SPOTLIGHT
2023–2024
Introduction

The last twelve months have seen more turbulence spread across the world through conflict, extreme weather, trade disputes, immigration and issues arising from artificial intelligence, among other factors.

Despite these challenges, or perhaps because of them, RAND Europe continues to go from strength to strength. We’ve opened a new office in the Netherlands, increasing our ability to inform European policymaking. We’ve presented our work at numerous fora around the world, and our evidence and analysis continues to shape and improve policy and practice for the public good. A personal highlight for me was presenting a roadmap for a global energy transition, created with our partners in the Scotia Group, at an event alongside the UN General Assembly Meeting and then seeing that work used as an input at COP28.

Spotlight 2023–2024 shines a light on the activity happening in each of our four research groups, along with the talented people within them, and other current topics of interest. We highlight some of the challenges they are addressing: understanding the interconnections between different emerging technologies; the strategic trends facing defence and security policymakers worldwide; an innovative approach to improve women’s healthcare; and new thinking to tackle illegal drug markets. With each topic you will find common characteristics that describe our work: quality, impartial, trusted and impact-focused.

We believe strongly in the power of partnership, and I would also like to recognise our many partners, clients and grantors who trust us to discover new insights through data and evidence. Thank you for your continued support of RAND Europe.

Hans Pung, President
NEW FRONTIERS

Navigating the promises and perils of emerging technologies
The year is 2025. You recently applied for a job but haven’t been offered an interview despite being the most qualified candidate. Why? Because the AI-powered software used by the recruitment team to sift through CVs was trained on a biased dataset and you were rejected for reasons that have nothing to do with your abilities.

The year is 2035. A relative with a debilitating autoimmune condition has been given a new lease of life thanks to quantum computing and machine learning. There is an expanded array of drugs to treat their condition, and doctors have been able to select the most effective option using your relative’s genetic profile.

Our world is being transformed by emerging technologies such as artificial intelligence, quantum technology and synthetic biology. Their potential benefits are huge, but so are the risks. Stephen Hawking said in 2016 that AI could be ‘either the best or the worst thing ever to happen to humanity’.
How do policymakers, technologists and scientists effectively mitigate risk, without stifling innovation that could improve lives? RAND Europe is exploring this question at several different levels.

‘RAND Europe is an established thought leader in emerging technology policy research,’ says Salil Gunashekar, RAND Europe’s Deputy Director of Science and Emerging Technology. ‘We have a finger on the pulse of trends that are becoming the critical topics of tomorrow and are working on a proactive, novel research agenda to anticipate and prepare for future problems and opportunities. Nothing about emerging technology is business-as-usual. Our solutions-focused approach, which we call Frontiers of Technology, has been developed to address a range of challenges and opportunities around these technologies.’

‘Quantum technology, for example, has seen a huge influx of funding and R&D because of its potentially transformative impacts. It could fundamentally change the way many industries operate, including the life sciences, communications and navigation, national security and climate change. There are issues with the availability and balance of quantum skills and collaboration across the world, and no real global governance frameworks exist yet. Basing policy on high-quality evidence is really key to getting this right and, alongside conducting research, we’re organising roundtables on these issues with senior decision makers across the private sector, government and academia.’
Another question around emerging technologies is how to ensure that their benefits are equitably distributed. For instance, synthetic biology could be beneficial in agriculture, particularly in areas where crops are adversely affected by environmental change: but what policy is needed to ensure people can benefit from it without the technology monopolising the commercial market or impacting adversely on biodiversity?

The pathways to addressing these challenges are many and complex. RAND Europe’s work also has a focus on immediate risks and benefits, for example looking at the pros and cons of using ‘red teaming’ to detect vulnerabilities in AI foundation models, or exploring different ways to potentially regulate AI.

Alongside this immediate focus, RAND Europe is also looking at the long-term horizon to assess the challenges and potential unrealised benefits of accelerating technologies. Helping leaders to accurately understand the risks and benefits is key, as is communicating transparently and meaningfully with the public. Our researchers are using their understanding of this landscape to help national and international organisations to manage trade-offs and unintended consequences.

‘None of these technologies exists in a vacuum,’ says Sana Zakaria, Research Leader at RAND Europe. ‘AI, gene editing, quantum technology and others are applied to each other and to other fields, creating further innovations that may lie outside existing regulations. Managing oversight of these technologies will require constant anticipation and adapting to change, which demands an understanding of the overall landscape of emerging technologies.’

“None of these technologies exists in a vacuum. AI, gene editing, quantum technology and others are applied to each other and to other fields, creating further innovations that may lie outside existing regulations”

Sana Zakaria, Research Leader
AI technology is evolving at speed, triggering intense public discussion of its risks and benefits to society. The prospect of fusing two emergent technologies – AI and gene editing – generates even greater complexity, as new advances in machine learning accelerate the disruptive potential of gene editing to reshape our world, from food production to drug development.

To date, policymaking on gene editing has mostly been reactive or precautionary. However, our research suggests that overly cautious approaches could potentially stifle innovation in areas such as personalised medicine or tackling plastic pollution. Policymakers should instead adopt an agile policy life cycle that mimics technology maturity and is both proactive and reactive (see box). New developments, such as systems to model human embryos, often challenge legacy-based regulatory frameworks as they sit outside the scope of current oversight. A proactive approach helps governments and other bodies to mitigate the risks of converging technologies and maximise their benefit to economies and societies.

