

Reporting Summary

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Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

n/a	Confirmed
☐	☒ The exact sample size (<i>n</i>) for each experimental group/condition, given as a discrete number and unit of measurement
☐	☒ A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
☒	☐ The statistical test(s) used AND whether they are one- or two-sided <i>Only common tests should be described solely by name; describe more complex techniques in the Methods section.</i>
☒	☐ A description of all covariates tested
☐	☒ A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons
☒	☐ A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
☒	☐ For null hypothesis testing, the test statistic (e.g. <i>F</i> , <i>t</i> , <i>r</i>) with confidence intervals, effect sizes, degrees of freedom and <i>P</i> value noted <i>Give P values as exact values whenever suitable.</i>
☒	☐ For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
☒	☐ For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
☒	☐ Estimates of effect sizes (e.g. Cohen's <i>d</i> , Pearson's <i>r</i>), indicating how they were calculated

Our web collection on [statistics for biologists](#) contains articles on many of the points above.

Software and code

Policy information about [availability of computer code](#)

Data collection	No software was used
Data analysis	No software was used

For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors and reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Portfolio [guidelines for submitting code & software](#) for further information.

Data

Policy information about [availability of data](#)

All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our [policy](#)

As of February 2025, the three databases we referenced are open and free to access online. Below we provide details about how to access the legal cases and entries we reference in this paper. Because AIAAIC and the litigation trackers are living databases—actively updated and maintained by the community—they could contain different information than what we reviewed in February 2025.

We reference legal cases and entries through unique identifiers in each database. For DAIL and the O'Neill Institute, we reference the case names, which can be used as a keyword to locate the entries in these databases. DAIL can be accessed by: <https://blogs.gwu.edu/law-eti/ai-litigation-database/>. The O'Neill Institute can be accessed by: <https://litigationtracker.law.georgetown.edu/litigation/>

Referencing and Accessing Entries from the AIAAIC:

The AIAAIC has multiple kinds of databases. The "Incidents Database" tracks reported incidents of harms; The "Systems Database" summarizes ethical issues for specific AI systems and contains links to entries in the Incidents Database. For example, the Systems Database has an entry for the nH Predict system and contains links to each of the entries in the Incidents Database that are related to the nH Predict system. To avoid duplicate entries and to center harms rather than systems, we included the pages from the Incidents Database, but excluded the entries from the Systems Database.

For the AIAAIC, we use the AIAAIC ID number, used to track entries in the AIAAIC's Incidents Database. To access the Incidents database, begin at the [AIAAIC's main page](https://www.aiaaic.org) (<https://www.aiaaic.org>). Navigate to the "AIAAIC repository" tab and select "AI, Algorithmic, and Automation Incidents" from the drop down. Then click on "Access Database", which leads to a Google Sheet. Select the "Incidents" tab. The first column of the spreadsheet says "AIAAIC ID\#", which match the ID's listed in this publication.

Research involving human participants, their data, or biological material

Policy information about studies with [human participants or human data](#). See also policy information about [sex, gender \(identity/presentation\), and sexual orientation](#) and [race, ethnicity and racism](#).

Reporting on sex and gender

N/A

Reporting on race, ethnicity, or other socially relevant groupings

N/A

Population characteristics

N/A

Recruitment

N/A

Ethics oversight

N/A

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☐ Life sciences

☒ Behavioural & social sciences

☐ Ecological, evolutionary & environmental sciences

For a reference copy of the document with all sections, see nature.com/documents/nr-reporting-summary-flat.pdf

Behavioural & social sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description

Qualitative study - We adopted a case study approach to thematically analyze real-world cases of reported harms and litigation for AI tools impacting doctors' tasks in patient care.

Research sample

To identify legal cases we searched two databases, the Database of AI Litigation (DAIL) (<https://blogs.gwu.edu/law-eti/ai-litigation-database/>) and the Health Litigation Tracker (<https://litigationtracker.law.georgetown.edu/>), both known to track health care litigation in the United States including lawsuits involving AI tools in healthcare delivery. Because significant harms may not be litigated, we also searched for reported harms through the AIAAIC Database (<https://www.aiaaic.org/aiaaic-repository/ai-algorithmic-and-automation-incidents>); specifically, the "Incidents" tab in the database: https://docs.google.com/spreadsheets/d/1Bn55B4xz21-_Rgdr8BBb2ltOn_4rzLGxFADMIVWOPYI/edit?gid=888071280#gid=888071280), a public interest initiative that collects and classifies issues driven by and relating to AI, algorithms, and automation. The AIAAIC is regularly cited and mentioned by academic, non-profit, advocacy, government, and commercial research institutes, associations, and agencies

Sampling strategy

See data collection for full description

Data collection

We selected a subset of 31 case studies that met the follow pre-established criteria: (a)~if patient care was or could be impacted, (b)~if the harm impacts a task physicians normally take in patient care; (c) if the lawsuit or harm took place between 2016-2024; and (d)~if the harm or legal case occurred in the United States. We only considered entries in the United States because international laws and litigation processes can differ greatly.

