detailing further information will be published at 0930 Wednesday 22 March.

[News story: UK families will soon see bills cut as date announced for the launch of Tax-Free Childcare](#)

Millions of parents can pre-register from today for the government's new childcare offers, with the launch of a new Childcare Choices government [website](#).

The introduction of the government's Tax-Free Childcare scheme will begin on 28 April, for parents of the youngest children. It will be gradually rolled out over 2017 – cutting childcare costs for working families across the UK by

up to £2,000 per child per year, or £4,000 for disabled children.

On top of this, from September this year parents of three and four year old children living in England will be able to apply for a new 30 hours free childcare offer, worth around £5,000 per child.

The Childcare Choices website includes a [Childcare Calculator](#) for parents to compare all the government's childcare offers and check what works best for their families.

Through the site parents can also pre-register for email alerts that will notify them when they can apply, as well as providing details of existing government childcare offers.

Chief Secretary to the Treasury, David Gauke, said:

This Government is on the side of working families and our childcare support will cut thousands of pounds off bills for millions of households, as well as supporting parents to return to or remain in work.

The new Childcare Choices website provides busy families with options that suit their needs, so they can clearly see which childcare offer works best for them. For the first time, we have brought all the childcare options together to make the process easier and simpler for families and childcare providers.

Education Secretary, Justine Greening, said:

Affordable childcare and early years education are a vital part of how we can get our children on the right path, whilst also helping parents to be back at work, if that is what they want. Many parents are struggling to balance the cost of childcare against the benefits of being in work and this government wants to help.

From today, parents can use the Childcare Choices website to find out what support is available for their family. Whether that's our 30 hour free childcare offer, Tax-Free Childcare or Universal Credit, the website is a quick and easy way for parents to choose the offer that's best for them and their children.

Two million working families will be eligible for Tax-Free Childcare. It will be gradually rolled out, with parents of children under two invited to enter the scheme first. By the end of the year, all eligible parents will be able to receive government top-ups of £2 for every £8 that a parent pays into their Tax-Free Childcare account. This will be open to all working parents across the UK with children under 12, or under 17 if disabled.

The new 30 hours free childcare offer for working parents of three and four

year olds in England doubles the current 15 hours of free childcare currently available, saving eligible working families up to £5,000 a year.

Parents will be able to apply for Tax-Free Childcare and the 30 hours offer in one go through the government's new digital childcare service. Eligible parents can benefit from both Tax-free Childcare and 30 hours free childcare at the same time.

Both of these new offers have been run as trials over recent months, to test the new digital services.

More than 4,000 parents are already benefiting from the 30 hours offer in eight 'early implementer' councils, with thousands more set to follow suit, as four new areas launch the 30 hours offer in April. And over 2,000 parents are cutting their childcare costs with the Tax-Free Childcare trial.

These offers build on the childcare support already available to thousands of families, including:

- 15 hours free childcare for all three and four year olds
- 15 hours for disadvantaged two year olds
- enhanced childcare support through Universal Credit
- childcare vouchers.

How Tax-Free Childcare works

Working parents will be able to apply, through the childcare service, to open an online childcare account. For every £8 that families or friends pay in, the Government will make a top-up payment of an additional £2, up to a maximum of £2,000 per child per year (or £4,000 for disabled children). This top up is added instantly and parents can then send electronic payments directly to their childcare providers.

All registered childcare providers – whether nannies, nurseries or after school clubs – can sign up online now to receive parents' payments through Tax-Free Childcare. Once childcare providers have signed up they will appear on the [Childcare Provider Checker](#). This allows parents to check whether childcare providers have already signed up for Tax-Free Childcare.

How 30 hours free childcare works

Eligible parents will be able to apply online through the childcare service. They will receive a code – this will allow parents to arrange their childcare place ahead of September 2017. Parents can take their code to their provider or council, along with their National Insurance Number and child's date of birth. Their provider or council will check the code is authentic and allocate them a free childcare place.

[News story: System launched to help tackle harms from new psychoactive substances](#)

Last year, according to the 2015 to 2016 Crime Survey for England and Wales, one in 40 (2.5%) young adults aged 16 to 24 took a new psychoactive substance and there is evidence of widespread use among vulnerable adults such as prisoners and homeless people. Whilst specialist services are responding, these harms are often poorly understood in frontline healthcare services and there is little guidance available to them.

Public Health England (PHE) in collaboration with the Medicines and Healthcare products Regulatory Agency (MHRA) is piloting a national system to help better monitor the negative effects of NPS and share best treatment practice across a variety of settings, including A&E, sexual health clinics, mental health services, prison health services, drug treatment services and GP surgeries.

The UK-wide, easy to use Report Illicit Drug Reaction (RIDR) system will be accessible to all front line health staff. Information about the drug and its effects will be recorded anonymously using an online portal. Data from the tool will be analysed by experts to identify patterns of symptoms and harms. This will be used to inform treatment guidance and help staff deal more quickly with unknown substances, and improve patient safety.

