RESEARCH ARTICLE

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How to systematically analyze co-production to inform future policies?
Introducing 5Ws of co-production

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Abstract

The "woolliness" and "methodological hurdles" of co-production make it challenging to compare and contrast different co-production policy initiatives and their outcomes, and distil "what works", for whom and in what circumstances. Inspired by Nabatchi et al. (2017) 3Ws typology of the *Who, When*, and *What* of co-production, we draw on co-production theory deriving from a narrative literature review and empirical research of co-production cases in Scotland and Australia. We propose a new "5Ws" co-production framework of *Who, When, What, Why*, and *Where,* arguing that the context (*where*) should be an integral part of co-production analyses as socio-political, geographical conditions, and service settings influence the processes and outcomes of co-production, and that the reasons (*why*) behind co-production determine who is involved in co-production. The paper suggests that the 5Ws of co-production can offer a useful theoretical lens for analyzing a variety of international co-production cases to inform future policies and practice.

Evidence for practice

- The 5Ws framework including the *Who, When, What, Why*, and *Where* of co-production provides a tool that enables comparison of a variety of international co-production cases and verification of specific co-production characteristics that can determine whether co-production works or not.
- The context (*where*) and the reasons (*why*) behind co-production should be an integral part of co-production analyses as socio-political, geographical conditions, and service settings influence co-production processes and outcomes, and they determine who is involved in co-production.
- Without considering the *where* and *why* of co-production, co-production attempts may fail, leading to a costly public administration exercise that can jeopardize future engagement and the buy-in of co-production stakeholders.
- The 5Ws typology enables a more nuanced approach to understanding features of successful co-production that considers tangible aspects of public administration policies, governance structures, geographical issues, service delivery settings and networks, as well as those less tangible aspects of citizens' experiences and their motivations that make co-production effective.
- Our study provides evidence that a comparison of cases that are different in many respects is possible and informative. If implemented longitudinally, the 5Ws of co-production could help to identify changes in features of co-production over time and between different societies and different spaces.

In recent years, interest in citizen involvement in aspects of public service delivery has "soared" (Brandsen & Honingh, 2016, p. 427), with a growing number of policies presenting citizens as an untapped co-productive asset (Jakobsen et al., 2019). Co-production of public services implies that different actors, including public employees and citizens, contribute to the service production process (Ostrom, 1996). When the input and involvement of citizens increase, the influence and role of government decrease (Markantoni et al., 2019), and this can have diverse consequences. In one way, decentralization of governing institutions and increased participation of intended beneficiaries in the co-production of services is associated with enhanced quality of public services (Thomsen & Jensen, 2020). While some argue that this interest in co-production is "one of the unintended consequences of public service reforms" (Nabatchi et al., 2017, p. 767), others see it as a deliberate direction for neoliberal policies to devolve responsibility for meeting local needs to communities (Parker & Street, 2015), allowing "governments [to] retreat from the direct provision of public goods, services, and welfare" (Steiner & Farmer, 2018, p. 119). Indeed, as involving citizens as producers can lead to "considerable gains in public service provision efficiency" (Jensen et al., 2019, p. 472), co-production is frequently perceived by critics as a cheap form of service delivery (Markantoni et al., 2018). Regardless of intentionality, a noticeable collaborative turn in public service policies and delivery is associated with greater responsiveness to consumers, efficiency, and accountability, resulting in new models of working (Jakobsen et al., 2019; Verschuere et al., 2012). Here, we explore those new ways of collaborating and question: *How can we systematically analyze co-production cases?*

Importantly, the term co-production is not new; it was coined in the 1970s to describe the involvement of multiple public and private actors, including citizens and clients, in shaping service production (Ostrom & Ostrom, 1977). Citizen and user involvement in designing and delivering goods and services has since become an accepted option in provider–consumer relationships. Co-production rose in popularity in the 1980s (Brudney & England, 1983) before moving into a "public management" paradigm (Alford & Freijser, 2018, p. 40). Growing critiques of managerialism and a rigid focus on performance led to a move toward New Public Governance (Osborne, 2006), with co-production being promoted as a cornerstone of 21st century service delivery (Alford, 2015; Jakobsen et al., 2019), challenging traditional and frequently inefficient, bureaucratic and undemocratic public management and administration (Alford & Freijser, 2018). Indeed, "as public management began to search for new ways of understanding the increasing complexity of relations involved in producing public services, co-production as a theoretical lens for public management research began to re-emerge and gain attention" (Sowa, 2016, p. 585).

This ongoing yet still growing interest in co-production led to a significant number of articles being published under the broad umbrella-term of "co-production". As a popular concept that, arguably, can assist in enhancing local democracy and citizenship, creating collaborations and understanding between service users and service providers (Brudney et al., 2022), increasing social capital, and achieving desired outcomes and developing more efficient services (Uzochukwu & Thomas, 2018), co-production has been embraced in a variety of studies describing different contexts and co-production activities (Hall & Paul Battaglio, 2018). In addition to the wealth of studies commenting on co-production in different geographical, socio-political and economic contexts (Steen & Brandsen, 2020), many academic articles describe different forms of collaboration between citizens and the public sector without referring to co-production, making it a complex field to analyze.