A RAND Europe team has explored the landscape of
technology applications to identify the prospective risks and opportunities of convergent AI and gene editing technologies. A tabletop exercise was held that simulated various future scenarios to spark debate on potential oversight mechanisms. Insights included the importance of international collaboration and the need for effective public communication. International bodies have the critical overview necessary to govern the policy and technology ecosystem between nations vying to be global hubs for new technology. Many proactive approaches have been observed at international and supranational levels during periods of fast-paced technological progress, and these focus on developing guidelines through the lens of ethics and public good. Public communication by scientists also helps build a conducive environment for technology engagement. Tackling public education and dialogue can enable more complex governance challenges to be addressed from the ground up to complement top-down national and international efforts.

How to make policy when technology is evolving fast

An agile ‘policy cycle’ is needed to effectively govern emerging technologies:

1. Adopt a cautious stance while new technology is untested, to pre-empt harm
2. Following laboratory testing, take a proactive approach which considers potential risks and how to progress ethically, speaking with scientists, organisations and the public
3. Trial the technology in the real world
4. As the technology matures, take a nimble approach, tweaking policy to adapt to new uses
5. When a significant development in the technology or relevant sector arises, repeat the cycle and pivot as appropriate
**RESEARCHER FOCUS**

Team members share insights on what motivates and inspires them

**Salil Gunashekar** – I’ve always been fascinated by technology, and the promises and perils it poses for society – today and in the future. Interrogating the big issues at the intersection of technology and society, particularly during a time of transformational technological change, motivates me hugely.

**Sana Zakaria** – Biology is powerful. But conducting research on how advancements in biology and intersecting technologies will transform our society is even more powerful. The prospect of generating profound insights for the public and decision makers globally is the catalyst for my work.

**Dominic Yiangou** – Revolutionary advancements in science and innovation are reshaping our world. I’m excited to be a part of these transformations, working to navigate myriad challenges and to help society benefit from the opportunities that modern technology presents.

**Jacob Ohrvik-Stott** – I’m passionate about researching emerging technologies because, by definition, you are constantly exploring weird and novel things so the work never becomes repetitive or stale. You can look past media hype to find technologies that are less valorised but hold much more value for people.
SUPER 6
Six projects that expand the frontiers of science and technology policy

REGULATING AI
Analysing the EU AI Act to help inform options for AI regulation in the US

TRUST IN AI
Examining UK and US tools designed to help implement trustworthy AI applications

QUANTUM CONFAB
Convening a top-level roundtable on the future impacts of quantum technologies

HELPING HUMANITY
Working with diverse practitioners to explore how emerging technologies may benefit the humanitarian sector

ENERGY RESILIENCE
Identifying research and innovation opportunities to improve European clean energy security

TECHNOLOGY FRONTIERS
Strengthening our ability to deliver impactful timely research on technology challenges, opportunities and risks
HARD CHOICES
Making sense of a more complex world
Ninety-six per cent. According to the Global Peace Index 2023, this figure represents the increase in conflict-related deaths in the previous year.

One might think this increase is largely due to Russia’s invasion of Ukraine, the most significant conflict in Europe since World War II. But not so. The civil war that raged in Ethiopia’s Tigray region, far less prominent in the international press, accounted for more. Notably, the Global Peace Index 2023 was compiled before the war between Israel and Hamas commenced on 7 October.

European capitals are justifiably focused on increasing defence capacity to support their immediate needs. However, more attention on today’s challenges can mean less focus on other major trends that will profoundly affect national security in years to come.
For instance, consider the alarming indicators over the course of 2023 that suggest how quickly a changing climate might make life uncomfortable for our societies and affect national security directly and indirectly.

Another example is balancing the near-term challenges of regional stability now, while also maintaining focus and capacity for the longer-term question of how to manage rising tensions between the West and China.

Furthermore, the rapid technological disruption we are seeing around the world today, epitomised by huge advances in AI, holds out hope for game-changing benefits to humanity. But AI also opens up new avenues of security threat and conflict, in space and cyberspace. It can also make expensive security capabilities obsolete much more quickly than defence and security organisations are used to, raising the risks and opportunity costs for planners in where to invest finite resources.

Indeed, for those in the business of European defence and security, choices will get harder rather than easier. Budgets are limited, and the challenges are bigger and more diverse. These realities speak to the important role that RAND Europe is playing in helping governments get to grips with a greater number of challenges and a rising diversity of emerging issues. We are working to help make sense of the complexities and trade-offs, to improve lives and the future of our planet.

'I would argue that there has never been a more complicated time for governments and organisations, with multiple and profound strategic trends converging all at once,’ says Bryden Spurling, Senior Research Leader.

In 2023, RAND Europe has:

- extensively analysed the possible outcomes and implications of Russia’s invasion of Ukraine. Our experts on Russia continue
to monitor the industry that sustains Russia’s war effort, and its efforts to evade the international sanctions imposed

- studied the links between European and Chinese research and conducted an analysis of night-time lighting in Tibet’s prisons
- assisted UK Parliamentary Committees on topics as wide-ranging as the impact of AI on the battlefield, to the barriers and opportunities to thinking more strategically in the UK system
- developed scenarios for the various challenges that climate change will pose in the security domain and worked with governments to understand the transition to future sources of energy
- used expertise in foresight and futures analysis, horizon scanning and technology assessment to help navigate the capability implications of rapidly shifting technology
- worked with government and industry to understand how to build more resilience into defence and security capability, mapping required skillsets to deliver future capabilities, understanding critical industrial capability gaps and supply-chain vulnerabilities, and supporting personnel retention.

