OXFORD POPULATION HEALTH

UNIVERSITY OF OXFORD

NUFFIELD DEPARTMENT of MEDICINE

Candidate Information Pack

DIRECTOR, BIG DATA INSTITUTE

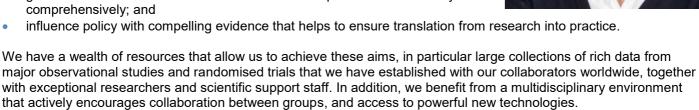## UNIVERSITY OF OXFORD

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Executive Summary

Welcome letter from Professor Sir Rory Collins, Head of the Nuffield Department of Population Health

Thank you for your interest in the role of Director of the Big Data Institute.

NDPH undertakes research that provides reliable answers to important questions about the causes, prevention and treatment of disease. Our focus is on improving health by reducing common causes of disability and premature death in both developed and developing populations.

We aim to:

- identify areas of research likely to make a substantial difference to the health of different populations;
- generate evidence that addresses these research questions both reliably and comprehensively; and
- influence policy with compelling evidence that helps to ensure translation from research into practice.

We have a wealth of resources that allow us to achieve these aims, in particular large collections of rich data from major observational studies and randomised trials that we have established with our collaborators worldwide, together with exceptional researchers and scientific support staff. In addition, we benefit from a multidisciplinary environment that actively encourages collaboration between groups, and access to powerful new technologies.

We place a special emphasis on helping staff to establish their careers in health research, through training and development. We have established a successful MSc course and DPhil programme, and we were awarded an Athena SWAN Silver Award in 2015, which we renewed in 2024. In the 2021 Research Excellence Framework (REF), 96% of the research submitted to Unit of Assessment 2: Public Health, Health Services and Primary Care, was ranked either 4* (world-leading in terms of originality, significance and rigour) or 3* (internationally excellent in terms of originality, significance and rigour). We scored particularly well for having an environment that is conducive to producing research of world-leading quality and enabling outstanding impact, in terms of its vitality and sustainability.

We are building our scientific strengths not only through training and career development but also through the recruitment of established scientists who share our vision of what really matters for improving health.

I very much hope that you will wish to consider joining us, and should be happy to speak with you in order to discuss in more detail all of the opportunities that exist within the Department for high quality work that impacts on health worldwide.

Yours sincerely,

Rory Collins

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The Organisation

The University of Oxford

Oxford's departments and colleges aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

Oxford's self-governing community of international scholars includes professors, associate professors, other college tutors, senior and junior research fellows and over 2,500 other University research staff. Research at Oxford combines disciplinary depth with an increasing focus on inter-disciplinary and multi-disciplinary activities addressing a rich and diverse range of issues. The current strategic plan can be found at https://www.ox.ac.uk/about/organisation/strategic-plan-2018-24

Oxford's strengths lie both in empowering individuals and teams to address fundamental questions of global significance, and in providing all staff with a welcoming and inclusive workplace that supports everyone to develop and do their best work. Recognising that diversity is a great strength, and vital for innovation and creativity, Oxford aspires to build a truly inclusive community which values and respects every individual's unique contribution.

While Oxford has long traditions of scholarship, it is also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities. It consistently has the highest external research income of any university in the UK (the most recent figures are available at www.ox.ac.uk/about/organisation/finance-and-funding), and is ranked first in the UK for university spin-outs, with more than 130 spin-off companies created to date. Oxford is also recognised as a leading supporter of social enterprise.

Oxford admits undergraduate students with the intellectual potential to benefit fully from the small group learning to which Oxford is deeply committed. Meeting in small groups with their tutor, undergraduates are exposed to rigorous scholarly challenge and learn to develop their critical thinking, their ability to articulate their views with clarity, and their personal and intellectual confidence. They receive a high level of personal attention from leading academics.

Oxford has a strong postgraduate student body which now numbers over 10,000. Postgraduates are attracted to Oxford by the international standing of the faculty, by the rigorous intellectual training on offer, by the excellent research and laboratory facilities available, and by the resources of the museums and libraries, including one of the world's greatest libraries, the Bodleian.

For more information please visit www.ox.ac.uk/about/organisation

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The Medical Sciences Division

The Medical Sciences Division is an internationally recognised centre of excellence for biomedical and clinical research and teaching, and the largest academic division in the University of Oxford.

World-leading programmes, housed in state-of-the-art facilities, cover the full range of scientific endeavour from the molecule to the population. With our NHS partners we also foster the highest possible standards in patient care.

For more information please visit the Medical Sciences Division website.