Although positive, this richness in the field is somewhat overwhelming. As a result, critiques of co-production describe it as a "woolly" concept (Osborne et al., 2016) that "lacks conceptual and definitional clarity" (Sorrentino et al., 2018, p. 277). There is also a lack of commonly agreed typologies and frameworks that can assist in analyzing co-production cases (Jakobsen et al., 2019) to inform public organization decision-making when co-production is a legitimate solution to shortcomings in public administration (Jensen et al., 2019). "Methodological hurdles" in the field (Jakobsen, 2012, p. 28) and ad hoc analyses of co-production make it difficult to compare and contrast different initiatives and their outcomes, and distil "what works", for who and in what circumstances (Pawson, 2006). The latter represents a challenge, making it difficult to identify patterns in existing and emerging studies, and draw implications informing future policy and practice. This lack of commonly used co-production frameworks and typologies is surprising considering that the theme is widespread in political discourse and in practice. As such, to assist future policy and practice, we answer calls for more systematized ways to monitor, analyze and understand co-production (Jakobsen, 2012; Osborne et al., 2016; Sorrentino et al., 2018) and we ask: *How can we systematically analyze co-production cases?* As co-production cannot lead to better "governance, resilience, or public value" in *every* instance (Quick & Feldman, 2014, p. 690), in writing this article we hope to make it easier for public managers and public administration scholars to identify success factors or otherwise of co-production initiatives. We also draw policy implications deriving from findings of this article.

Exploration of the above question came about through pursuing our interests in the role of citizens in public administration as well as multiple studies of co-production with a variety of service-user groups in different international contexts (Caló et al., 2019; Henderson et al., 2019; Kelly et al., 2021). The latter stimulated a desire for the systematic approach taken here. Through our work, we have observed the twists and turns that co-production can take (Steiner & Farmer, 2017), witnessing extraordinary energy and enthusiasm from communities

where citizens are willing to co-produce (Kelly et al., 2019), and how that can sometimes play out disappointingly for individuals and organizations (Markantoni et al., 2018; Steiner, Calò, & Shucksmith, 2021). Our studies showed co-production yielding diverse unforeseen situations, relationships and outcomes—some of these satisfying, some frustrating or even concerning (Munoz et al., 2011; Skerratt & Steiner, 2013). We also evaluated co-production policies for national governments, influencing changes in a specific national policy (Steiner et al., 2022) and have been active partners in informing governmental debates in the field. Nevertheless, it has been challenging to systematically report, compare, and contrast across case studies of co-production; for example, where there is interest in understanding factors that make co-production successful or how to scale-up what appears to be "successful co-production" (Steiner, Barraket, et al., 2021; Vanderhoven et al., 2020). Indeed, the latter can be a key (though not unproblematic) concern to policymakers engaged in public administration and responsible for creating "more efficient" public services.

This study advances the research on co-production by identifying how to systematically analyze co-production cases. Firstly, based on Nabatchi et al. (2017) theoretical framework that proposes a *who, when,* and *what* of co-production, we conduct a narrative literature review (Wong et al., 2013) and build a typology of co-production. Secondly, we apply this co-production typology to our primary data to systematically analyze two case studies and capture shared features of co-production that transcend countries with different public policies and diverse service settings. To better understand co-production and assist in the future comparison of different co-production attempts deriving from different contexts, we compare heterogeneous cases where citizens are involved in co-producing elements of public services; one in rural Scotland, the other in metropolitan Australia. The Scottish case organization delivers day-care to older people, engaging inputs from local citizens. It emerged as a response to retrenchment of direct state service provision, reintroducing socially accepted and normative services. The Australian case organization draws on a combination of current and former drug users (described as "peers") and professional staff (some of whom are peers) to deliver harm reduction services to "hard-to-reach" people. This service is perceived by many as being controversial and revolutionary.

By applying a co-production typology, we develop our understanding of evidently contrasting cases of co-production embedded in different international, geographical, and socio-political contexts. By doing so, we provide an example of harnessing academic theory for its public administration policy value in enabling *systematic analysis*, therefore advancing our knowledge and helping to elucidate "what works" for who and in what circumstances (Pawson, 2006) in co-production when comparing multiple cases. Moreover, we address the issue of methodological diversity, which has limited the "cumulative

effect" of co-production research to date (Verschuere et al., 2012, p. 13), and fill a gap in comparative international co-production case study research (Brandsen & Honingh, 2016; Nabatchi et al., 2017). We also respond to a call for a "richer array of research on citizen-state interactions" in the field (Jakobsen et al., 2019, p. 15) and reveal how those interactions are co-created. Finally, we develop a 5Ws theoretical framework of co-production, adding *why* and *where* to the existing *who, when,* and *what* (3Ws) typology. We propose that the 5Ws of co-production can offer a useful theoretical lens for analyzing a variety of international cases of co-production to inform future policies and practice.