RAND expertise is also driving education on these issues. For example, we are helping to shape a Resilience Reference Curriculum for NATO and the Partnership for Peace Consortium.

‘It is a more complex world we are moving into, with incredible opportunities and profound risks,’ says Ruth Harris, RAND Europe’s Defence and Security Research Group Director. ‘Our mission has arguably never been more important.’
Agency & agility

Motivating and rewarding UK military personnel in uncertain times

The extraordinary response of the Ukrainian Armed Forces to Russia’s full-scale invasion shows vividly how motivated people operating in agile ways – including skilful adoption of new technology – are a crucial enabler for military effectiveness. The conflict formed a compelling backdrop to the independent Haythornthwaite Review of Armed Forces Incentivisation (HRAFI), set up in January 2022 to examine the UK Armed Forces’ approach to incentivising military personnel.

RAND Europe was appointed as HRAFI’s external research partner, working within an integrated team comprising the MOD, EY UK and the Defence Science and Technology Laboratory. Our work included:

- interviews with key UK Defence stakeholders
- a Rapid Evidence Assessment of almost a thousand research papers and reports on military incentivisation and related topics
- targeted Quick Scoping Reviews to bring together a range of data on key issues of concern to HRAFI
- focus groups with Regular and Reserve personnel exploring their experiences of career and talent management
- qualitative case studies of career management approaches in military and non-military organisations outside the UK.

We also identified important evidence gaps for future research, including exploring the motivations and experiences of different groups (e.g. neurodiverse or ethnic minority personnel); leveraging longitudinal data to model the impacts of different policy changes; evaluating other workforce management models; and analysing the impact of new career management approaches.
The HRAFI report sets out an ambitious programme to transform the way UK Defence attracts, recruits, inspires and retains the people it needs to the 2040s. Its recommendations highlight, among other things, that the MOD should:

- Make people and their families feel valued by optimising incentives to build morale and commitment (e.g. addressing accommodation and allowances)
- Adopt a Total Reward Approach based on an improved understanding of what value different groups attach to diverse financial and non-financial incentives
- Create a spectrum of service that provides more flexibility to move between different service types
- Digitalise to improve service and access, and collect and use data to inform decision making
- Empower leaders to create a more dynamic and delegated approach
- Opt stabilise strategic workforce planning to ensure the Armed Forces can navigate different future demands and scenarios
- Foster an inclusive culture that enables effective conversations at pivotal moments
In a world of geopolitical competition and stretched defence budgets, it has never been more important for nations to make robust decisions about which future military technologies to invest in. However, getting these critical decisions right is a considerable challenge because:

- the rapid rate of technological change means that there are myriad technologies in which a nation might invest
- there are a host of considerations around which technology “types” to invest in, which are often shaped by the technologies adversaries are choosing to invest in
- governments need to look many years into the future before developmental technologies are translated into real capabilities.

To this end, RAND Europe, working in close partnership with our clients, has been pioneering a new set of methods and tools for evaluating the potential technological, operational and strategic advantage of emerging technologies in the military domain. The methods are drawn from a host of different disciplines, including wargaming techniques, operational research and complex modelling and simulation approaches.

By combining these tools with a range of different assessment mechanisms and taking a 20-year horizon, the RAND team has built a process for evaluating the potential longer-term advantage that a specific, emergent technology might provide to the UK and other allied nations. In so doing, the team’s work enables governments to make sound decisions about which emerging technologies to invest in and how to allocate their resources efficiently and effectively. It also informs investment in a suite of technologies to ensure that their militaries will in the future have the technological capabilities required for an increasingly competitive world.
RESEARCHER FOCUS

Team members share insights on what motivates and inspires them

Ben Wilkinson – The potential for high-quality, rigorous research that helps the UK and allied governments spend their defence budgets effectively fascinates me on a daily basis. Wise spending choices can build up strategic advantage over time; unwise spending choices can quickly squander that advantage.

Stella Harrison – With a passion for science and technology, I enjoy exploring the application of emerging technologies to future defence challenges. Having the opportunity to develop AI tools that optimise defence policy research is also a fulfilling part of my work.

Linda Slapakova – Life in the Armed Forces can be uniquely challenging. Yet people are the foundation of military effectiveness. This combination makes recruitment, retention and support provision some of the knottiest problems for defence policy today. I’m grateful to have opportunities to help address them.

John Kennedy – Russia is the most significant threat to European security, and I stay motivated by trying to provide insightful research that enables policymakers to respond effectively. Having worked on Russian affairs for over a decade, I also enjoy helping colleagues develop their own expertise.
SUPER 6
Six projects to shape robust defence and security strategies

DEFENDING SOCIETY
Developing core curricula on societal resilience for NATO defence academies

GLOBAL INSIGHTS
Leading a research consortium that delivers high-impact studies for the UK Ministry of Defence

MISSION CONTROL
Exploring the implications of emerging technologies for the future of UK space regulation

BALANCING CHINA
Calibrating the security risks of Chinese research collaboration with British universities

NATO BOOM
Assessing the opportunities and challenges of NATO enlargement for the alliance

RUSSIAN REVENUES
Analysing Russia’s efforts to generate revenues under economic pressure and sanctions
Global impact

Our research must reach people who can use it most effectively, if we are to fulfil our mission to help improve policy and decision making through research and analysis. This map illustrates where members of the Defence and Security research group were able to share their expertise and insights in 2023, creating a global network of impact.