In the U.S., physicians are legally responsible for protecting patient privacy, so we included entries related to privacy cases. We also included entries where non-physicians use AI tools to impact physicians' tasks. For example, we include cases where insurance companies use benefits payments to deny care for patients because these tools provide recommendations about necessary care that effectively override physicians' clinical decision-making, resulting in a harm impacting a task that physicians normally take.

We found entries tied to the deployment of AI tools with social workers and nurses, but we excluded these cases either because they did not take place in the U.S. or they did not impact physicians' medical decision making in a clinical setting. While their roles in patient care and needs from AI tools are important, we restricted the scope of my current study to all cases impacting patient care by U.S. physicians.

The first author manually reviewed all entries in the AIAAIC database resulted in the initial selection 2207 entries reported to occur between 2016-2024. The first author screened for relevancy by reviewing the titles of each entry, leaving a total of 93 entries for further review. Each remaining entry was screened for the eligibility criteria based on the paragraph summary that each entry has. Additional news articles or other links on a database entry were reviewed to clarify impacts to patient care or impacts on clinical task as needed.

This resulted in a final case set of 19 entries about harms (AIAAIC0106; AIAAIC0159; AIAAIC0316; AIAAIC0633; AIAAIC1272; AIAAIC0406; AIAAIC1509; AIAAIC0758; AIAAIC0668; AIAAIC1785; AIAAIC0647; AIAAIC1251; AIAAIC1841; AIAAIC1252; AIAAIC1720; AIAAIC1900; AIAAIC1061; AIAAIC1838; AIAAIC0248).

To search the O'Neill Institute's Health Litigation tracker, the first author manually reviewed 195 entries that take place from 2017-2024. The first author screened for relevancy by reviewing the "Why this Matters" and "Potential Impact" summaries of each entry, referencing the full entry to clarify impacts to patient care or impacts on clinical tasks as needed.

To search DAIL, the first used the "Applications" field to identify potential, relevant cases. Each entry in DAIL is tagged with at least one of 48 "Applications" fields. Based on the range of harms and AI tools documented in the AIAAIC, the first author used combinations of the following nine options for the "Applications" field to search widely for potential, relevant legal cases: Biometrics Data, Disabilities Benefits, DNA Analysis, Fraud, Generative AI, Health, Agentic AI, Privacy, Public Benefits. This search yielded 171 entries for legal cases from DAIL. The first author screened for relevancy by reviewing the "Brief Description" field of each database entry. If needed, entries were expanded to view additional legal documents or primary sources to identify if and how the cases met our criterion.

The final case set included 12 entries about legal cases (DAIL: Dinerstein v. Google, LLC; Ark. Dep't of Human Servs. v. Ledgerwood; K.W. v. Armstrong; Michael T. v. Bowling; C.S. et al v. Saiki; Barrows et al v. Humana, Inc.; Estate of Gene B. Lokken et al. v. UnitedHealth Group, Inc. et al.; Kisting-Leung v. Cigna Corp.; Van Pelt v. Cigna Group; O'Neill: Humana Inc. et al. v. Kennedy et al.; Estate of Gene B. Lokken et al. v. UnitedHealth Group, Inc. et al.; Kisting-Leung v. Cigna Corp.)

After selection, the first author manually reviewed all entries selected. For both legal databases, the first author also reviewed public sources about each case, including legal documents, and other primary sources. If it was a legal case, the first author noted the general legal issue in question (e.g. malpractice, privacy), the primary defendants and prosecutors, and, if available, other complaints or concerns outside of the issue represented in the litigation. If it was a harm, the first author noted the general issue for which the tool was criticized, and the primary concern or harm from the system's application.

The research team then used an iterative approach to identify and categorize each legal case or harm according to the main physician task impacted based on a list of 10 definitions and examples of tasks physicians undertake when caring for patients, which the research team co-created with a collaborating physician (see the Appendix "Physicians' Tasks" for a full list with examples). If a case or harm overlapped with more than one physician task, we coded it with all related tasks.

Timing	The first author conducted two separate full reviews of database entries marked in DAIL, the Health Litigation Tracker, and AIAAIC as taking place from 2016-2024; the first review of the data took place in August 2024, the second review of the data took place in February 2025
Data exclusions	See Data collection for full information
Non-participation	N/A
Randomization	N/A

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a	Involved in the study
☒	☐ Antibodies
☒	☐ Eukaryotic cell lines
☒	☐ Palaeontology and archaeology
☒	☐ Animals and other organisms
☒	☐ Clinical data
☒	☐ Dual use research of concern
☒	☐ Plants

Methods

n/a	Involved in the study
☒	☐ ChIP-seq
☒	☐ Flow cytometry
☒	☐ MRI-based neuroimaging

Plants

Seed stocks

N/A

Novel plant genotypes

N/A

Authentication

N/A