COMMUNITY CO-PRODUCTION

In this article, we acknowledge the existence of different definitions and forms of co-production. Recognizing multiple perspectives, we adopt Alford's (2015, p. 675) understanding of co-production as: "the contribution of time and effort to the delivery of public services by clients and citizens, prompted by or in concert with public sector organisations". Consequently, community co-production can harness communities of place and communities of interest. The notion of co-production recognizes the significance of lay stakeholders who value a service, and who share the space of provision with regular producers/service professionals (Bennett et al., 2021), with each group holding useful contextual knowledge and expertise (Steiner et al., 2022). The involvement of end-users and communities in service co-production allows for contextual factors to be "designed-into" services and opens up control and agency for service users. As such, the co-production process might be composed of "moments of truth" (Osborne, 2018, p. 226), realized by multiple and diverse co-producer stakeholders and influenced by a specific service ecosystem (Petrescu, 2019). We note that a discussion of all of these dimensions deriving from our literature review is beyond the scope of this article. However, we recognize that services inevitably involve a level of interaction with their users who thus contribute to service production (Alford, 2015). For some services, however, users have minimal roles or are coerced into participation, and thus co-production is questionable.

THEORY - UNDERPINNINGS 3WS OF CO-PRODUCTION

The "who, when, and what" of co-production proposed by Nabatchi et al. (2017) is a useful tool that considers a variety of cross-sectional actors involved in co-production. It can be applied at any point in the co-production process, exploring stakeholders involved in co-production or how co-production evolves (e.g., who started it and when). Importantly, it considers what is co-produced. To
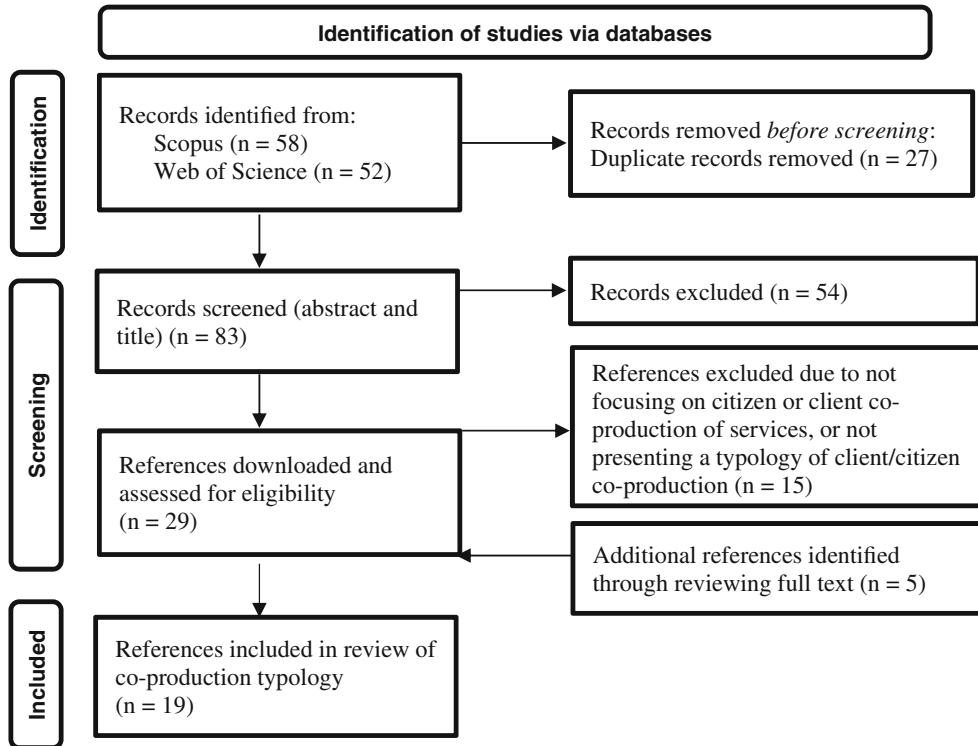
FIGURE 1 PRISMA flow diagram of article selection process. Based on: PRISMA 2020 guideline for reporting systematic reviews (Page et al., 2021).

verify and extend Nabatchi et al. (2017) typology, we adapted a narrative review approach (Wong et al., 2013) that explored *aligned* typologies. A narrative review approach, known also as a semi-systematic literature review, is particularly useful when analyzing topics like co-production, that is, themes that have been conceptualized differently and studied by various groups of scholars within diverse disciplines, making it challenging to conduct a full systematic review process (Snyder, 2019).

Considering co-production as a multidisciplinary and complex concept, we searched *Scopus* and *Web of Science* for peer-reviewed articles, published in English, from the fields of social sciences and business. In our review, we included only theoretical articles that presented typologies/types of co-production (i.e., solely empirical articles were not included in our review), and excluded those that did not involve citizens or communities (i.e., considering our interest in how "public services 'add in' the citizen and/or service user to enhance [public service] performance" (Osborne, 2018, p. 229), our study focused on co-producing services with community members rather than any other stakeholder groups). Consequently, keywords included in our search were "co-production" (or "coproduction") in the title and, considering our interest in community-based co-production of public services, we also searched for the words "public", and one of the following: "typology", "concept*", "defin*", as well as: "client", "community", "citizen" in the abstract. We excluded the term "knowledge co-production" due to our focus in co-produced *services*. From 83 identified articles, we excluded 54 at the abstract review

stage based on the criteria given above (e.g., no focus on citizen/client co-production; abstract indicated an empirical rather than theoretical focus). Following a formal quality assessment (Arksey & O'Malley, 2005), we excluded another 15 articles that did not focus on citizen/client co-production, as well as those that did not present a typology of co-production. Analysis of full texts identified additional five references of articles that met our criteria and these were included in our co-production typology review. A total of 19 articles (Figure 1) were used to extract and "stack" the components of co-production typologies to construct an expanded 3Ws (i.e., *who, when, what*) of co-production (Figure 2).