January: discussed the future of infrastructure in space and the space economy at the Arizona State University Space Futures Convening

October: presented research at the Canadian Veteran Health Research Forum, demonstrating the depth and breadth of our work on the defence workforce and Armed Forces community

September: participated in a workshop and crisis simulation at the Center for a New American Security

June: spoke about emerging security challenges in the Euro-Atlantic region at the Iceland Security Forum
September: discussed the evolving geopolitical roles of Russia and Ukraine at the Milken Institute’s 10th Annual Asia Summit

March: attended the Partnership for Peace Consortium’s Resilience Reference Curriculum Meeting, hosted by the George C. Marshall Center

September: participated in the Helsinki Security Forum, an annual gathering of defence experts and officials in the capital of NATO’s newly joined member

June: attended the NATO Youth Summit at the NATO headquarters

June: took part in the Army Expo 2023, where we explored the future of the British Army

July: took part in a panel discussing the current and future challenges of critical underwater infrastructure at the 14th NATO Maritime Interdiction Operational Training Centre annual conference

November: spoke about interoperability in the AUKUS partnership at the Pacific Rim Strategic Policy Conference
WELL WOMEN

Innovating to improve healthcare access and outcomes for women
Nearly 100,000 women answered a UK government call for evidence on women's healthcare in 2021. Their responses revealed years of feeling unheard, pain, frustration, grief and loss.

Lucy has been experiencing debilitating pelvic pain for years. Her symptoms include fatigue, depression and heavy periods. This is affecting her confidence and ability to do things she loves. She knows something is not ‘right’ but feels she has not been taken seriously when seeking help – appointments have been rushed, and her symptoms dismissed as just part of being a woman. She has been prescribed antidepressants in the absence of a thorough exploration of her symptoms and feels lost.

Tamsin shares the same struggles as Lucy but is fortunate to live somewhere she can access a Women’s Health Hub. Within a few weeks, via a referral from her GP, she is given an appointment at a ‘pop up’ clinic in her community. She is seen by a knowledgeable practitioner trained in women’s health, who makes her feel comfortable, and is given ample time to talk. Some examinations and
tests are done there and then, with a referral made to a nearby hospital to investigate a further issue raised. She is clear about her care plan and is optimistic about the future.

The results from the UK government’s call for evidence showed that Tamsin’s experience is far from reality for many women, particularly those from areas with insufficient services for women’s health.

In 2023, the UK government committed to invest £25 million to expand Women’s Health Hubs as part of its ambitious 10-year strategy. RAND Europe, a partner in the National Institute for Health and Care Research BRACE rapid evaluation centre, examined early findings from Women’s Health Hubs, contributing to the development of national guidelines.

‘Women’s health needs are often poorly recognised, under-resourced and misunderstood, all of which can lead to dire consequences for patients,’ says RAND Europe Senior Analyst, Jennifer Bousfield.

£25 million
invested by the UK government to expand Women’s Health Hubs in 2023
Statistics on inequalities of access and outcomes for women in the UK are alarming. For instance, incidence rates for cervical cancer are 65 per cent higher in the most, compared to least, deprived areas, with substantially lower rates of cervical screens and preventative vaccinations amongst women in these areas.

‘Women’s Health Hubs are a promising example of how the local knowledge of passionate and skilled practitioners may improve access and reduce inequalities in communities,’ Bousfield points out. ‘But these are not a silver bullet. Designing, implementing and sustaining these hubs in a way that addresses current shortfalls in care without undermining or duplicating existing good practice is very complex for policymakers and practitioners. We must not reinvent the wheel.’ The challenge is tailoring a solution to the community of women a hub serves, which requires understanding what women need and involving them in the design of services. It also requires an understanding of the local supply of trained professionals and the ability to adopt successful innovations in women’s health products and pathways. All this in a health system that is focused on savings.

‘At RAND Europe, women’s health is a priority,’ Bousfield says. ‘We are building the evidence base around innovations such as Women’s Health Hubs, harnessing our skills in stakeholder consultation, research and evaluation, and our track record in health services improvement.’ Understanding complexity and fragmentation, reducing the risks of widening inequalities, and evolving the science underpinning women’s health and wellbeing are all areas that RAND Europe is well-placed to tackle.

‘We are also looking at the femtech industry,’ Bousfield continues. ‘While this is another opportunity to improve women’s health through innovation, developing products and technologies in areas with unmet need such as fertility, sexual and reproductive health, female cancers, and obstetrics and gynaecology, there are also risks.’ Supply needs to be aligned with demand, and appropriate regulation and policies are essential to ensure beneficial innovations (and not fads) reach end users in equitable ways.

‘The goal is for many more women to have access to quality care and treatment,’ Bousfield says, ‘so that common experiences such as Lucy’s become a thing of the past.’
Centred on evidence

Safety: how do we know what works?

Better evidence can inform better policy – but it can be a challenge to know what really works. Even when relevant evidence exists, it may be fragmented and hard to find, understand and apply to specific policy needs.

RAND Europe conducted an ambitious feasibility study to understand the potential impact of establishing a ‘what works’ centre focusing on the safety of life and property worldwide, and how the use of evidence might be enhanced generally. The project was commissioned by the Lloyds Register Foundation (LRF), an independent global charity with the mission of ‘engineering a safer world’.

