Capturing what and why in healthcare innovation.

Abstract.

Understandings of innovation usually encompass multiple overlapping aspects, putting innovation terminology at risk of vagueness and over-use. However, innovation concepts are expected to remain powerful and useful in healthcare beyond the pandemic and into the future, so clarity will be helpful for effective leadership. To disentangle and disambiguate meanings within innovation, we offer a framework that captures and simplifies foundational substance within innovation concepts. Our method is an overview-review of innovation literature from the 5 years preceding Covid-19. 51 sources were sampled and analysed for explicit definitions of healthcare innovation. Drawing on broad themes suggested from previous reviews, and gathering specific themes emergent from this literary dataset, we focused on categorising the nature of innovations (the what) and reasons given for them (the why). We identified four categories of what (ideas, artefacts, practice/process, and structure) and ten categories of why (economic value, practical value, experience, resource-use, equity/accessibility, sustainability, behaviour-change, specific-problem solving, self-justifying renewal, and improved health). These categories reflect contrasting priorities and values, but do not substantially interfere or occlude each other. They can freely be additively combined to create composite definitions. This conceptual scheme affords insight and clarity for creating precise meanings, and making critical sense of imprecision around innovation. Improved communication and clear shared understandings around innovative intentions, policies and practices cannot but improve the chances of enhanced outcomes. The all-inclusive character of this scheme leaves space for considering the limits of innovation, and notwithstanding well-established critiques, provides a basis for clarity in ongoing usage.

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Capturing what and why in healthcare innovation.

Introduction

In recent decades, innovation has been seen as an imperative in healthcare.[1,2] Organisations have been expected to place innovation 'at the heart of the healthcare agenda'[3] making it central to clinical and business policy and strategy. Pre-2020, innovation was linked to economic survival via resource efficiency,[4,5] thought to facilitate job creation, recruitment and staff retention, and to improve service-user experience.[6,7] Innovation has remained central to accounts of pandemic responses and post-pandemic success.[8] Healthcare leaders can expect this terminology to remain powerful.

Nevertheless, 'innovation' is a problematic term; Page[9, p.217] asks '*...because something is new, is it really an innovation? If everything new is an innovation, nothing is.*' Others have noted that lacking precision, innovation becomes ambiguous and overused.[10-13] With an absence of clarity and consistency, innovation may confuse rather than clarify planning of developments and resource use in healthcare.[14]

Beneath general worries over far-reaching expectancies for 'innovation' in healthcare are specific debates. Dixon-Woods et al[15] suggest that processes badged as innovation can supress routine cooperation and cause unhelpful organizational challenge. Concerning the assumed positive effects of innovation, some argue there is little established gain,[16,17] or highlight the expensive, wasteful or harmful potentials of new treatments and technologies.[18,19] Niang et al's[20] recent call for a paradigm

shift away from techno-economic health innovation exemplifies the profound socio-economic significances revealed when innovation concepts are scrutinised.

In reviews of the sprawling literature on this topic, Länsisalmi et al's[21, p.70] groundbreaking analysis set an agenda 'to identify best intervention practices for developing innovation capability'. Subsequent reviews have developed critical understandings. Wass and Vimarlund[22] were interested in *who* can enact innovation within healthcare contexts. Relatedly, La Rocca[23] looked at innovation as social process, networked within and across organisational boundaries. Kimble and Massoud[14] distinguished authentic innovation from a general background of ongoing change. Illinca et al.[24] had also disaggregated innovation, urging organisations to ask *why* they need to innovate, *what processes* are used to innovate, *how* innovation disperses, and *who* drives it.

Beyond these valuable contributions that identify key issues for healthcare innovation, scope remains to further secure the foundations of meanings. Farchi and Salge[25] gave a deep historical documentary analysis of innovation concepts – but their exploration stops at 2015. We take a cue from them, from Illinca's[24] attention to *what* and *why* of innovation (and also Timmermans'[26] theorisation using *what* and *why* in broader management context). The *how* and *who* we see as higher-level questions dependent upon basic groundings of *what* and *why*. Notably, a what-and-why scheme is also broadly compatible with Donabedian's[27] structure-process-outcome model of healthcare institutions, further discussed below*.*

