

Trends: Close Up

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On the Horizon: Emerging Issues that May Impact the Courts

What will the courts look like in 2029 and beyond? What are the challenges they'll face? More importantly, how will they deal with those challenges?

Those important questions are something most busy court leaders don't have time to answer, so the National Center of State Courts is taking them on in an ongoing project called *On the Horizon: Emerging Issues that May Impact the Courts*. The project will involve thinking about how technology, politics, economics, demographics and other influences may disrupt the courts. We hope the work we do will serve as a starting point for court leaders to discuss the issues we highlight.

The first wave of brainstorming recently culminated with the publication of articles on five issues: autonomous vehicles, nano technology, antibiotics resistance, genetic editing, and the employment gap created by retiring baby boomers. This paper will summarize the articles our analysts wrote about these issues, which include their potential impacts on the courts.

Antibiotics Resistance and Overuse

According to the World Health Organization, antibiotic resistance and overuse is one of the biggest threats to global health and food security today.¹ Antibiotic resistance, which can affect anyone, occurs naturally, but overuse of antibiotics is accelerating the problem. A growing number of infections, such as pneumonia, tuberculosis, gonorrhea, and salmonellosis, are becoming harder to treat as the antibiotics used to treat them become less effective. And

About the Series



These special reports are part of the National Center for State Courts' "Trends in the State Courts" series and serve as informative and timely updates for state court leaders. Any opinions expressed herein are those of the authors, not necessarily of the National Center for State Courts.

antibiotic resistance leads to longer hospital stays and higher medical costs, not to mention increased mortality.

This is not a sky-is-falling assessment. In Russia, antibiotics have proven ineffective against a widespread outbreak of a severe case of tuberculosis that has turned short-term prison sentences into death sentences.² This clearly is not just a Russian problem. The United States and its court systems are not immune to the potential effects of antibiotics resistance and overuse. If a similar outbreak occurs in the U.S., incarcerated defendants would be at risk, and judges may be less likely to incarcerate defendants, especially those who are non-violent. This scenario would increase alternative sanctions and could even end the practice of incarcerating people who cannot afford to pay court fines and fees. The courts would need to budget for expensive alternative programs and the loss of revenue from fines and fees.

As antibiotic-resistant diseases become more prevalent, jobs that allow for isolation may become preferable. Courts by their very nature require employees to interact with each other and with the public, and this may make the courts a high-risk field of employment. This problem has the potential – however unlikely – to force the entire judiciary to reshape its business model to reduce direct human interaction.

Autonomous Vehicles

Self-driving vehicles *will* be part of our future, and they will change more than how we get around town or have our pizza and Amazon packages delivered. In fact, self-driving vehicles are here. Many of today's vehicles include autonomous technology that affects accelerating, braking and parking, among other things. There have been some well-publicized accidents involving autonomous vehicles, and they clearly will take some getting used to, but it is widely accepted that they eventually will lead to fewer accidents. The National Highway Transportation Safety Administration thinks so. It attributes 92 percent of all accidents to driver error.

Fewer accidents means fewer traffic cases – and less demand for court services. The good news is many general district courts are stressed, and this will ease that stress. The bad news is courts will receive less money in fines and fees, which they rely on to supplement their operating budgets.

State courts need to face this realization and begin to determine appropriate fines and fees for autonomous vehicles, and plan for the day when they receive far fewer traffic-related fees. Arizona, for one, has started this process.³ The state's Criminal Justice Commission has agreed to establish a task force to make recommendations for alternative funding sources. Not only that, but courts need to think about how the reduction in traffic cases will reduce their workload.⁴ We may get to the point where it makes sense for them to establish a specialty calendar to hear cases involving autonomous vehicles. And courts may want to consider how their work will change if autonomous vehicles spawn a new litigation type.

Shortage of Millennial Workers

Baby Boomers, those born between 1946 and 1964, make up 29 percent of the nation's workforce, but a whopping 56 percent of those who work in the courts are boomers.⁵ Only 11 percent of those who work in the courts are

Millennials, despite the fact that they are the largest generation in the workforce today.