The team reviewed what is known about how evidence influences policy and practice, and the experience of existing evidence centres. These included over a dozen ‘what works’ centres in the UK set up to generate high-quality evidence, translate evidence for specific policy challenges, and support the use of evidence by decision makers.

We found that a global evidence centre and network for safety would add value, though stakeholder engagement is key. However, demonstrating impact is challenging. Outputs and outcomes would ideally be measured and assessed over time against a clear impact model.

A new centre also needs to balance different strategic elements to ensure it focuses on real needs and added value. Through interviews and workshops with experts we identified key dimensions that shape priorities and used these to map the different ways that five existing centres choose to balance their challenges and objectives (see box opposite). We also carried out two scoping studies to explore the potential impact of a centre for safety in practice. One looked at the psychological wellbeing of seafarers, the other at safety in small and medium-sized enterprises. Both studies show clear potential for a centre to add value, but highlight the importance of the choices made across different dimensions.
Mapping five evidence centres along key dimensions

Different centres have different aims, resources and mandates. The figure illustrates alternative strategies to reconcile these constraints along the key dimensions. While all five centres seek high levels of stakeholder engagement, there is greater variation on dimensions such as budgets and evidence generation.
Demand for both health and social care is growing and changing, with increased interest in prevention, supporting patients living with multiple conditions and innovative ways of delivering health and care. Yet the evidence base about whether, when, how, why and for whom new approaches will work is nascent in many areas. There is an urgent need for incisive and timely evidence to inform policy decisions on the spread and sustainability of innovative practices.

Working alongside university partners, RAND Europe is responding to this need in diverse ways including, through BRACE and DECIDE, two rapid evaluation centres funded by the National Institute for Health and Care Research. The centres combine multidisciplinary expertise and innovative methods to provide robust, rapid assessments of promising new health and care service improvement and innovation efforts.

Our approach is guided by three overarching aims: to improve people’s experiences of care and their overall health and wellbeing; to address inequalities; and to support efficient and effective health and care provision. The BRACE and DECIDE centres provide rapid and flexible response capacity, facilitated by our professional services staffing model and strong networks with decision makers and service users across health and care settings.
BRACE: the Birmingham, RAND Europe and Cambridge Evaluation centre has received a second five-year grant to conduct rapid service evaluations in a range of areas, including novel ways of managing and delivering primary care services, the use of technology in social care, children’s and young people’s mental health and many others.

DECIDE: our newly launched Oxford and RAND Europe centre for Digitally Enabled Care in Diverse Environments evaluates the use of technology-enabled remote monitoring services in health and care. These services involve the use of digital tools, devices or apps (for example activity trackers, pulse oximeters, heart monitors, blood glucose monitors), and have the potential to help people engage with health and care professionals remotely, in the comfort of their own home.
Frances Wu – My interest in healthcare improvement led me to health services research. Digitally enabled technologies are seen by many as a solution to address current health and care challenges, but their use requires better integration within and across organisations and raises many sociotechnical-related questions.

Jenny Bousfield – There is a need to play ‘catch up’ and ideally accelerate the generation and application of evidence on how best to prevent and treat health problems affecting women. What excites me about my research are the numerous opportunities and routes to meaningful change.

Jenny Newbould – Primary care is the most accessible route to healthcare for most people in the UK. My work explores how innovations in primary care, such as the use of digital approaches, can help provide a better service for patients, carers and professionals.

Robert Romanelli – Despite advancements in the prevention, diagnosis and treatment of human disease over the past century, not all groups have benefited equally due to myriad social and structural factors. These factors need to be addressed to achieve health equality for all.
SUPER 6
Six projects that explore health and wellbeing policy innovation

- **COMPLEX CARE**
  Exploring ways to improve healthcare innovation and services for people with multiple long-term conditions

- **CHECKING INFECTION**
  Reviewing pathogen surveillance initiatives to understand challenges, gaps and potential improvements

- **CARER CAPACITY**
  Assessing options to attract long-term care workers from non-EU countries

- **CANCER CUES**
  Establishing tools to aid the development of better tests to diagnose cancers earlier

- **LGBTQ+ WELLBEING**
  Analysing census data to understand health and social inequalities faced by LGBTQ+ people

- **GLOBAL RESISTANCE**
  Modelling the potential worldwide economic costs of antimicrobial drug resistance by 2050
DRUG MARKETS IN FLUX

Trialling fresh approaches to tackle fast-evolving illegal drug markets
'Fentanyl has killed 100,000 Americans. Is Europe next?’, asked the *The Times* recently. Other estimates put the number of US fentanyl-related deaths many times higher.

A different picture currently exists in Europe, but the 2022 Afghan ban on the cultivation of opium poppies could soon change that dramatically. Supplies of heroin might dry up and synthetic opioids, such as fentanyl and nitazenes, could flood Europe, along with other shocks to illegal drug markets.

Cocaine and cannabis also increase the complexity of the European drug situation. According to the European Union Drugs Agency (EUDA), there is more cocaine coming into Europe than ever before – 303 tonnes were seized in 2021, five times more than in 2011. Cannabis continues to be the most commonly used illicit substance in Europe.

These illegal drugs and the markets that supply them are associated with crime, violence and public health costs. New ways of thinking and
researching drug-related issues are required if policy responses are to keep up with the speed of developments. This is where RAND Europe is playing a pivotal role.