In this fast-moving field of talk and practice, we focus on the five years preceding the covid-19 pandemic (2015-2019 inclusive). This choice recognises the sudden disruption and unprecedented pace of healthcare organisational transformation that has occurred. New meanings around innovation might emerge from pandemic contexts. To understand any such changes as they crystallise, it will be helpful to have established conceptual benchmarks from previously. Supposing that expectations on healthcare leaders to support innovation continue, we demonstrate possibilities to clearly articulate what kinds of innovation are pursued. While accounts of *how* to implement and fine-tune innovations in context and *who* has the power to innovate will remain valuable, they will continue to depend upon clarity around the foundational *what* and *why*.
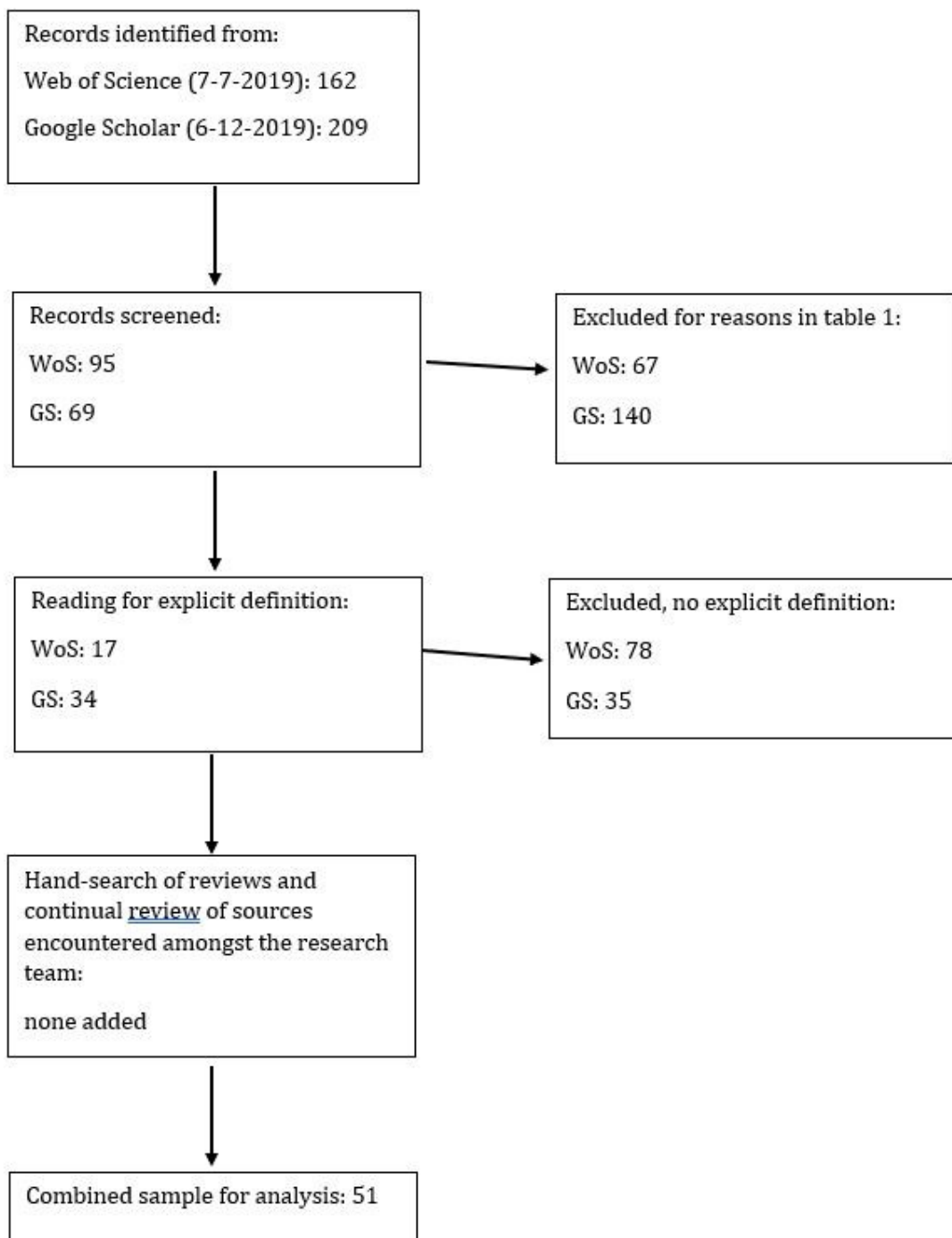
Methods

