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Review article

Equity in healthcare resource allocation decision making: A systematic review

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ABSTRACT

Objective: To identify elements of endorsed definitions of equity in healthcare and classify domains of these definitions so that policy makers, managers, clinicians, and politicians can form an operational definition of equity that reflects the values and preferences of the society they serve.
Design: Systematic review where verbatim text describing explicit and implicit definitions of equity were extracted and subjected to a thematic analysis.
Data sources: The full holdings of the AMED, CINAHL plus, OVID Medline, Scopus, PsychInfo and ProQuest (ProQuest Health & Medical Complete, ProQuest Nursing and Allied Health Source, ProQuest Social Science Journals) were individually searched in April 2015.
Eligibility criteria for selecting studies: Studies were included if they provided an original, explicit or implicit definition of equity in regards to healthcare resource allocation decision making. Papers that only cited earlier definitions of equity and provided no new information or extensions to this definition were excluded.
Results: The search strategy yielded 74 papers appropriate for this review; 60 of these provided an explicit definition of equity, with a further 14 papers discussing implicit elements of equity that the authors endorsed in regards to healthcare resource allocation decision making.
Five key themes emerged: i) Equalisation across the health service supply/access/outcome chain, ii) Need or potential to benefit, iii) Groupings of equalisation, iv) Caveats to equalisation, and v) Close enough is good enough.
Conclusions: There is great inconsistency in definitions of equity endorsed by different authors. Operational definitions of equity need to be more explicit in addressing these five thematic areas before they can be directly applied to healthcare resource allocation decisions.

Distribution of resources within the healthcare sector may follow many different paths depending on the stated aims or goals of that health system. Utilitarian principles dictate that resources should be allocated in such a way as to maximise the overall health and wellbeing of a society (Culyer, 2001). Egalitarian principles dictate that all people are equal and that inequalities between groups should be removed (Culyer, 2001). These and other related principles of healthcare resource allocation have had a dramatic effect on health system structures and health outcomes when operationalised through a range of different healthcare policies and resource allocation decision making mechanisms worldwide (Jones et al., 2014; Marmot et al., 2008; Thomas, 1993).

An important issue in seeking to understand whether different health systems promote equity lies in clearly defining what equity means. Equity in healthcare has been argued to be a multidimensional concept encompassing multiple considerations or domains (Culyer and Wagstaff, 1993; Sen, 2002; Tsuchiya and Dolan, 2009; Whitehead, 1991). There are many papers that have described the vast array of domains that could potentially be taken into account when forming an operational definition of equity that can be used for policy formation. However, it is unclear which of these domains are consistently included in operational definitions of equity used to guide health service policy and resource allocation.

There are an infinite number of ways that people could postulate

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that health care resources could be allocated. However, it is only once people argue that resources should be allocated in a particular manner that they are confirming that a particular mechanism has sufficient merit to be used in real life health care resource allocation decision making. The purpose of this review is twofold. The first is to identify original definitions of equity that have been endorsed (i.e. the author advocates that this definition should be applied) in published, academic literature. The second is to categorise the domains of equity included within these publicly endorsed definitions to enable decision makers to clearly express the operational definitions of equity that they are applying to their resource allocation decisions and policies. This work is important as policy formation in the absence of a clear, operational definition of equity can lead to confusion on behalf of health professionals as to who should and should not be provided with a particular program, potentially leading to inefficient and inequitable program delivery (Haines et al., 2010).

1. Methods

A systematic review was conducted of the published literature to identify definitions of equity and to code elements of these definitions into domains.

1.1. Inclusion criteria

Studies were included if they provided an original, explicit or implicit definition of equity in regards to healthcare resource allocation decision making. Papers that only cited earlier definitions of equity and provided no new information or extensions to this definition were excluded from the review.