‘Together with RAND’s Drug Policy Research Center (DPRC), an institute with over 30 years’ experience, we have become trusted sources of research and analysis,’ says Mafalda Pardal, European Lead, DPRC, at RAND Europe. ‘We aim to apply fresh approaches to our work on these complex and often chronic issues.’

Our work on cannabis policy is keeping our expert drugs researchers particularly busy. Across Europe an unprecedented number of countries have committed to reforming their national approach to this substance. ‘But the array of possible policy options facing reformers can be overwhelming, and this is where we can help,’ explains Pardal.

For instance, RAND Europe has been helping the Swiss Federal Office for Public Health understand the alternatives to profit-maximising commercial models of cannabis supply. In this project we mapped the varied policies that have been implemented to tackle supply and identified their impacts on public health and safety outcomes. ‘By identifying interconnections between these factors, we can better understand what happens when changes are made and provide policymakers with the relevant information they need to make decisions,’ says Pardal. Another good example is our evaluation of the ongoing experiment with regulated cannabis production in coffeeshops in the Netherlands.

The surge in cocaine imports to Europe is coming through key entry points including Rotterdam, Antwerp and Le Havre, the latter seizing one-third of all cocaine that entered France in 2022. A joint study with the French public research university, Sciences Po, looks at two aspects of cocaine trafficking through the ports of Rotterdam and Le Havre. The research examines both the features that make the ports attractive targets for.

No matter where in the world you look, illegal drugs and the harms they bring add up to an extraordinarily complex challenge. You have to be able to understand and interrogate the whole picture to come up with the right answers.”

Mafalda Pardal, European Lead, DPRC
illicit activity, and the particular methods of operation and patterns of criminal behaviour among groups when trafficking cocaine through these ports.

Beyond cannabis and cocaine, we are building on DPRC’s research on the key components of the opioid ecosystem in the United States to help European policymakers prepare for a possible synthetic opioid crisis.

In the UK, we’re also working on drug use in prisons. Substance use in prisons can be detrimental to the safety and security of all individuals, including staff. It may harm prisoners’ physical and mental health, and also means prisoners are not able to engage in activities to reduce the chance of reoffending. As part of the solution to this deep-seated problem, RAND is assessing the effectiveness of current in-prison interventions, such as testing and incentivised substance-free living wings.

‘No matter where in the world you look, illegal drugs and the harms they bring add up to an extraordinarily complex challenge,’ Pardal explains. ‘You have to be able to understand and interrogate the whole picture to come up with the right answers.’
Keep it out of court

Helping police forces to support vulnerable offenders

Out of Court Disposals (OOCDs) are used by police in England and Wales as an alternative to prosecution. They aim to deal rapidly with lower-level crimes and anti-social behaviour in ways that prevent escalation to more serious crimes and reduce reoffending. Importantly, OOCDs with conditions attached can be used by police to support the needs of vulnerable offenders with issues such as mental health or substance abuse problems.

RAND Europe was commissioned by the UK Ministry of Justice to provide new insight into how the police use OOCDs to support adult offenders with health-related vulnerabilities. The research will inform better policy and practice for effective collaboration between police, the NHS and other service providers. Our report provides a national-level overview of current OOCD practices in 38 forces and the support services available to offenders given an OOCD, and assesses their effectiveness. It also makes recommendations for local- and national-level stakeholders to improve the use of OOCDs.

Legislation is in progress to establish a simplified and consistent national OOCD framework to help forces intervene early to support vulnerable offenders and reduce reoffending.
We worked closely with forces to co-produce guides and tools to help them develop and maintain good practice:

- **Health Vulnerability Assessment Guide**: enables forces implementing a health vulnerability assessment process to make better decisions throughout.

- **Quality Assurance Guide**: helps forces procure service providers in a way that facilitates a good evidence base.

- **Data collection tool prototype**: assists forces to gather and use OOCD data to understand the effectiveness of their interventions.

- **Auditing Missed Opportunities Guide**: provides a simple methodology for auditing OOCD decision making to identify learning and ensure that eligible offenders are offered OOCDs.

- **Training resources**: support officers and decision makers to use OOCDs effectively to address health vulnerabilities.
Off to a good start

Exploring early years education policy around the world

Research shows that high-quality early childhood education and care (ECEC) has the potential to bridge the attainment gap between lower-income children and their more advantaged peers, significantly improving their life chances. However, understanding what the best ECEC looks like in practice has been a challenge until now. Our report, *World Class: What England can learn from global experience to make early years policy work for disadvantaged children*, funded by the Sutton Trust, looks at what England can learn from other countries to make early years policy work for all children.

By pulling together practical examples from around the world, our research shows how England can create an environment where every child has the opportunity to thrive, regardless of their family situation.

The report comes at a critical juncture for England’s early years system, with ongoing calls for reform and budget announcements signalling a large-scale expansion. The Sutton Trust has been asked to expand on the report by key stakeholders including the Department of Education, the Labour Party, and an early years funders group, and it was a key talking point at their presentation to the Conservative Party Conference in the autumn. The research was also featured by numerous media outlets, with an interview on BBC Radio 4’s Woman’s Hour and articles in the *Independent*, POLITICO and the trade publications *Children and Young People Now* and *Nursery World*.

The high profile of the report and the accompanying interest illustrate the value of rigorous, objective evidence and analysis for decision makers, providing them with the information they need to make impactful, evidence-based policy changes.