To review usage of innovation terminology in healthcare, we gathered and analysed explicit definitions of innovation from healthcare-context writers. We applied an 'overview' review method[28] with thematic analysis. This method is to identify, describe and categorise characteristics in literature rather than appraise, summarise or integrate findings.[29] Accordingly we did not attempt to appraise articles for quality, but focused solely on explicit definitions of innovation. We sampled selectively, searching key words 'innovation' and 'healthcare' in titles or keywords of journal articles from 2015 to 2019, with these initial inclusion and exclusion criteria (table 1):

Table 1:

Inclusion	Exclusion
- Original research articles	- Unpublished studies, student dissertations
- Published between 2015 and end of 2019;	- Conference proceedings
- Published in a healthcare related field;	- Text-book and non-peer-reviewed literature
- Published in an academic journal, and;	- Book chapters
- Written in English.	- Review articles, editorials, commentaries.

We searched Web of Science in phase 1 and Google Scholar in phase 2, for articles published within the selected period (figure 1).

Figure 1. Search Phases, Rejections and Exclusions

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┌─────────────────────────────────┐
│ Records identified from:        │
│                                 │
│ Web of Science (7-7-2019): 162  │
│                                 │
│ Google Scholar (6-12-2019): 209 │
└─────────────────────────────────┘
                │
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┌─────────────────────────┐        ┌───────────────────────────────┐
│ Records screened:       │        │ Excluded for reasons in table 1: │
│                         │ ─────▶ │                               │
│ WoS: 95                 │        │ WoS: 67                       │
│                         │        │                               │
│ GS: 69                  │        │ GS: 140                       │
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┌─────────────────────────────┐    ┌───────────────────────────────┐
│ Reading for explicit        │    │ Excluded, no explicit definition: │
│ definition:                 │    │                               │
│                             │ ──▶│ WoS: 78                       │
│ WoS: 17                     │    │                               │
│                             │    │ GS: 35                        │
│ GS: 34                      │    │                               │
└─────────────────────────────┘    └───────────────────────────────┘
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┌─────────────────────────────┐
│ Hand-search of reviews and  │
│ continual review of sources │
│ encountered amongst the     │
│ research team:              │
│                             │
│ none added                  │
└─────────────────────────────┘
                │
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┌─────────────────────────────────┐
│ Combined sample for analysis: 51 │
└─────────────────────────────────┘
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Ultimately we included 51 journal articles for analysis, their composition by year shown below (table 2):

Table 2:

Publication Year	Number of Articles	% of Total
2019	9	17.64
2018	10	19.6
2017	12	23.53
2016	9	17.64
2015	11	21.56

Analysis .

From our sampled sources we gathered all explicit and direct statements of meanings of innovation. As these accumulated we discussed possibilities of disaggregating and categorising them. Interested in concerns of *what, why, how* and *who* that emerged from earlier reviews of innovation concepts, we noticed that *what* and *why* concerns were always applicable to the definitions we encountered. Within those, various sub-categorisations emerged, discussed below. We did not look to discern implicit, associated or obscured meanings of innovation through deeper analytic reading, although this would be a viable intention for following studies.

Once committed to principles of *what* and *why*, we came to understand definitions of innovation as composite and separable into constituent parts. Principal amongst those parts were descriptive accounts of *what* would be innovated or innovative (including: ideas, objects, processes, structures) and what for, or *why* innovation is pursued (including: towards problem-solving, efficiency, etc). We developed a coding framework that was applied to the data by [*author details redacted*] with ongoing review and adjustment amongst the team.

Results.

The themes we identified to categorise different possibilities of *what* and *why* are tabulated below (tables 3a and 3b).

Tables 3a and 3b. Category Groupings.

What of Innovation:	Clarification, indicative examples
1) innovation in ideas	Acts of new imaginative creativity. eg. entrepreneurial ideas, or joining/modification of concepts such as 'expert-patient'. Includes ideas, concepts, or thoughts/thinking.
2) innovation in artefacts	New product, device or material good. Includes objects, technology, software, tools.
3) innovation in practice & process	New mode of working. eg. designs of service-user pathways within a health system, behaviours or modes of clinical practice, organisational routines.
4) innovation in social structure	New institutional set-up. eg. collaborative routes between health-related institutions, disciplinary areas, public groups, government, companies, new channels of funding. Includes the notion of 'system'.

