

# **Ethical issues**

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**Scientific publication**

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*The National Medical Journal of India*

# Background: *Why?*

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- **Ethics: Major concern**
- **Ethical misconduct: Increasing instances**
  - Research, publication
- **Lack of awareness**
- **Multiple players, multiple issues**

# Issues

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- *Research ethics*
  - **Privacy and confidentiality of patients**
  - **Informed consent, Ethical approval**
  - **Studies: justified, planned, designed**
  - **Sponsored studies: Control of data**
  - **Registering clinical trials**

# Issues (contd.)

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- **Publication ethics**
  - **Peer review**
    - **Privacy/confidentiality (authors/reviewers)**
  - **Conflicts of interest**
  - **Authorship**
  - **Misconduct and fraud**

# The Editorial Process

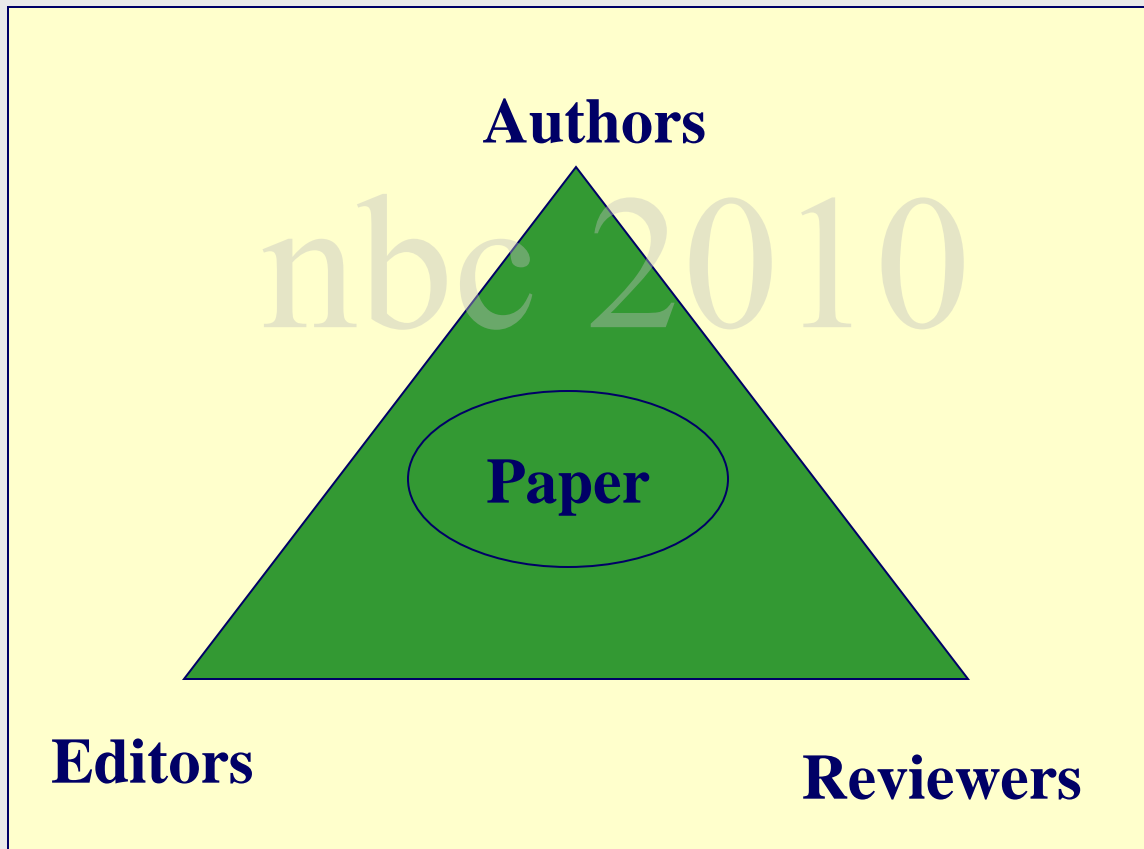
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**Peer review**

# Process and the players

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# Process

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- **Submission**
- **Peer review**
  - **External**
  - **In house**
  - **Decision making**
- **Publication**

# Manuscript submission

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## Signatures of all authors

- **Electronic submission systems send emails acknowledging submission to all authors**
- **Read and approve contents**

# Manuscript submission

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**Not under consideration elsewhere**

- **Discourage dual submission**
- **Peer reviews: multiple**

# Manuscript submission

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- **Information on**
  - **Prior publication of part/abstract**
  - **Presented at conference**

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# Manuscript submission

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- **Permission**

- to reproduce previously published material
- from patients for clinical photographs

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# The Editorial Office

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- **In-house assessment**
  - Quality
  - Content
  - Topicality
- **Why?**
  - Peers (good): valuable commodity
  - Use: selectively
- **External peer review: Yes**
  - Reviewer?