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Nuffield Department of Population Health

Oxford Population Health provides an excellent environment for multi-disciplinary research and teaching and for professional and support staff. We work together to answer some of the most important questions about the causes, prevention and treatment of disease.

The Department has around 1000 staff, students and academic visitors working in a number of world-renowned population health research groups, including the Clinical Trial Service Unit and Epidemiological Studies Unit (CTSU), the Cancer Epidemiology Unit (CEU), the National Perinatal Epidemiology Unit (NPEU) and other groups working on public health, health economics, ethics and health record linkage. It is also a key partner in the Oxford University's Big Data Institute.

In the 2021 Research Excellence Framework (REF), 96% of the research submitted to Unit of Assessment 2: Public Health, Health Services and Primary Care, was ranked either 4* (world-leading in terms of originality, significance and rigour) or 3* (internationally excellent in terms of originality, significance and rigour). This comprised research from Oxford Population Health and research from the Nuffield Department of Primary Care Health Sciences. We scored particularly well for having an environment that is conducive to producing research of world-leading quality and enabling outstanding impact, in terms of its vitality and sustainability.

In addition to its research activities, the Department is home to the MSc in Global Health Science and Epidemiology, the MSc in Clinical Trials, and a variety of short courses. Students also come to undertake research for DPhil degrees. Teaching is provided for undergraduates reading for Medicine and for public health doctors in specialist training.

NDPH is committed to promoting awareness and understanding of equality, diversity and inclusion and embedding these principles among staff and students. NDPH holds an Athena SWAN Silver award. Contact equality@admin.ox.ac.uk for further information about Athena SWAN at the University of Oxford.

For more information please visit the Oxford Population Health website.

About the Nuffield Department of Medicine

The Nuffield Department of Medicine aims to improve healthcare internationally through its research and teaching. Over the last fifty years, it has pioneered the use of genetics, structural and cellular biology to understand susceptibility to human disease; at the same time, it remains a department of clinical medicine with a clinical interface at the core of its success. The NDM is the largest department in the University of Oxford and the largest department of medicine in Europe by research income.

The department is organised around a series of strong and identifiably unique institutes, centres and units; but its aim is to be as non-hierarchical and closely-knit as possible, to encourage the very best interactions and the exchange of ideas between its staff. It supports teaching to encourage the very best students to join academic research. It maintains a £1,000m portfolio of externally funded research from over 140 different sponsors/funders, and has an annual turnover in excess of £220m. The department's activity is run directly through the University, but also through a series of subsidiary companies and other legal vehicles, tailored to the activity and the countries within which it operates. Across these vehicles and partnerships, the department has over 3,500 research and support staff and 370 students working solely on, or supporting, its research and teaching; and 1,200 of these staff are based in Oxford. The NDM holds collaborative grants with ~40 other departments or centres in the University of Oxford.

The NDM has a strong commitment to careers and equality of opportunity and treatment. The Department holds an Athena SWAN Silver award in recognition of the commitment made to promote gender equality through our organisational and cultural practices and our efforts to improve the working environment for both men and women. For more information, please see the NDM pages of Equality, Diversity and Inclusion.

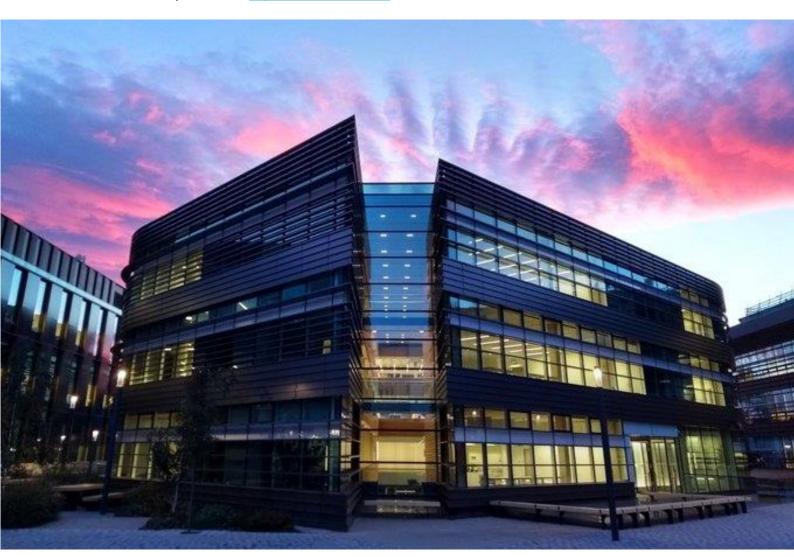For more information please visit the NDM website.