Our review suggests that linking of different dimensions of "who" and "when"—representing processes of co-production—as well as the "what" of co-production can reveal different *types of service* of the co-produced services and their *benefits and value* (Figure 2).

Many analyzed articles included what Nabatchi et al. (2017) termed *who, when*, and *what* dimensions of co-production (Figure 2), showing the applicability and validity of the typology. For instance, Brandsen and Honingh (2016) included *when* (e.g., during service design and implementation) and *what* (e.g., complementary or non-complementary to core service) components; while Bovaird (2007) and Moon (2018) included *who* and *when* dimensions; and Osborne et al. (2016) combined *who* and *what* dimensions.

Drawing across the articles—"who" tends to encompass two types of components: the first relating to
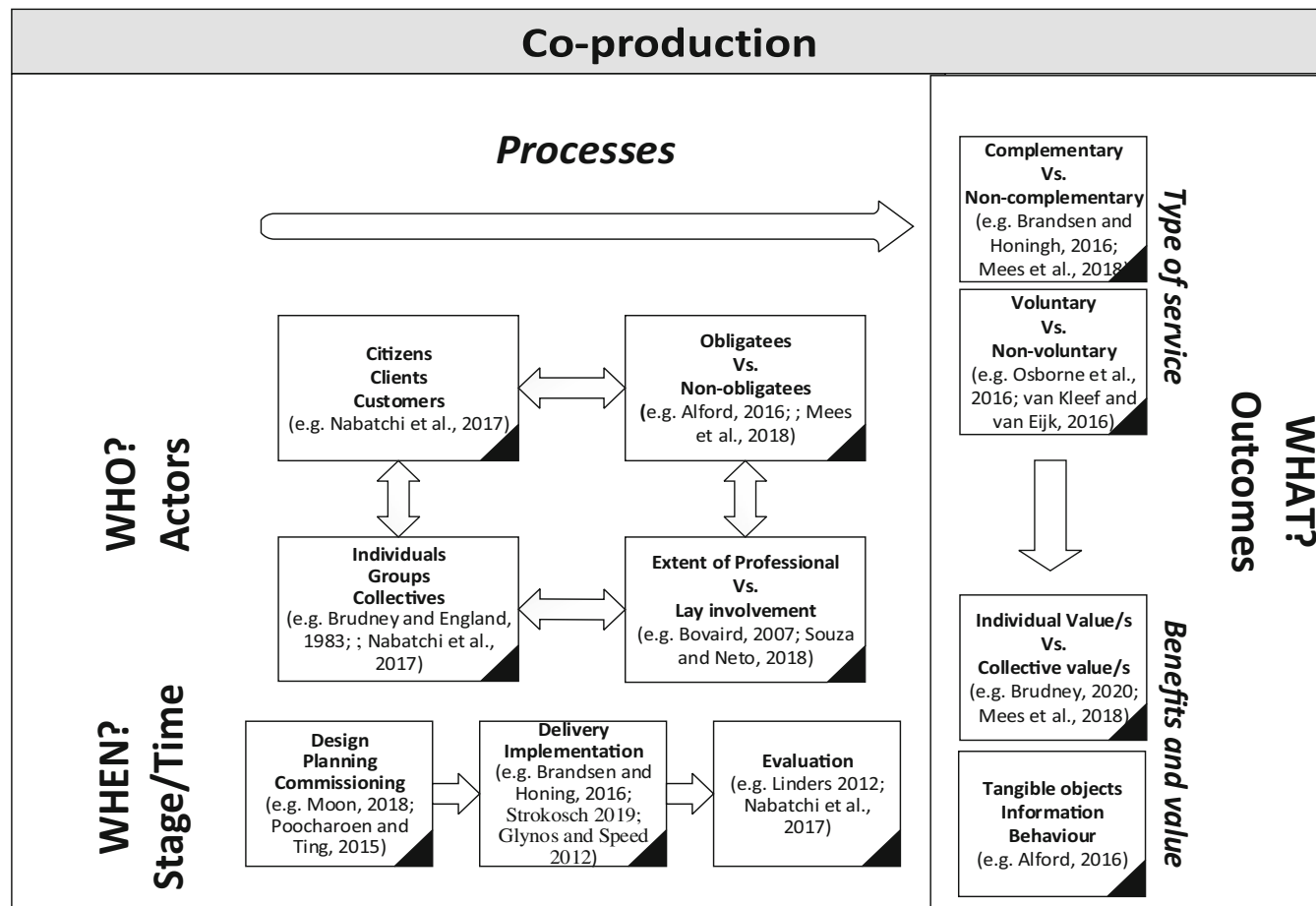
FIGURE 2 A theoretical framework of the 3Ws co-production typology. Mono-directional arrows (⟹) refer to a consecutive process in time; bi-directional arrows (⟺) refer to areas of mutual influence.

identification of co-production actors, and a second, relating to issues about actors' participation. Co-producing *lay actors* are variously depicted as citizens, clients, customers or consumers, acting as individuals, groups, collectives or communities (e.g., Brudney and England (1983) and Nabatchi et al. (2017)). While "regular producers" of services/professionals are de facto involved in service production, lay involvement of citizens, clients and customers is needed to evidence the "co" of co-production—however, the level of citizen involvement may vary (e.g., Bovaird, 2007; Moon, 2018). Regarding the nature of participation, Alford (2015) distinguishes between whether co-production can substitute for professionally delivered services and how dependent the organization is on co-productive contributions, and whether co-producers are required to comply (see also Mees et al., 2018)—with both obligatees and non-obligatees taking part in the co-production process.