1.2. Search strategy and selection of papers

The full holdings of the AMED, CINAHL plus, OVID Medline, Scopus, PsychInfo and ProQuest (ProQuest Health & Medical Complete, ProQuest Nursing and Allied Health Source, ProQuest Social Science Journals) were individually searched in April 2015, using the search term of 'health*', with 'resource allocation', 'decision making', 'priority setting', or 'rationing', and 'equit*', 'medical ethics', 'fair*', or 'social value'. Two reviewers independently screened the title and abstracts of the search results generated (HL/MS). Differences in screening were discussed between these reviewers and resolved through joint consultation that resulted in consensus. The title and abstract screening exclusion criteria included papers based on; i) comparative efficacy studies or health conditions which were not focused on the allocation of resources, ii) resource allocation at a patient level not at a health service level (i.e. organ transplant suitability), iii) no rationale or discussion of equitable/fair allocation of health resources, iv) end of life/palliative care decisions by patient or family members, v) healthcare issues not related to resource allocation (including those related to health technology assessment), vi) allocation decisions not related to health resources, vii) foreign aid of health resources between countries following a natural disaster or war/conflict, ix) living organ donation, x) abortion, xi) non English language publication, xii) other.

The full text of all articles that passed the abstract/title screening were then independently reviewed by the two reviewers (HL/MS). These reviewers extracted any explicit or implicit definitions of equity presented in the text. Explicit definitions were those preceded by statements indicating that a definition of equity was being presented (i.e. "Equity is … "). Implicit definitions were statements that described equitable resource allocation principles or outcomes but were not specifically labeled by authors as being a definition of equity. If one reviewer identified text that they felt presented an explicit or implicit definition of equity, but the second reviewer disagreed, then a third reviewer (TH) then reviewed the relevant text and made a determination. Reference list checking was completed to identify primary sources when a paper cited an earlier definition of equity to ensure the original author and definition was included within the analysis. The reference lists of all included manuscripts were searched manually by the lead author for any additional studies of relevance not detected in the original search.

1.3. Data extraction and analysis

Verbatim text describing explicit and implicit definitions was extracted and subjected to thematic analysis. Source papers were then reviewed in full during the thematic analysis to allow for appropriate consideration of the surrounding context within each text. Thematic analysis was employed for this review to allow the definitions of equity to be organised and structured into corresponding domains (themes) of equity (Braun and Clarke, 2006). A data driven method was adopted to allow for domains to emerge. Included papers were re-read and individual elements within each defintion were then coded. This process was done independently by two reviewers (HL/TH) and results were compared. Where the two reviewers could not agree on the domains the definitions described, a third reviewer (MS) was used to make a determination. The domains were then clustered into thematic areas by two investigators (HL/TH), which were then discussed with remaining investigators (MS/JM) to further refine the name and description of each domain.

2. Results

A flow chart of our search strategy yield is presented (Fig. 1). The search strategy yielded 74 papers for inclusion to review; 60 of these provided an explicit definition of equity with a further 14 papers discussing implicit elements of equity that the authors endorsed in regards to healthcare resource allocation decision making. The 74 definitions underwent thematic analysis by the two reviewers (HL/TH). This process led to complete agreement in the coding of full definitions into constituent components in 52 of 74 definitions. Many of the disagreements that occurred were marginal and were resolved with further clarification of our coding definitions, which were developed iteratively with the analysis. The dispute resolution approach employed (discussion between reviewers and involvement of a third reviewer, MS) led to the refining of the coding framework. Twenty-one separate domains from these definitions of equity were classified. Table 1 presents how each definition of equity was coded. These domains were clustered into five thematic areas that are now discussed individually.

2.1. Theme 1: Point of equalisation in the health service supply/access/outcome chain

This theme encompassed 12 domains that described points within the health service supply/access/outcome chain that could be equalised for different groups or individuals. This chain has been conceptualised in Fig. 2. It is a somewhat linear flow of actions beginning with the financing of health services, progressing through to the provision and uptake of these services, and culminating in the health states attained by people using these services. It is within this theme that the greatest amount of discrepancy exists between different definitions of equity provided.