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The Big Data Institute

The Big Data Institute (BDI), which opened in May 2017, is an interdisciplinary research centre housing 350 staff and students, located within the University of Oxford's Old Road Campus. The Institute combines researchers from genomics, epidemiology, population health, and infectious disease alongside those from computer science, statistics and engineering to develop the field of big data as applied to biomedical research. Scientists working in the Institute form an analytical hub, deeply connected to the wider experimental and clinical community in Oxford and beyond, working to solve some of the major challenges in medical research.

The BDI aims to develop, evaluate and deploy efficient methods for acquiring and analysing information at scale and for exploiting the opportunities presented by large-scale studies. Its activity includes the analysis of population scale data, derived from health records, genetics and biomarkers, the analysis of images and application of machine learning, and the analysis of single cells and molecular proteomic and transcriptomic data. The Institute has core facilities in high-performance computing and high-capacity data management.

The BDI is part of the Li Ka Shing Centre for Health Information and Discovery at the University of Oxford's Old Road Campus. It is an Institute of Oxford Population Health (the Nuffield Department of Population Health), although it also hosts scientists from a number of other Departments within the University. The Institute's space is allocated between NDPH (2/3) and NDM (1/3).

For more information please visit: http://www.bdi.ox.ac.uk/

The Position

The Big Data Institute (BDI) focuses on the analysis of large, complex, heterogeneous data sets for research into the causes and consequences, prevention and treatment of disease. This work is invaluable in identifying the associations between lifestyle exposures, genetic variants, infections and health outcomes around the globe.

The use of biomedical big data has become a central theme across most areas of biomedical research, involving collaborative and interdisciplinary science within the university and across many partners nationally and internationally. The BDI Director is responsible for developing and successfully implementing a clear and ambitious strategic vision for the BDI, providing inspirational leadership to ensure success of the institute and the university. Their vision is critical for building and maintaining a thriving and interactive community, which supports researchers at every stage in their careers.

You will be supported by a strong group of senior Professorial academics who form the BDI's Oversight Committee (Professor Sir Rory Collins, Professor Gavin Screaton, and Professor Richard Cornall), and Senior Leadership Team (consisting of Deputy Director, Associate Head of Translation and Culture Professor Eva Morris, Associate Head of Quantitative Research Professor Chris Holmes, and Associate Head of Innovation and Training Professor Thomas Nichols). You will also be assisted by an experienced team of administrative and support staff who manage the BDI's strategic and day-to-day operations, including a BDI Head of Scientific Operations.

You may already be working at the level expected of a substantive Professor, for example leading your own internationally-competitive programme of research for which you will have obtained substantial external grant funding. Such research activity could be incorporated into the responsibilities of this role.

Queries about the post should be addressed to Natalie Derry, nderry@wittkieffer.com, +44 (0)7408 851596 or Julia Anderson, janderson@wittkieffer.com, +44 740 886 5130. All enquiries will be treated in strict confidence; they will not form part of the selection decision.

Responsibilities

In providing the strong and visionary strategic leadership required to sustain the world class scientific output of the BDI, specific duties will include:

- Working with the BDI's senior academic staff and group leaders to manage the research direction of the Institute and to develop agreed strategic plans which implement the Institute's academic and scientific aims.
- Developing a strategy to strengthen the BDI's expertise in machine learning and artificial intelligence.
- Developing and leading BDI-wide strategic partnerships within the University of Oxford, as well as nationally and internationally with academic, governmental and industrial organisations.
- Maintaining an outstanding environment for the conduct of world-class scientific research in the analysis of biomedical big data and for the development of the BDI's early career researchers, including overseeing training. This will include ensuring alignment and integration with the NDPH and NDM's initiatives around research culture and equality and diversity among others.
- Representing the BDI, and developing its profile, within the University and at national and international levels.
- Working with researchers to develop the funding strategy for the BDI.
- Overseeing the effective deployment of resources available to the BDI, and ensuring effective communication among participating departments. Given the nature of space allocation between NDPH and NDM (on a 2/3 and 1/3 basis respectively), the postholder, in concert with the NDPH and NDM operations teams, will need to manage competing demands for space ensuring equitable access is maintained in line with core principles. Space allocations into the NDM and NDPH space should be discussed and agreed by the NDM and NDPH Heads of Department respectively.
- Reporting to the BDI Oversight Committee on matters relating to the Institute.
- Working with the senior research computing team to oversee the development, governance and financial sustainability of the Biomedical Research Computing infrastructure co-housed in the BDI.
- Working with the Administration Teams to develop and sustain appropriate structures for management, consultation, decision-making, and communication with the BDI's staff and students.
- Along with staff based in the BDI, engaging with the public in order to develop and promote the Institute's mission.
- Ensuring that the principles of good research practice, including information governance, data sharing and preservation are observed in line with best practice and university and data-controllers' requirements.