"When" generally references points in the public service cycle, which are varyingly identified as involvement in: design, delivery and commissioning, assessment (Nabatchi et al., 2017); design, execution, monitoring (Linders, 2012); design, construction, innovation and implementation (Brandsen & Honingh, 2016); or planning and delivering (Bovaird, 2007). We cluster the proposed "when" proposition into three categories; design, implementation and evaluation.

The "what" dimension has two main components— the first concerned directly with variation in the *type of service produced*; the second concerned with *benefits and value*. The latter aligns with ideas of value creation which understand services as composed of multiple influences and targeted at experienced value. Considering the type of co-produced service, Brandsen and Honingh (2016, 2018) and Mees et al. (2018) distinguish between co-produced services that are complementary or non-complementary to a "core service" and Osborne et al. (2016) dichotomise between involuntary and voluntary participation, and whether co-production is embedded in the service itself or "added on" top of the service.

Regarding the second component—benefits and value—Brudney (2020), Nabatchi et al. (2017) and Osborne et al. (2016) distinguish between personal (individual) versus collective (community or society) benefit (which Brudney (2020) notes can also encompass individual vs. collective motivations). Alford (2015) distinguishes
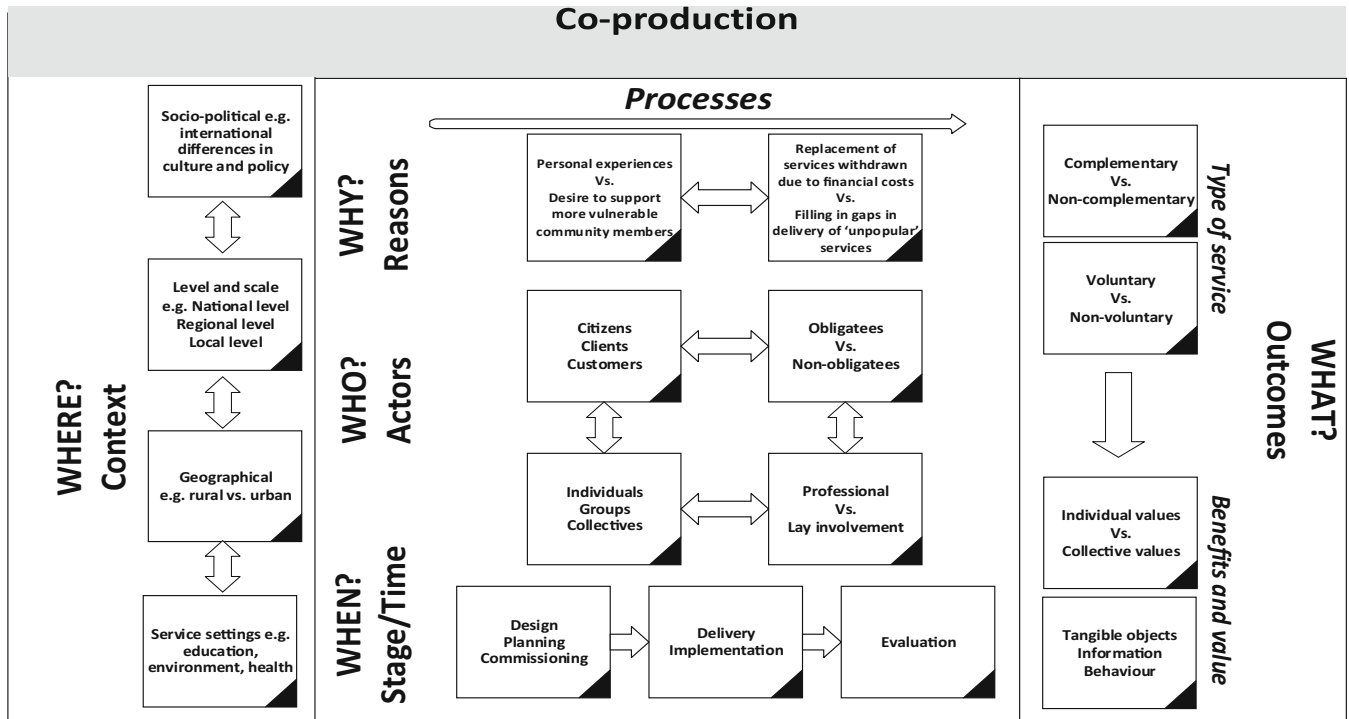
FIGURE 3 "5Ws" co-production framework. Mono-directional arrows (⇨) refer to a consecutive process in time; bi-directional arrows (⟺) refer to areas of mutual influence.

between tangible and non-tangible contributions (e.g., information, behavior) and between public and private value in co-production outcomes, but argues that most co-productive efforts simultaneously produce both public and private value to varying degrees.