Rosanna O'Connor, Director of Alcohol, Drugs and Tobacco at PHE, said:

The contents of NPS frequently change and their effects can be dangerous and unpredictable. These substances can cause serious problems to both mental and physical health.

Last year's ban has helped reduce their easy availability, but we are still seeing the most vulnerable groups, particularly, the homeless, prisoners and some young people, suffering the greatest harm from these substances.

The new RIDR system will help health staff better deal with the emerging challenges we are seeing. We want to encourage all frontline staff in settings such as A&E, sexual health clinics, prisons, drug and mental health services, to use the system, which over time will greatly increase our knowledge of these new substances and ultimately improve patient care.

Dr Sarah Elise Finlay, Emergency Medicine Consultant, Imperial College Healthcare NHS Trust, said:

The information and advice provided by this new system will ultimately ease some of the burden and stress of managing those tricky overdose and poisoning cases in the early hours over the weekend in emergency settings.

Emergency services are facing significant pressure, which is why we've made the RIDR system as easy as possible for health staff. It's great to know that, in future, help will be at hand for health staff dealing with the harms of these often unknown new drugs.

More information, including on how to register, is available on the [RIDR website](#).

[News story: Almost half of UK financial services staff now covered by ground breaking Women in Finance Charter](#)

33,000 extra staff in the UK now covered by the plan to tackle gender inequality in financial services.

The news comes on the first anniversary of the charter, with 122 firms, employing over half a million people in the UK and covering almost 50% of the financial services sector, now signed up.

The [Women in Finance Charter](#), launched a year ago today, asks financial firms to commit to four industry actions to build the female talent pipeline for leadership positions. The Charter's innovative approach has been an unprecedented success with some of the UK's biggest and most well established firms signing up.

The latest signatories include retail banks such as CYBG, payment firms such as VocaLink, global banks such as the Royal Bank of Canada, insurers like Ageas UK, and other firms including Pinsent Masons LLP and NS&I, while Bank of America Merrill Lynch is the latest firm with headquarters in the US to sign up.

Since the Charter launched, 77 financial services firms have committed to have at least 30% women in senior roles by 2021 and 23 firms have committed to a 50/50 gender split in senior roles by 2021. New signatories will announce their targets in June.

The Commercial Secretary, Baroness Neville-Rolfe, said:

I know how difficult it can be for a woman to get the recognition she deserves and achieve her potential. And in financial services particularly, women progress too slowly or they leave the sector completely.

We have made a strong start – the first anniversary of the [Women in Finance Charter](#) sees 122 firms seizing the competitive advantage by tackling sex inequality head on.

But this is just the beginning. The financial industry is famed for its ability to identify opportunities to improve productivity. The [Women in Finance Charter](#) is one of those opportunities. It offers the chance to increase diversity of thought and for the financial services sector to better reflect the society it serves. This is why I encourage firms across the UK to step up and sign the Charter.

Jayne-Anne Gadhia, CEO of Virgin Money and the government's Women in Finance Champion, said:

I am delighted with the strong and ongoing momentum of the Women in Finance Charter. A truly diverse financial services sector will drive productivity and underpin the UK's position as a strong and competitive economy. There is still further to go and I urge more businesses to commit to the charter so that they can play their part in building an economy that works for everyone.

Bank of America Merrill Lynch is the latest firm with headquarters in the US to sign up, joining the likes of Morgan Stanley, BNY Mellon, BlackRock, Circle and Thomson Reuters. This proves that there are no barriers for international firms to show their commitment to gender parity by signing the Charter.

Alex Wilmot-Sitwell, President, EMEA at Bank of America Merrill Lynch, said:

Bank of America Merrill Lynch has a long history of supporting women's leadership and economic empowerment, but there is clearly more to be done.

Increasing the number of senior women and addressing gender balance is crucial for our long-term success. This means supporting and engaging women at all levels, to ensure a strong pipeline of talent.

We are wholly supportive of the Women in Finance Charter and the positive impact it will have on our industry.

FinTechs have also responded to the government's call to action with nine

signing up including Nutmeg, RateSetter, Starling, Monzo, Zerado, Azimo, and FINTECH Circle.

The [Gadhia review](#) looked at the issue of unequal gender representation in financial services and found that in UK financial services female representation was around 23% on boards, but only 14% on executive committees. It is estimated that equalising the role of men and women in the labour market could increase GDP by 10% by 2030.

On 29th June, HM Treasury, in partnership with [GrowthBusiness.co.uk](#), What Investment magazine and Virgin Money, will launch the inaugural [Women in Finance Awards](#) at The Savoy in London.

These awards will celebrate the individuals and organisations who are leading change by driving the gender diversity agenda in financial services.