As BDI Director, you may be asked to serve on other departmental or senior Medical Sciences Division and University committees and bodies as appropriate to the position.

The above list is not exhaustive and the role-holder is required to undertake such duties as may reasonably be requested within the scope of the post. All staff are required to act in a professional, cooperative and flexible manner, in line with the requirements of the post.

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The Person

Your application will be judged only against the criteria which are set out below. You should make sure that your application shows very clearly how your skills and experience meet these criteria. The University is committed to fairness, consistency and transparency in selection decisions. Members of selection panel will be aware of the principles of equality of opportunity, fair selection and the risks of bias. There will be both female and male panel members.

If, for any reason, you have taken a career break or have had an atypical career and wish to disclose this in your application, the selection panel will take it into account, recognising that the quantity of your research may be reduced as a result.

You will demonstrate the following:

- PhD or equivalent degree in a relevant subject.
- An understanding of the BDI's mission, the capacity to develop a clear vision for its future, and the proven ability to develop, plan, and implement the BDI's strategic aims.
- The demonstrable ability to provide strong leadership and vision across a range of academic disciplines, to enthuse and inspire, to promote excellence in teaching and research, a commitment to public engagement with science, and to create an environment in which these can all flourish and excel.
- Demonstrate a clear understanding of the impact and opportunities of machine learning and artificial intelligence, and other analytic approaches, in biomedical research.
- An up-to-date understanding of the computational needs of researchers in biomedical data science and the information governance and security needs of data controllers, with sufficient knowledge of the landscape to oversee the biomedical research computing infrastructure.
- Being of such senior standing as to have credibility within the BDI, affiliated departments, and University, and to represent the BDI across the wider national and international community and with external stakeholders.
- The ability and enthusiasm to support interdisciplinary science and to develop productive interactions with scientists, both within the BDI and the wider University of Oxford.
- A strong record of obtaining funding and evidence of providing strategic leadership in a research environment.
- Excellent team leadership and communication skills, an innovative mind-set, the ability to delegate effectively, and the ability to use outstanding advocacy, influencing, and negotiating skills to effect change.
- The ability to contribute to the academic endeavour and culture of a world-class academic department committed to excellence, diversity and equality.

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The Location

Oxford as a place to live and work

The University has been part of the city for at least 800 years and is both an integral part of its fabric and the beneficiary of its support. While spires and towers, libraries and laboratories, and museums and gardens shape the look and life of the city, they could not exist in isolation from Oxford itself.

The University of Oxford contributes around £5.8 billion to the UK economy, and supports more than 50,000 full time jobs. Globally, the impact is £7.1 billion. The University is also an important regional contributor, adding £2.3bn a year to the Oxfordshire economy and supporting 33,700 jobs in the county.

Events and Festivals

The city hosts a series of events and festivals throughout the year including:
- Oxford Science Festival, a three-week festival in March, which aims to engage and enthuse people about science
- Oxford Literary Festival, a week-long literary festival held in venues across Oxford in late March or early April
- Artweeks, a visual arts festival held during May, when artists and crafts people open their homes and studios to the public
- Oxford Pride, a one week festival in June, which brings together lesbian, gay, bisexual, transgender and transsexual communities

Museums

Oxford's museums, including the Ashmolean, Pitt Rivers, Museum of Natural History and the Museum of the History of Science, contain collections of international importance. Each of the University's museums has its own education service to develop programmes to increase public access to the collections.

Culture

The collegiate University has a long and distinguished reputation in music. Some college choirs, such as the Christ Church, Magdalen and New College choirs, can be traced back centuries. Oxford Philomusica is the University's professional orchestra in residence, while the Oxford University Orchestra is a student orchestra of professional calibre. Green Templeton is a more recent hub of musical activity with equipment and practice facilities, regular performances and a Big Band.

The city also has a thriving music scene. Jazz venues include The Spin at the Wheatsheaf (High Street), while the Oxford O2 Academy (Cowley Road) hosts both local and international bands. Oxford Contemporary Music promotes a wide range of new music, from contemporary classical music to experimental rock and world music.

Parks and Gardens

Oxford boasts a large amount of green space, including beautiful riverside walks, the University Parks, the oldest botanic garden in the country, as well as college gardens including around the eighteenth century Radcliffe Observatory at Green Templeton.