The above co-production typology was used to drive the structure of our data collection, and to systematically analyze data from our two co-production case studies. Then, based on findings from our empirical study, we critically assessed the 3Ws of co-production, adding two new theoretical dimensions (Figure 3) essential in analyzing and understanding co-production cases.

METHODS

A case study approach was adopted given the exploratory nature of the research (Thomas, 2021). Our interest was in what is shared or "the essence" of co-production, even when cases are not homogeneous and derive from different socio-political contexts and present different forms of citizen co-production. Considering this and the fact that our teams operate in the UK and Australia, we used convenience sampling and, from a pool of our co-production studies, selected cases that offered maximum heterogeneity. As such, we deliberately selected cases that differed according to multiple dimensions of space (Thomas, 2021): cases from different countries; one inner-city and one rural case; and distinct service offerings of day-care for older people compared to harm reduction for intravenous drug users. In both countries

- Scotland and Australia - the importance of co-production is growing (see next section), with the research team having extensive, first-hand understanding of both socio-political contexts under study. Stakeholders from the Scottish co-production organization (pseudonym *Aegis*) and the Australian case (pseudonym *Nexus*) accepted invitations to participate. The level of analysis was the co-produced service organization and, aligned with the 3Ws framework of co-production, the focus was on *who* co-produces, *when* they co-produce and with *what* results. Before conducing our study, ethical approval was obtained from Swinburne University of Technology and a Scottish Health Board.

POLICY CONTEXT

In Scotland, co-production is part of a comprehensive policy movement from state delivery to citizen responsibilisation (Bennett et al., 2021). This movement was accelerated following the Christie Commission report that advocated for citizen involvement as top-down service systems were deemed insufficiently responsive (Scottish Government, 2011). Cairney et al. (2016, p. 333) refer to a comprehensive "Scottish approach" that promotes place-based community action and an equal relationship between citizens and services that activates "co-produced" solutions. The Scottish Government policy narrative promotes citizen involvement through a variety of policies including, for example, the Community Empowerment Act (Scottish Government, 2018). Indeed, a statutory

obligation to involve service users alongside service organizations and professionals in service strategic planning gave communities new rights to contribute to the design of public services (Scottish Government, 2018). Relevant to the Scottish case organization, the Public Bodies Joint Working Act 2014 (Scottish Government, 2014) aims to create the conditions for shifting care from institutions to co-produced community solutions, suggesting such moves will improve the wellbeing of people and communities.

In contrast with Scotland, and despite seminal Australian co-production scholarship (e.g., Alford, 2015), Australian policy has been slow in promoting citizen partnership as central to public service delivery (Ryan, 2012). There are exceptions in individual policy areas and a general underlying trend to greater citizen engagement in planning. For example, Shergold (2009) explains that funding for disability services in the state of Western Australia has embedded co-production principles since the 1990 s. Nationally, the Ahead of the Game report (AGRAGA, 2010) urged public agencies to position citizens as agents and not just targets of policymaking. The report encouraged governments and citizens to co-design and co-deliver services. Following this, a Parliamentary Library paper featured co-production as an "exemplar" of good engagement practice, while noting the challenges of power redistribution and the shifts in thinking required (Holmes, 2011).

Individual senior public servants have been important in catalyzing Australian co-production efforts at different times, rather than ideas of working with consumers being ideologically embedded across policy and party politics. Terry Moran, the Secretary of the Department of Prime Minister and Cabinet (2008–2011), and his predecessor Peter Shergold, were strong citizen engagement proponents (Holmes, 2011). Shergold (2009) saw all citizens as active users and designers of publicly-funded services and his call for co-production in the "participation society" influenced healthcare, family services, rural fire services and mental health, drug and alcohol services in Western Australia. For reasons of anonymity, we do not pinpoint the precise policy context of the Australian State where our case study is located, but in recent years, co-production has been encouraged by relevant government agencies in that State.

DATA COLLECTION AND ANALYSIS

This study used an exploratory approach and qualitative interviews. A qualitative approach helps to "produce a wealth of detailed information" about people and processes (i.e., key aspects of our study investigating citizens' participation in co-production; Patton, 2002, p. 14), is well-suited to building an understanding of phenomena that are not well-understood (Marshall & Rossman, 2014), and contributes to developing existing theory "by pointing to gaps and beginning to fill them" (Siggelkow, 2007,

p. 21). Qualitative studies have been also recommended in public administration research as they "address 'how' questions … to explore causal mechanisms, privilege participant experiences and perspectives to provide a more complete picture; increase transferability by elucidating the characteristics of the study environment that are necessary for or likely to influence study findings" (Hendren et al., 2023, p. 482).