Why of innovation:	Clarification, related labels
Value-producing or value-increasing:	
A) Economic or commercial benefits.	To create financial wealth for an organisation, and/or other interested parties. ('Classic' innovation[26])
B) Creating practical value including:	May translate directly into other categories of gains
Efficiency/ speed	eg. resource use, improved experience,
Reliability	measured health outcomes ..

C) Improving people's experience	Primarily service-users or health-workers, but includes other stakeholders.
D) Making better use of resource	Frugal innovation[30] - to save costs of products or services.
E) Social equity and accessibility	Responsible or Progressive innovation. Intended to help marginalised or disadvantaged groups.
F) Sustainability, survival	Averting crisis. Ensuring that products or services are sustainable and durable.
G) Changing behaviors	Psychological or behavioural innovation
H) Solving specific problems	Targeted solutions, eg. recording outcomes for a particular illness, clinical/diagnostic or organisational problems
Additional categories:	
X) Self-justifying innovation for renewal.	For creating/generating new ideas, knowledge, products/technologies, processes or relationships/structures/systems
Z) Improved health quality, health outcomes	May implicitly follow from types A-H, but cannot be assumed.

Most *what* and *why* sub-categories we identified straightforwardly label specific aspects of innovation. There are two notable additions under *why*, that cut across other categories. We added category (X) for possibilities of innovation as self-justifying, inherently valuable for the sake of change and newness. This points towards innovation that is not just instrumental (an identified means to identified ends), but a pervasive condition of living. We further noted that the underlying, arguably foundational *why* of healthcare – to improve individual and population health (category (Z)) – may or may not be implicit in *why* categories (A) to (H), and is not always acknowledged in accounts of healthcare innovation. To refer again (for comparison) to Donabedian's model, that scheme incorporates structure and process as sub-categories under *what,* and outcomes under *why,* alongside other categorisations. This makes intuitive sense: innovation discourse operates beyond the boundaries of healthcare contexts, so we might

expect its facets to cover a range broader than Donabedian's model specific to health institutions, but essentially interested in the same aspects of existence.

Below, we present our findings by giving quotes from sources sampled.

What is innovated?

What (1) and (2): Ideas or Artefacts

Innovation may be based in the realm of ideas:

"Innovation could be considered as a unique change based on **new ideas.**"[31, p.21]

"Innovation is the process of creating value from **new ideas.**"[32, p.S33]

While many definitions connect innovation to new ideas,[33-41] it can also be placed in the material realm, associated with objects and artefacts, such as physical tools or equipment, technological devices or programs:

"New drugs, devices, diagnostics, and other medical technologies [that] permit interventions into previously untreatable conditions;"[42, p.203]

"drugs, diagnostic tests, therapeutic devices, prosthetics, information technologies .."[16, p.675]

"[named software is a] widespread, integrated, and accepted technology innovation in care practices."[43, p.2]

"[innovation] as the evolution of information technology applications in the transformation of healthcare."[44, p.81]

Notably software (information technology), while not a physical object, is an artefact that behaves conceptually like an object in the world.

What (3) and (4): Activities, Practices & Processes and *structure/system*

Innovation may focus on practice or process, often exemplified by services offered (which may overlap into the *artefact* category). Sindakis's definition, for example:

> "*The term service innovation has been used in the literature to describe both new or improved services as well as the process that generates new service.*"[11, p.1013]

Sindakis and Kitsios added that service innovation is "a dynamic and holistic process."[45, p.545]

Other examples include:

> "*a novel set of behaviors, routines, and ways of working ... implemented by planned and coordinated actions.*"[46, p.1]

> "*radical innovations, based on a drastic change in the development of one or more health practices*"[47, p.2029]

Relatedly, definitions may locate innovation within a social structure, or system of arrangements amongst people.

> "*Organizational/administrative innovation introduces the implementation of a new organizational or structural method in the health system, workplace organization, or external relations with government, municipalities, healthcare sectors, networks.*"[37, p.183]

Crucially these different realms of innovation do not exclude each other, but are freely combined to create composite definitions, discussed below. Together they encompass all possibilities for things people think, make, or do, and the arrangements and processes for thinking, making and doing. They also generally come alongside value-carrying statements of what innovation is for.