The research looks at successful systems around the world and highlights opportunities to close gaps in three key areas:

- highly qualified staff
- high staff-to-child ratios
- removing barriers for disadvantaged families
RESEARCHER FOCUS
Team members share insights on what motivates and inspires them

Mafalda Pardal – Environmental issues are a crucial factor to consider when making effective drug policy. Looking ahead with my RAND colleagues, I want my research to deepen understanding of the impacts of drug use and of legal and illegal drugs markets on the environment.

Miguel Subosa – I believe in equal access to high-quality education for all. As teachers play a critical role in reaching this goal, I’m particularly interested in their professional development and working conditions. My research also includes evaluations of educational programmes targeted at low-income populations.

Merrilyn Groom – With AI and technology improvements making the mechanics of econometric analysis easier, what most excites me is the challenge of analysis design: reflecting critically on available approaches, why they are or aren’t suitable and the implications for the research.

Lucy Strang – Research into the criminal justice system is rewarding and always engaging because it reflects so much about the society that we live in: education, employment, social care and attitudes towards inequality. It reveals what we value in ourselves and each other.
SUPER 6
Six projects to help build more resilient societies

**VULNERABLE PUPILS**
Evaluating the impact of multi-specialist support in schools for excluded pupils

**DRUGS IN PRISON**
Understanding different approaches to tackling drug use

**NURSERIES GLOBALLY**
Developing an international survey of the early years workforce and education practices

**FINANCIAL INEQUALITIES**
Analysing differences in men and women’s financial independence

**FIRST WORDS**
Assessing the effect of ‘Concept Cat’ early years language teaching

**YOUTH EMPLOYMENT**
Understanding how changes in the economy affect young people’s pay and work choices
Cross-team working

A core value at RAND Europe is our belief that we are stronger through the power of partnerships. We regularly combine strengths across research areas, drawing on differing specialist expertise, experience and methodologies to achieve better outcomes. Two current evaluation projects highlight the benefits of cross-team working for our clients.

Centre for Earth Observation Instrumentation (CEOI)

Between 2023 and 2025, CEOI will invest some £17.5m in pioneering R&D to support the UK’s ambition to be a world leader in earth observation technologies. Since satellites are used for both civilian/commercial and military purposes, our Science and Emerging Technology and Defence and Security research groups are combining their science and security know-how to co-deliver a wide-ranging evaluation of CEOI impact and value for money for the UK Space Agency.

UK investment in drug treatment and recovery

UK drug-related deaths reached their highest recorded level in 2021. The UK government’s 10-year drug strategy includes an extra £780m for treatment and recovery to address this issue. Our Health and Wellbeing and Home Affairs and Social Policy research groups are collaboratively evaluating overall delivery, plus progress in five priority areas including drug and alcohol workforce development and recovery support. The cross-cutting nature of drug policy draws on the expertise of both groups and their experiences of multi-agency working.
Back to the future

After almost 50 years of innovative work, and with so many strong local relationships, opening a new Netherlands office feels both like a homecoming and a launch pad. RAND’s very first project in Europe was a groundbreaking 1976 analysis of sea defence solutions to protect the South Holland coast. Our first European office was a suite in the Delft University of Technology.

We have continued to explore new research areas and approaches with Dutch policymakers and partners. Recent studies include analyses of the Dutch government’s preparations for Brexit, the financial ecosystem for drug development, the Dutch experiment with regulated cannabis production, drug-related corruption in the port of Rotterdam and Schiphol airport, international asylum policies towards ‘safe countries’, measuring police performance, and a method for measuring national security resilience.

Our ambition now is to deepen and expand our impact still further across Europe, working closely with our Brussels office, which celebrated its own 15th anniversary in 2023.

“There’s a strong appetite for rigorous, independent policy research in the Netherlands – so it’s great to have feet on the ground here again.”

Stijn Hoorens, Director, Netherlands office
Network of ideas

To improve lives, our research must reach the people and policymakers who can use it most effectively. Our staff seek out opportunities to share their insights and expertise in the right places and with the right collaborators, creating a network of ideas to benefit the public good.

A roadmap for global energy transition

Strong political leadership and global collaboration will be needed to achieve a secure, sustainable energy future – plus significant investment to implement more cost-effective renewable approaches. For lower-income countries with limited resources and access to finance, the funding challenge is particularly daunting. The Scotia Group and RAND Europe convened a high-level series of Majlis Dialogues, organised with Council of Advisors member Professor Malik Dahlan, to better understand how policies, investments and greater cooperation might address the problem. The emergent findings were presented at the UN General Assembly at an event hosted by the government of Antigua and Barbuda, and at COP28.

Our synthesis of findings sets out an outline roadmap for a successful global energy transition based on four principles:

- A holistic, systems-based approach is needed
- Preparation must take a technology and infrastructure perspective
- The developing world needs help to access energy transition finance
- Political will and geopolitics will ultimately determine success.
What about the (healthcare) workers?

Scarcely a day goes by in the UK without some mention of NHS staff pay, conditions, actions or attitudes. The social care workforce gets less attention, despite being numerically larger. In this year’s Cambridge Centre for Health Services Research (CCHSR) lecture, Professor Jill Manthorpe CBE discussed what needs to happen for workforce research to become an integral part of health and social care policy development, so potential implications can be assessed. CCHSR is a collaboration between RAND Europe and the University of Cambridge set up to inform health policy and practice.