The lead investigator visited both case study sites (*Aegis* in 2017 and *Nexus* in 2017) and conducted face-to-face, semi-structured interviews - each lasting around 60 min. This interview format enabled a focus on the main topics, whilst leaving space to examine attitudes "according to the interests, experiences and views of the interviewees" (Valentine, 2005, p. 111). A data collection topic guide was informed by the 3Ws typology of *who*, *when*, and *what* dimensions (Figure 2). Questions were open-ended, enabling flexibility to discuss emergent issues. Conducting interviews in-situ in organizations/communities gave a sense of the interviewees in the context of the organization and the locale. Twenty-five co-production stakeholders were interviewed (11 in Scotland, 14 in Australia) including: four clients (i.e., end-users; two in Scotland, two in Australia), two carers (one from each country), six paid employees (two in Scotland, four in Australia), five volunteer employees (two in Scotland, three in Australia) and six board members (three in Scotland, three in Australia), an elected Scottish local councillor, and an Australian state government service commissioner (who plans and contracts services on behalf of the government). Most of the Scottish interviewees were local residents, representing a geographical community. Interviewees at the Australian site were identified as "peers" (current or former substance users), including in roles as volunteers, employees and on the board; representing a community of interest. Approximately half of the paid employees and volunteers were interviewed for each site. Clients were selected by staff to ensure their capacity for informed consent. Indeed, exploring views across this broad group of actors was important to fully understand experiences of co-production.

Interviewees received study information and voluntarily consented to participate. All interviewees were recorded, transcribed, loaded into NVivo and, initially, manually analyzed deductively against the 3Ws typology presented in Figure 2. The analysis was open to other emergent themes. Ultimately, therefore, analysis was abductive, involving iterations between data and theory building (Timmermans & Tavory, 2012; Figure 3). The results of the analysis relevant to our study aim (i.e., *How can we systematically analyze co-production cases?*) are presented in the following section.

RESULTS

Applied as a theoretical frame to drive analysis (Figure 2), the 3Ws of co-production typology enabled comparison

of two heterogeneous co-production cases (Table 1). During our analysis, we considered what might be shared and how the reality of co-production plays out in contemporary community settings and service spaces. We also considered empirical information that emerged through our analysis but did not match the theoretical framework of *who*, *when*, and *what*. As shown, study participants talked about the *context* in which their services are embedded and *reasons* behind co-production as being crucial when discussing co-production (Table 2). Then, the section returns to theory and to critique and further develop the co-production typology. By doing so, we suggest a new 5Ws co-production framework that may better capture contemporary features of collaborations between citizens and public bodies (Figure 3).

Who

In both cases, lay co-producers were most prominent in roles as volunteers in service delivery and board membership. While Aegis' older and vulnerable clients seem passive service recipients compared with Nexus peers, they are more engaged than appears because, as highlighted, "they would tell you if they didn't like it". Nexus peers had active, mixed roles—some as service co-providers *and* clients—where peers' own behaviors were impacted through their service involvement. Geographical community members were involved in both cases (more at commencement for Aegis, but with a sense of latent force), but their contributions could manifest as "co-destruction" (e.g., complaining; Palumbo & Manna, 2018). A strong community of interest provides support at Nexus—helping to establish the co-produced service and providing ongoing advocacy when needed.

Regarding "professional producers", employees could have complex boundary-spanning roles, as in Aegis where they bridged the service and the community. At Nexus, while passionate about advancing their service mission, employees also have to ensure that services stay compliant and relatively subdued so as not to transgress the delicate balance of community and funder relationships. Indeed, complex roles of employees as intermediaries between state and community in co-produced public services is raised by Brandsen and Honingh (2016, p. 430), who suggest that practitioners are having to renegotiate ways to position themselves in the "collaborative networks" of service delivery. Frequently, however, service tasks performed by volunteer co-producers are peripheral and complement the core organizational activities performed by professional staff (Thomsen & Jensen, 2020).

Funders (in Scotland, represented by the distantly located NHS commissioners; and in Australia, by state government bureaucrats) emerged as having significant influence. Scottish NHS commissioners' reluctance to be interviewed could reflect a tense political situation around rural service retrenchment in Scotland. Board members depicted a compliance environment, with local actors legitimized to undertake specific, defined, and limited activity. The Australian state government representative depicted empathy with Nexus goals but highlighted a changing funding situation where services must compete on government-defined terms, detracting from client involvement in service design.

Applying the 3Ws typology, therefore, was successful in highlighting the lay and professional actors involved, but tended to neglect the contemporary directive role of funding body representatives and the extended intertwined roles and "multi-actor nature" of co-production (Trischler et al., 2019, p. 1596).

When

Locating the points in the public service cycle where lay co-producers are most involved highlighted differences between the Australian and Scottish cases. Australian peers had opportunities to participate in all aspects, including service design, delivery, and evaluation. This was not unproblematic as exemplified in dilemmas around appropriate roles for peers on the board. Peer integration throughout the service cycle implies a considerable role in value co-creation. Peer embeddedness was a feature of the Australian service from its inception. The future of co-production was uncertain, with some questioning continued peer influence as funding mechanisms move to competitive tendering.

In contrast, description of lay producer involvement in Aegis portrayed little contemporaneous creativity around service design—with co-delivery seemingly targeted at keeping some minimum level of local service. Aegis board members focused on survival and reflected that partnerships in co-production had depleted over time. This aligns with Trischler et al. (2019, p. 1612) observation that sometimes lay actors' ideas are kept subdued in co-design as they are perceived as too "radical" to be accommodated. Restricted funding and a tight regulatory environment, as well as wider political forces, were cited as constraining co-production relationships involving the local organization and distant commissioners in Scotland.