Why innovate?

Various valued possible outcomes of innovation overlap and connect with each other, but can be categorised as follows:

Why? Types (A) and (B), Creating Value

There is a broad precept of innovation for 'creating value',[31, p.S33] as shown:

> *"the translation of a new or novel idea to action in a way that creates value."*[48, p.564]

Within this notion of value are both novelties that create wealth through profit or commercial benefit (type A), and those for practical benefits (type B):

> *"[changes] that are new to an organization and that have practical or commercial benefits."*[36, p.22]

Type A meshes with concerns to make healthcare fiscally accountable and manageable:

> *".. based on existing economic tools that can help policy makers incorporate value into considerations of healthcare cost growth."*[49, p.560]

.. and suggests business-based themes, such as competitive marketplace, whereas type B leans towards broader organisational themes of quality and efficiency:

> *".. new and innovative care models in order to increase a more competitive care market and to improve the quality and efficiency of care provisions."*[50, p.A635]

Notably these intentions of *why* are ambiguous about, or leave behind altogether, implications of improved health outcomes (type Z) detectable in other views of *why*. Here, for instance, innovation is:

> *"categorized as either disruptive (generating new lines of business) or sustaining (incrementally improving existing opportunities)."*[51, p.S106]

Definitions including value type (B), for practical purposes such as efficiency of service, reliability, and benefit, eg.:

> *"a service process that offers a new benefit, or a new way to deliver an existing benefit, that is perceived by customers or those who serve customers as providing more value."*[19, p.78]

.. may more readily connect with goals of health improvement. This quote also gestures to type (C), innovation that improves experiences, via perceptions.

Why? Type (C), improving people's experience

Benefit manifested in experience may apply to individuals, groups, teams, systems or wider society.[19, 39, 52-56] Usually, this type of innovation is:

> ".. *aimed at improving patient care and included offerings aimed at improving the employee experience.*"[57, p.103]

Why? Type (D) making better use of resource

'Frugal' innovation is that which saves costs of products or services under limited-resource conditions.[59-61] Weyrauch and Herstatt[62] consider an innovation 'frugal' if it achieves a substantial reduction of cost, concentration of resource on core functionalities, or optimized performance levels. Doing 'more with less' can be primarily for the benefit of the organisation:

> "*[innovation] is one of the few strategic ways organizations can be proactive in learning how to 'do more with less'...*"[63, p.418]

.. or for service-user publics:

> "*to meet the needs of resource-constrained consumers, [also] defined as "means or ends, to do more with less, for the many." We understand them to improve quality at the same cost, offer the same quality at lower cost, or both.*"[58, p.212]

This reference to 'the many' points towards issues of accessibility for diverse social sectors and groups.

Why? Types (E) and (F), social equity and accessibility, and sustainability.

Bhatti et al., further elaborate:

> "*to do more with less for many and therefore have potential to increase value and provision of healthcare.*"[58, p.212]

An ethic of social justice in innovation resonates with social sustainability, and with sustainability more broadly conceived.[64] This may ensure that products or services are sustainable and long-lasting:

> "*.. a new idea created by employees that results in a new, shared, and sustainable practice.*"[40, p.19]

.. may mean innovation towards sustainable working practices:

> "*the installation of the adopted idea into a sustained recognizable behaviour pattern within the organization.*"[65, p.13]

.. and may also mean that healthcare design moves towards environmental sustainability.[66]

Why? Type (G). For changing behaviors.
While behavioural change is implicit to many forms of innovation, it may also be stated as a motivating objective:

> "*Health care innovation models are often focused on changing the behaviour of health care providers and organizations.*"[67, p.234]

Why? Type (H). For solving particular problems.
The categories already mentioned are principles-based, transcending specific contexts. We also noted values that are particularly problem-and-solution focused, for example:

> "*Adopted from the business, technology, and marketing industries, [innovation] has been used to describe policies, systems, technologies, ideas, services, and products that provide solutions to existing healthcare problems.*"[14, p.89]

These problems might be organisational, or quite specific to clinical practice:

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> *"Innovation at the level of healthcare interventions involves (…) improved or novel interventions in the controlled environments of preclinical and progressive clinical testing."*[52, p.17]

Why? Types (X) and (Z). Self-fulfilling innovation and health improvement.