Every day about 10,000 Baby Boomers nationwide retire, leaving employment gaps in every sector. In the justice system, Gen Xers, who were born between 1965 and 1980, often fill positions vacated by retiring boomers, but the courts are not attracting enough Millennials. And Gen Xers aren't getting any younger. They make up 31 percent of those who work in the courts, but the oldest Gen Xers are 54, and some will become pension eligible in a year, meaning some will retire as soon as next year.

Without more Millennials in the workforce, the courts will find it difficult to develop court administrators and court leaders of the future. Taken together, this news is troubling and begs the questions: Why aren't courts attracting Millennials? What are the courts doing about it? If nothing changes, who's going to do the work?

Economists predict the fight for top talent in all sectors will be won by organizations that offer a compelling vision of the future, a strong work-life balance, a high level of technology integration, opportunities for growth and professional development, and an altruistic workplace. The courts are in the position to check all of those boxes. Will they?

Generational Imbalance		
Generation	% of Overall Workforce Population	% Working in the Courts
Baby Boomers	29	56
Gen Xers	34	31
Millenials	35	11

Genetic Editing (CRISPR)

CRISPR – short for Clustered Regularly Interspaced Short Palindromic Repeats – is a family of DNA sequences found in the immune systems of numerous bacteria. Bacteria are constantly being attacked by viruses and other organisms, and when a bacterium neutralizes a threat, it stores some of the defeated organism's genetic material so that when a similar organism threatens it in the future, it can identify those threats. Once identified, the bacteria and its CRISPR-associated proteins split open the DNA of the threatening organism and remove the genetic material that makes it a threat.

What does this have to do with the courts? The legal and ethical implications of CRISPR impact everything from food labeling to genetic information discrimination and privacy laws. Given that, there are many points at which CRISPR may interact with the law – and the courts. For example, many states have their own genetic privacy laws, which are meant to prohibit discrimination.⁶ As genetic information becomes more common, there is a greater likelihood that it will be misused and abused, leading to a greater likelihood that these laws will be tested in court. Another area where genetic editing may intersect with the courts is “designer babies.” CRISPR theoretically makes this concept possible.⁷ Most scientists say genetic modification should focus on preventing disease and disability,⁸ but when genetic editing of embryos becomes possible, we can expect policy debates and many new laws – and likely litigation over that legislation – governing the scope of the technology.⁹

As the technology matures and becomes cheaper,¹⁰ the potential for misuse that might lead to a lawsuit also increases. CRISPR technology shows great potential for improving quality of life for many people – from making better and safer food and drugs to possibly curing genetic diseases – but it also may lead to passionate policy debates and litigation.

Nano Technology and the Internet of Nano Things (IoNT)

A human hair is about 75,000 nanometers in diameter, which seems really small until you consider that scientists have shrunk materials to a billionth of a meter – or one nanometer. This breakthrough opens up applications in areas such as smart materials, medicine, energy production and artificial intelligence – all of which will show up in some way in the courts and impact cases and hearings.

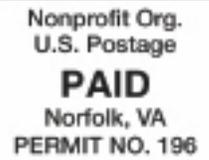
Take microchips, for example. This modern-day technology is used for opening doors and starting cars, but it could replace corporate IDs and wallets, track work flow and vitals, connect to financial accounts, and store passwords, records and emergency information.¹¹ We would expect court leaders to have pleasant dreams about how this one technology could improve efficiency and save time and money. However, it also creates a multitude of security and privacy concerns, most of which are not fully understood.

Another technology with great potential is the Internet of Nano Things (IoNT).¹² This is not to be confused with the Internet of Things,¹³ an array of microsensors and microprocessors that allow ordinary objects, such as thermostats, door locks and pet trackers, to communicate with each other. With IoNT, sensors miniaturized to nanometers can be embedded within living bodies or incorporated into the molecular fabric of materials. They potentially can impact everything from the military and electronics to medicine and genetics research. Think about the human eye and ear being used as a camera and microphone to transmit information without the use of any wearable device. That would give new meaning to direct evidence in any number of different court cases.

Like all technology, IoNT raises significant challenges in privacy, safety and security, which should reasonably give court leaders some pause.



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ENDNOTES

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