Getting ready for quantum

RAND Europe and the Novo Nordisk Foundation co-hosted a roundtable discussion in London featuring experts and senior decision makers from government, private and third sectors, and academia, which focused on how we can continue to foster innovation while ensuring a safe and equitable quantum-enabled future.

The challenges and opportunities discussed include: identifying compelling use cases and communicating the value of quantum technologies; developing talent and sustaining investment – both public and private – to nurture the ecosystem in Europe and scale up promising solutions; fostering international collaboration while avoiding ‘quantum nationalism’; and developing appropriate standards internationally.
Our Council of Advisors brings a diversity of experience and depth of knowledge that enriches our work and extends our impact. In 2023, we welcomed the appointment of Lord Simon McDonald GCMG KCVO, Master of Christ’s College, Cambridge and Permanent Secretary to the UK’s Foreign & Commonwealth Office from 2015–2020.

RAND celebrated its 75th anniversary in 2023. To mark the occasion in Europe, we welcomed several members of the Executive, Governance, and Nominating Committee of its Board of Trustees to a joint meeting with our Council of Advisors, along with many senior RAND colleagues. The meeting was followed by a dinner at Christ’s College, and together these provided an excellent opportunity to acknowledge our transatlantic collaboration and our commitment to a shared mission.
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Founder and Editor, Encompass
Chairman, Forum Europe

László Andor
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Dawn Austwick (until July 2023)
Former Chief Executive, The National Lottery Community Fund

Carl Bildt
Co-Chair, European Council on Foreign Relations

Professor Dame Carol Black GBE FRCP FMedSci
Chair, British Library
Chair, Centre for Ageing Better

Jessica Cecil
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Professor Malik R. Dahan LLD FCIArb FRSE
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Dr. Alexander Italianer
Senior International Policy Adviser, Arnold & Porter
Former Secretary-General, European Commission

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Former Diplomatic Correspondent, BBC

Gunvor Kronman
Chief Executive Officer, Hanaholmen, the Swedish-Finnish Cultural Centre

The Lord McDonald of Salford GCMG KCVO (from July 2023)
Master, Christ’s College Cambridge
Former UK diplomat

Ana Palacio
Former Spanish Minister of Foreign Affairs

Sir Tom Phillips KCMG (until April 2023)
Independent Consultant
Former UK diplomat

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EC DG Employment, Social Affairs and Inclusion
EC DG Health and Food Safety
EC DG Internal Market, Industry, Entrepreneurship and SMEs
EC DG Migration and Home Affairs
EC DG Research and Innovation
EC DG Structural Reform Support
EC DG Trade
European Centre for Disease Prevention and Control (ECDC)
European Defence Agency (EDA)
European Institute for Gender Equality (EIGE)
European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)
European Parliament
European Union Agency for Asylum (EUAA)
High Speed 2
Interministerial Mission for Combating Drugs and Addictive Behaviors (MILDECA) (France)
London Ambulance Service NHS Trust
National Institute for Health and Care Excellence
National Institute for Health and Care Research
National Protective Security Authority
NATO
Netherlands Ministry of Foreign Affairs
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NHS England
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Scottish Funding Council
Swiss Federal Office of Public Health
UK Cabinet Office
UK Defence Science and Technology Laboratory
UK Department for Business and Trade
UK Department for Education
UK Department for Energy Security & Net Zero
UK Department for Science, Innovation and Technology
UK Department for Transport
UK Development, Concepts and Doctrine Centre
UK Food Standards Agency
UK Foreign, Commonwealth & Development Office
UK Home Office
UK Ministry of Defence
UK Ministry of Justice
UK National Audit Office
UK Research and Innovation
UK Shared Business Services
UK Space Agency
World Bank
Foundations, charities and universities

- Armed Forces Covenant
- Association of the British Pharmaceutical Industry
- Benevolentia Foundation
- Cambridge Ahead
- Cancer Research UK
- Centre for Humanitarian Dialogue
- Education Endowment Foundation
- Flinders University
- Forces In Mind Trust
- Impetus
- International Association for the Evaluation of Educational Achievement
- International Society for the Study of Drug Policy (ISSDP)
- King's College London
- Lloyd's Register Foundation
- London School of Hygiene & Tropical Medicine
- National Foundation for Educational Research
- Novo Nordisk Foundation
- OECD
- Parkinson's Progression Markers Initiative (PPMI)
- Porticus
- Royal Academy of Engineering
- Scotia Group
- SPARK
- Surveillance and Epidemiology of Drug-Resistant Infections Consortium
- Sutton Trust
- The Health Foundation
- The Nuffield Trust
- Trimbos Institute
- United Nations Development Programme
- University of Birmingham
- University of Cambridge
- University of East Anglia
- University of Leicester
- University of Oxford
- Wellcome Genome Campus
- Wellcome Trust
- What Works for Children's Social Care
- World Organisation for Animal Health
- Youth Futures Foundation

Private sector

- AIA
- AMR Industry Alliance
- Berenschot
- Breuer&Intraval
- DeepMind
- EY
- Ferring Pharmaceuticals
- Frontier Economics
- ICF
- Idorsia
- Ipsos
- Iтad
- Kantar
- know.consulting
- KPMG
- Manulife
- McKinsey & Company
- Modern Health
- Montrose
- MSD
- Pfizer
- QinetiQ
- Ruder Finn
- Sanofi
- SANTÉ
- TP Group
- Treehouse
- Visionary Analytics
- VitalityHealth
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CP-A1150-4 (2024)
www.rand.org/t/CPA1150-4

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