Alongside types (A) to (H), innovation may signify newness that need not be *for* anything but itself. This can mean renewal in non-specific ways, or creating new entities in each *what* category. Innovation for its own sake is part of an ongoing modern condition of moving forwards, always anticipating change.

> *"innovations—ideas, practices, policies, or technologies that are new and thus bring change."*[35, p.708]

Issues around type Z as an often-unspoken assumption in healthcare innovation discourse invite critical unpacking, outwith the scope of this paper. We note it as a category that can be (and often is) made explicit, and lies across other *why* categories.

Combining *what* and *why* into definitions of innovation.

Rather than rigid distinctions that exclude each other, the *what* and *why* categories we found create multiple possibilities for defining and understanding innovation. Writers have a pick-and-mix of styles to choose from.

Two, three and four-part statements of what.

Looking first at additive accounts of *what*, they may have two aspects, for example:

> *"innovation is the creation of valuable and useful **new products/services** [… and …] **creative ideas** within an organization."*[51, p.53]

> *"**practices**, or **technologies** that are perceived as new …"*[68, p.281]

They may include three distinct types, for example:
> *"… any work force related **idea**, **programme** or **system** new to the adopting organization."*[33, p.229]

*"innovations as **ideas, practices** or **objects** perceived as new."*[34, p.658]

*"innovation is an **idea, process,** or a **technology** that is perceived as new or unfamiliar..."*[69, p.3]

They may have two or three of our categories, that seem to be four (in our scheme, new services can be both products and processes; while ideas and concepts are too similar to separate):

*"Health systems innovation is defined broadly as novel **ideas, products, services,** and **processes.**"*[32, p.872]

*"Innovation in healthcare is the practical application of new **concepts, ideas, processes** or **technologies** into clinical practice."*[39, p.S8]

Or, may feature all four of our *what* aspects, such as:

*"applications of new **technologies,** change in operational **processes** and/or convergence of the various **ideas** and **systems.**"*[4, p.3]

Combining what and why to create definitions.
Creating assemblies of *what* and *why*, writers can designate the kinds of innovation they are interested in. These might be comparatively simple, for example this one with two **what** and one <u>why</u> aspects:

*"new **ideas, technologies** and <u>solutions.</u>"*[38, p.47]

.. this, with one **what** and two <u>whys</u>:

*".. generation, development and implementation of **ideas** that are new to an organization and that have <u>practical</u> or <u>commercial</u> benefits."*[36, p.22]

.. or fuller definitions that tell aspects of *what* first, followed by *why*:

> *"... any new **product, service** or **redesign of care** that moves health systems towards the "triple aim" of improved patient <u>experience</u>, improved healthcare <u>quality</u> and <u>decreased costs.</u>"*[70, p.9]

> *"a novel set of **behaviours, routines**, and **ways of working** that are directed at improving <u>health outcomes</u>, administrative <u>efficiency</u>, <u>cost effectiveness</u>, or users' <u>experience</u>."*[45, p1]

(Behaviours, routines and ways of working all come under type 3, practice and process).

Writers might also attach certain *why*-values to particular *what*-values, creating parallel lines of innovation:

> *"Such innovation is heterogeneous—split by **product** (**goods** and **services** that can <u>generate new revenue</u>) and **process** (techniques that <u>improve internal capabilities</u> to drive <u>efficiencies</u>)."*[50, p.106]

Or, they might mix between *what* and *why* more loosely:

> *".. new ways to <u>promote healthy behaviors</u> and better **integrate health services** with public health and other social services — which achieve <u>better health outcomes</u> and/or <u>patient experience</u> at equal or <u>lower cost.</u>"*[32, p.872]

Using generic categories of what and why.

Some definitions of innovation use a generic form to cover *what* or *why* aspects. For example, this example has the all-covering 'changes' as *what*, and gives other non-specific positive terms for the *why* of innovation in a social world always geared towards improvement:

> *"... as **changes** that help healthcare practitioners <u>improve</u> their work to be <u>better</u>, <u>smarter</u>, <u>faster</u>, and <u>cost effective</u>."*[53, p.150]

Here, cost-effectiveness is the only specific *why* our categories recognise, aside from a general sense of betterment and progress. *What* is largely left aside here so that *why* dominates.