Six miles south-east of the city, you can enjoy Harcourt Arboretum, which contains one of the finest collections of mature trees in the country. Entrance is free on presentation of a University Card. Wytham Woods, a 400-hectare expanse of woodland and grassland, lies three miles north-west of Oxford and can be reached via Wolvercote or the northbound A34.

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University Benefits, Terms and Conditions

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, flexible working options, travel discounts including salary sacrifice schemes for bicycles and electric cars and other discounts. Staff can access a huge range of personal and professional development opportunities. See https://hr.admin.ox.ac.uk/staff-benefits

Employee Assistance Programme

As part of our wellbeing offering staff get free access to Health Assured, a confidential employee assistance programme, available 24/7 for 365 days a year. Find out more https://staff.admin.ox.ac.uk/health-assured-eap

University Club and sports facilities

Membership of the University Club is free for University staff. It offers social, sporting, and hospitality facilities. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool. See www.club.ox.ac.uk and https://www.sport.ox.ac.uk/.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See https://welcome.ox.ac.uk/

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependents. See https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme

Relocation

Subject to UK tax regulations and the availability of funding, a relocation allowance may be available.

Family-friendly benefits

We are a family-friendly employer with one of the most generous family leave schemes in the Higher Education sector (see https://hr.web.ox.ac.uk/family-leave). Our Childcare Services team provides guidance and support on childcare provision, and offers a range of high-quality childcare options at affordable prices for staff. In addition to 5 University nurseries, we partner with a number of local providers to offer in excess of 450 full time nursery places to our staff. Eligible parents are able to pay for childcare through salary sacrifice, further reducing costs. See https://childcare.admin.ox.ac.uk/.

Supporting disability and health-related issues (inc menopause)

We are committed to supporting members of staff with disabilities or long-term health conditions, including those experiencing negative effects of menopause. Information about the University's Staff Disability Advisor, is at https://edu.admin.ox.ac.uk/disability-support. For information about how we support those going through menopause see https://hr.admin.ox.ac.uk/menopause-guidance

Staff networks

The University has a number of staff networks including for research staff, BME staff, LGBT+ staff, disabled staff network and those going through menopause. Find out more at https://edu.admin.ox.ac.uk/networks

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The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is run by volunteers that aims to assist the partners of new staff settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk.

Research staff

The Researcher Hub supports all researchers on fixed-term contracts. They aim to help you settle in comfortably, make connections, grow as a person, extend your research expertise and approach your next career step with confidence. Find out more https://www.ox.ac.uk/research/support-researchers/researcher-hub

Oxford's Research Staff Society is a collective voice for our researchers. They also organise social and professional networking activities for researchers. Find out more https://www.ox.ac.uk/research/support-researchers/connecting-other-researchers/oxford-research-staff-society

Important information for candidates

Data privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants. The University's Policy on Data Protection is available on the University's Compliance webpages.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at grade RSIV/D35 and clinical equivalents E62 and E82, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at: https://hr.admin.ox.ac.uk/the-ejra.

For existing employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: https://hr.admin.ox.ac.uk/the-ejra.

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

How to Apply

Applications must include:

- Your full contact details including email and full postal addresses, and a telephone number
- A cover letter or supporting statement outlining how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependents).
- A full CV and publications list
- The name, institution and contact details (e-mail address and telephone number) of precisely two referees and an indication of whether we can contact them immediately.

Please note that references may be taken up before shortlisting, and the University will assume that it is free to approach your referees at any stage unless your application specifies otherwise. If, therefore, you would prefer a referee or referees to be approached only with your specific permission, or if you would prefer them to be approached only if you are being called for interview, then you must state this in your application, alongside the details of the relevant referee(s).

If you are shortlisted but only Oxford references are available for you, you will be asked at a later stage to provide the name of an additional referee outside Oxford.

To enquire about a confidential conversation or send a completed applications, please contact Natalie Derry at nderry@wittkieffer.com Tel: +44 (0) 7408 851596 or Julia Anderson at janderson@wittkieffer.com Tel: +44 740 886 5130

Applications close at 12 noon on Monday 10 March 2025.

All applications will be acknowledged after receipt and will be considered by the selection panel as soon as possible after the closing date. The panel is free to search for other candidates at this or any subsequent stage in its proceedings. All shortlisted candidates will be interviewed and will be asked to give a short presentation to the panel as part of the interview. The panel's decision will be communicated as soon as possible after the interview but in some cases there may be a delay while deliberations are ongoing.

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