Paper Summary

<!--META_START-->

Title: Decision making for health-related research outcomes that alter diagnosis: A model from paediatric

Authors: Jessica C. Pickles, Kristian Aquilina, Jane Chalker, Christine Dahl, Abel Devadass, Kshitij Mank

DOI: https://doi.org/10.1111/nan.12994

Year: 2024

Publication Type: Journal

Discipline/Domain: Neuropathology, Medical Ethics, Oncology

Subdomain/Topic: Paediatric brain tumours, health-related findings, diagnostic revision frameworks

Eligibility: Eligible

Overall Relevance Score: 85

Operationalization Score: 80

Contains Definition of Actionability: Yes (explicit and implicit)

Contains Systematic Features/Dimensions: Yes

Contains Explainability: Yes

Contains Interpretability: Partial

Contains Framework/Model: Yes

Operationalization Present: Yes

Primary Methodology: Mixed Methods (case review with expert multidisciplinary team, framework develop

Study Context: Archival paediatric brain tumour cohort (UK), retrospective diagnostic reassessment unde

Geographic/Institutional Context: United Kingdom; BRAIN UK virtual tissue bank; Great Ormond Street H

Target Users/Stakeholders: Researchers, clinical MDTs, pathologists, neuro-oncologists, ethics committe

Primary Contribution Type: Conceptual framework and decision-making model for reporting clinically acti

CL: Yes

CR: Yes

FE: Yes

TI: Yes

EX: Yes

GA: Partial

Reason if Not Eligible: N/A

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Decision making for health-related research outcomes that alter diagnosis: A model from paediatric brain

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Discipline/Domain:

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Subdomain/Topic:

Paediatric brain tumours, health-related findings, diagnostic revision frameworks

Contextual Background:

The study addresses how to determine when research findings from retrospective analyses of archival di

Geographic/Institutional Context:

United Kingdom; BRAIN UK virtual tissue bank; Great Ormond Street Hospital; multiple UK neuropatholo

Target Users/Stakeholders:

Researchers, clinical MDTs, pathologists, neuro-oncologists, ethics committees, tissue banks

Primary Methodology:

Mixed Methods — review of 73 reclassified paediatric brain tumour cases via surrogate MDT, qualitative

Primary Contribution Type:

Conceptual framework and operational model for assessing and reporting clinically actionable diagnostic

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General Summary of the Paper

This study develops a structured decision-making framework for determining whether revised diagnoses

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Eligibility

Eligible for inclusion: **Yes**

How Actionability is Understood

Actionability is defined as the potential for research findings to lead to meaningful changes in active patie

> “Health-related translational research studies… may uncover incidental or pertinent findings with clinica

> “Clinical actionability was initially determined by identifying theoretical changes to active patient manag

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What Makes Something Actionable

- Evidence supports a **change in active patient management** (e.g., altered follow-up, treatment de-esc
- Patient is **likely alive**.
- **Time since diagnosis** is short enough that changes could affect management (≤10 years generally).
- No subsequent pathology reviews have already updated the diagnosis.
- Sufficient evidence exists to **validate findings in a clinical setting**.

How Actionability is Achieved / Operationalized

- **Framework/Approach Name(s):** Framework A (Determine Clinical Actionability), Framework B (Mech
- **Methods/Levers:** Surrogate MDT case review; triaging by survival likelihood, elapsed time, and clinic
- **Operational Steps / Workflow:**
  1. MDT identifies potential management change.
  2. Assess disease progression risk, survival likelihood, and elapsed time.
  3. Check for subsequent pathology updates.
  4. If actionable, report to tissue bank (BRAIN UK) → clinical validation → neuro-oncology MDT discussio
- **Data & Measures:** WHO 2016 CNS classification; linked-anonymised case data; tumour-specific out
- **Implementation Context:** UK archival paediatric CNS tumour research under BRAIN UK ethical appr

> “Framework for assessing actionability and managing diagnostic HRFs… Any research findings would

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Dimensions and Attributes of Actionability (Authors’ Perspective)

- **CL (Clarity):** Yes — Must be clearly linked to patient management change.
- **CR (Contextual Relevance):** Yes — Decision depends on tumour type, prognosis, and elapsed time.
- **FE (Feasibility):** Yes — Only feasible if patient is alive and institutional pathways exist for feedback.
- **TI (Timeliness):** Yes — Feedback only useful if within time window to affect care.
- **EX (Explainability):** Yes — MDT discussion requires clear explanation of clinical significance.
- **GA (Goal Alignment):** Partial — Alignment with patient benefit is implied but not explicitly formalised.
- **Other Dimensions Named by Authors:** Analytical validity; clinical utility; ethical appropriateness.

Theoretical or Conceptual Foundations

- WHO CNS tumour classification updates
- UKRI/MRC framework on health-related findings
- Ethical guidelines from CIOMS and Declaration of Helsinki

Indicators or Metrics for Actionability

- Time since diagnosis (<10 years typical threshold)
- Patient survival likelihood
- Predicted change in tumour risk classification
- Evidence of relapse or follow-up pathology

Barriers and Enablers to Actionability

- **Barriers:** Historic/poor prognosis cohorts; lack of patient survival; absence of clinical validation capac
- **Enablers:** MDT expertise; tumour-specific outcome knowledge; linked anonymisation allowing follow

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Relation to Existing Literature

Authors note that prior archival tissue studies rarely address feedback of revised diagnoses; most literatu

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Summary

The paper offers a clear, ethically grounded, and operationally detailed framework for determining whethe

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Scores

- **Overall Relevance Score:** 85 — Clear conceptualisation of actionability and explicit feature set; grou
- **Operationalization Score:** 80 — Provides detailed frameworks and steps for implementation, though

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Supporting Quotes from the Paper

- “[Clinical actionability was] determined by identifying theoretical changes to active patient management.
- “Patients who were over 10 years from their initial diagnosis were considered unlikely to require a chang
- “Framework… discussed by the appropriate MDT before reporting back to families” (p. 5)

Actionability References to Other Papers

- MRC Framework on feedback of health-related findings (2014)
- WHO CNS tumour classifications (2016, 2021)

- Prior work on genomic predisposition in paediatric CNS tumours (e.g., Waszak et al., 2018; Zhang et al.