In contrast, this next example has *why* as a generic (the all-encompassing 'benefit') that is consequent to all four *what* types:

*".. the intentional introduction and application (...) of **ideas**, **processes**, **products** or*

***procedures** that are new and relevant to the team, and that significantly <u>benefit</u> the*

*team and the **systems** in which it is embedded."*[54, p.42]

In sum, the key outcome from this analysis is that many aspects of *what* and *why* may combine, overlap and co-exist unproblematically. They reinforce each other to create a broad network of descriptive concepts within 'innovation'. Other possibilities can be voiced, amongst and between the structuring concepts we have identified, to add nuance and detail.

5. Applying the framework

This framework offers ways to receive and clarify others' accounts of innovation; and perhaps more importantly, to write definitions others can receive with clarity.

To illustrate reading definitions in simplified and mutually comparable terms: this one

*"Innovation in the health system is defined as introduction and implementation of a **new idea**, **service**, **technology**, **method of work**, **product** to <u>improve treatment</u>, <u>diagnosis</u>, <u>outreach</u>, <u>prevention</u>, and <u>education</u>. It also improves the <u>outcomes</u>, <u>quality</u>, <u>efficiency</u>, <u>costs</u> of healthcare systems."*[37, p.186]

.. encompasses three *what* types: idea, artefact (as product or technology), and process (as service or method) – and five *why* types: specific/clinical solutions (as treatment and diagnosis), equity of access (via outreach), behavioural change (within prevention and education), resource use (as efficiency and cost) and the more general category (Z) of improved health outcomes and quality.

In another instance, Price and John[71, p.72] (paraphrased) mention various attributes of innovation including: ideas applied successfully, ideas made useful or enhancing value,

introduction of new method or process, with novelty, benefit and value, driven by unmet need, willingness to adopt new practices, and delivering improved outcomes. Following our scheme, this group of meanings falls into:

- *what* – ideas, processes;
- *why* – for value, for (practical) use, to problem-solve (meet need), for improved outcomes, for (generic) benefit, and to create renewal (through novelty and willingness to change).

In creating definitions, writers might use the framework catholically, referring to all-encompassing innovation. But if this were too broad and unwieldy to be meaningful (a sentence capturing all our categories would indeed be a very long sentence), writers might be encouraged to foreground particular aspects of interest to them, and so direct the focus of attention. They might say which ideas, artefacts, processes and structures comprise the *what* of their view of innovation; and which kinds of *why* consequences are in scope for outcomes. Further, as new channels of innovation emerge post-pandemic, these can be added on to develop and further disambiguate possibilities.

Thinking in terms of categorising *what* and *why* aspects does not restrict possibilities for creative definitions, but enables healthcare leaders to capture, organise and share the substance of each other's meaningful intentions around innovation.

Concluding reflections.

Innovation encompasses a broad and multi-faceted set of concepts. Although it is at risk of being used vaguely and non-specifically, it need not be thought a vague concept. It contains diverse elements that can be identified and used to focus meaning on particular aspects of organisational life. Healthcare managers, leaders and policy-makers can choose from a range of meanings under the innovation banner, to communicate and make decisions about strategic areas for change and development.

We did not find interference between different options for meanings of innovation. This is to say that attending to certain aspects of innovation may background other possibilities, but does not implicitly shut them down. Perhaps this sheds some light on the pervasive use of innovation language among health service managers: it suggests no obvious counter-terms that might make it more openly contested. The innovation concepts we have identified seem to cover all possibilities for change, leaving no areas excluded. Nevertheless, organisational leaders should be encouraged to apply innovation language with specificity: narrowing the terms of what they intend when they draw on innovation language, will likely create better communications around innovation.

The framework of *what* and *why* that we offer here is not the last word in this ongoing dynamic conversation. Yet, it offers a direct and coherent way for leaders to bring clarity and focus to innovation strategy for a range of stakeholders. This is particularly pertinent in the resource-challenged landscape of healthcare working beyond the COVID-19 pandemic, where meanings and contestations around innovation are likely to intensify. Subsequent research might focus on (post-)pandemic developments in innovation concepts.

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