# Peer review

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- “can be said to have existed ever since people began to identify and communicate what they thought was new knowledge...because peer review (whether it occurs before or after publication) is an essential and integral part of consensus building and is inherent and necessary for the growth of scientific knowledge”

*Kronick DA  
Peer review in 18<sup>th</sup>-century scientific journalism  
JAMA 1990;263:1321-2*

# Early days

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- *Philosophical Transactions*, 1665 (?1752)  
(Royal Society, London)
- *Journal de Scavans*, 1702
- Royal Society of Edinburgh's Medical Essays and Observations, 1731
- Literary and Philosophical Society, Manchester, 1785

*Some form of peer review*

# Early days

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- **Format**
  - Sent to members of the society
  - Committee to oversee process
- **Assumptions, implications**
  - Honesty of author
  - Article: Responsibility of author
  - ‘Novelty, ingenuity or importance’

# Early days

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- **Skepticism: role, purpose**
- *Jenner's paper on smallpox rejected*
- *Thomas Huxley*
  - “paper I have sent...original and of some importance...referred to the judgement of my particular friend...will not be published. ...not a word against it...pooh-pooh it to dead certainty ...regarded as the greatest authority...no one tread on his heels...I must manouevre a little to get my poor memoir kept out of his hands”

# Need?

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- **Expansion of knowledge and specialization**
- **Not enough knowledge base within journal offices**
- **Haphazard acceptance and development of the process: 1800s, early 1900s**
- ***BMJ* (external) vs. *Lancet*, *JAMA***

# Acceptance of the process

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- *1940s*
  - More widespread use
  - External expert
- *1980s*
  - Three-quarters of all journals
  - Some variations
  - Peer review congresses

Lock S. A difficult balance. 1985

# Peer review: Criticisms

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- **Not reliable**
- **Bias**
- **Not reproducible**
- **No standardization**
- **Secrecy: No accountability**
- **Innovations: Little chance of acceptance**
- **Conflict of interest: author and reviewer**
- **Delays publication**
- **Does not improve paper**
- **Expensive**

# Selection of reviewers

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## *How?*

- **Database**
- **Known individuals**
- **Authors suggestions**
- **References**

## *How many?*

- **Usually 2**
- **May go to a statistical or methodological expert**

# Other additions

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- **Statistical reviews**
  - Decrease errors, scarce manpower resource
- **Number of reviewer**
  - One to four, decrease bias
  - Problems for editors
- **Methodological experts**
  - Protocol reviews, decrease errors prior to trial

# Reviewers' role

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## *Editor's expectations*

- **Fair, honest, detailed comments**
- **Strengths and weaknesses**
- **Constructive criticism**
- **Help improve the paper**
- **Within a reasonable period: 3-4 weeks**

# Assessment of paper

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- **New?**
  - **Originality**
- **True?**
  - **Methods appropriate, analysis, interpretation**
- **Important?**
  - **Relevance, context, generalizability**

# The 'best' reviewer

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- **'Young'; <45 years of age**
- **Top institution**
- **Known to the editor**
- **Training in epidemiology and statistics**

# Peer review

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- **Closed**
  - Author blinded
  - Author and reviewer blinded
- **Open**
  - Transparency

# Innovations

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- **Blinding**
  - Bias, ? Improve quality, more effort, expensive
- **Electronic**
  - Wider opinion, needs regulation
- **Open**
  - Accountability

*Faster, cheaper*

# Innovations

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- **Structured**
  - Checklist, standardization, ?reproducible
- **Guidelines**
  - Outline, framework for assessment
- **Training**
  - Improve awareness, quality

# Quality of peer review

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- **No formal training available**
- **Attempts to improve quality**
  - **Blinding reviewers**
  - **Rating reviewers**
  - **Checklists**
  - **Workshops for reviewers**

# Effect of blinding reviewers

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- **Expectation**
  - Decrease bias
- **Facts**
  - No apparent effect on quality, time for review
  - **Better quality after blinding**
    - Quality of reviews higher for blinded manuscripts (3.5 vs 3.1 on a 5-point scale)
      - McNutt JAMA 1990
- **Difficulty**
  - Blinding reviewers, esp. in specialty journals

# Open peer review

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- **Identity of authors and reviewers known**
- **Arguments in favor**
  - **Increased accountability**
  - **Fairness**
  - **Transparency**
  - **Leads to better quality reviews**
  - **No evidence that anonymous peer review is superior**

# Advantages

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- **Increases credit and accountability for peer reviewing**
  - **Most reviewers agreed to be identified to authors, and most of the authors were in favor of open peer review**
- **Unjust that authors should be ‘judged’ by reviewers hiding behind anonymity**
- **Either both should be unknown or both known**

# Identity of reviewers known

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- **If reviewers have to sign their reviews**
  - **Put more effort**
  - **Produce better reviews**
  - **(? blunt their opinions for fear of causing offence)**
  - **More reviewers will decline to review if their identity will be revealed to authors**

# Rating of reviewers by editors

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- **Negative impact on poor quality reviewers**
  - Subsequent reviews were of lower quality
  - Declined to review after the rating
- **No impact on average quality reviewers**
  - Callaham. *JAMA* 2002

# Use of checklist

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- **Beneficial especially to new reviewers**

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# Authors' perception

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- **Rejected articles**
  - Critical of review
- **Rejected without review less satisfied than those rejected after review**

## Editors role

- **Mitigate the sting of rejection so that authors will use the reviews to improve their research and writing**
  - Weber JAMA 2002

# Post-publication peer review

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**Readers assume that articles in peer-reviewed journals are scientifically sound**

- **Evidence to the contrary**
- **Misleading work identified after publication**
- **“Ultimate interpretation and decision about the value of an article rests with the reader”**
- **Publishing corrections, retractions, and letters critical of articles**

# The present

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- Different processes
- ‘More rigorous’ assessment
- Attempts at decreasing flaws
- Innovations: *evolve better system*
  
- *Has this improved the quality?*
  - Reviews
  - Manuscripts