The 3Ws typology "when" identified that co-producers can play different rules at different stages of co-production, and that "when" of co-production depends on what is co-produced.

What

Considering the service system, Aegis could be perceived as a replacement of existing service, with Nexus providing alternatives to traditional public service offerings. Both are, crudely, quite risky in comparison with "regular" care or drug abuse services. The remote location of Aegis and

TABLE 1 Who, when, and what of co-production

Analytical story	Examples from the data	Co-production factors
Actors i.e. WHO? *Aegis* Scotland		
Paid employees include a full-time nursing-qualified manager, a cook, and three part-time general staff. Local general medical practitioners liaise with Aegis staff around clinical care for clients. NHS commissioners, with council managers, determine the services to be provided, and the legal obligations that apply.	"We've got a number of professional staff to help us to deliver it all" (board member_2).	Professional obligates including employees and local service practitioners
Lay co-producers include community volunteers who serve meals, tidy up, and help to run social activities and transport for clients to reach the day-centre. The volunteers depict their role as highly integrated with the paid employees. Other community members are volunteer board members. Participation of a retired doctor as board chair and a business owner as deputy chair brought skills, experience, networks, "insider knowledge" of public services and involvement of people with status who are respected within the local community and by distant NHS commissioners and politicians.	"We've always felt a major part and being in a team" (volunteer_2). "They have the most credible people in the community leading them, backing them, supporting them, and they have generous communities that support them" (councillor_1).	Lay involvement of non-obligatees including individual citizens and clients
Some carers participate in service provision, mainly helping out around their own cared-for person; some carers are also board members. While appreciated, co-production was precarial due to apathy about getting actively involved in co-producing. Although perceived as needed, the sustainability of co-production was frequently questioned.	"The greatest fragility is they are reliant on personalities rather than structures…if a personality or two disappears, will they continue to have the same support, the same credibility?" (councillor_1)	Individuals and, at times, groups and collectives
Actors, that is, WHO? *Nexus* Australia		
Employees include health practitioners, social workers, managers, and administrators. Peer volunteers are lay co-producers of service delivery or act as board members. Some peers started as rehabilitation volunteers with intentions to help the wider community and move to paid roles as employees. Peer volunteers are recruited through the needle exchange program, social media, or in conversation while visiting Nexus. Volunteer retention is challenging.	"It's not hard to get people to [initially] volunteer, it's hard to get them to show up, to get them to stay" (employee_3).	Professional obligatees with lay involvement of non-obligatees including individual clients
Trust dilemmas were raised because peers operate within a building that has many drug-use resources. Having peers on the board is enshrined in the Nexus constitution and is viewed as symbolically significant. However, issues were reported in recruiting "the right" peer board members who combine authenticity as peers with compliance to board etiquette and rules.	"We've struggled there…over the years, there have been incidents of peers not doing the right thing. It's caused disruptions and loss of funding at times and it's caused grief" (board member_5).	Lay involvement of non-obligatees including individual clients
Interviewees emphasized co-production as fundamental. Nexus' needle exchange program could not exist without client co-production behavior of returning old needles in exchange for clean equipment. Peer volunteers sometimes serve at the front desk of the Needle and Syringe Exchange Program. In this work, reception workers identify opportunities to reach beyond clients' immediate requirements, for example, considering how to spread harm reduction.	"It's the culture of this organization and we do nothing without consulting our consumers. It's at the crux of what we do" (employee_4).	Lay involvement of non-obligatees including individual clients
Stages/time, that is, WHEN? Aegis Scotland		
When the service first started up, it had to become operational in a short period of time. At the start, a process involving service co-design was facilitated, and engaged stakeholders from the council, NHS, community and the EU project.	"We could not do everything we wanted. We had to start with a core service that was to provide still for people coming in" (board member_2).	• Commissioning • Co-design and partial planning • Co-delivery and partial implementation • Limited co-evaluation
Following service start-up, operations and governance evolved. Thereafter, decisions and activities were driven by survival; for example, Aegis moved from charitable status to a "community interest company" as this model was more financially viable. Interviewees emphasized that expansion to meet wider community needs became secondary to simply maintaining a minimum service. Consequently, consulting about needs became more constrained as time passed. In co-production, therefore, perhaps the biggest emphasis is on an enriching day-to-day	"…organic growth…happened in the first four years…We perceived needs and we thought about how could we meet them" (board member_1). "We do not have very close relationships with carers as in making plans together. They're happy that we exist, they are happy	

(Continues)

TABLE 1 (Continued)

Analytical story	Examples from the data	Co-production factors
service experience, with volunteers and staff looking at ways to stimulate clients through art activities, chat and taking clients out on visits.	to pass on some of the responsibility, but there is definitely no strategic planning" (board member_2).	
Lay co-producers depicted service evaluation as unsystematic, with occasional carer and client surveys, a suggestion box or client consultation to inform a funding bid. A board member who was also a carer suggested that this is due to clients' requirements being basic. The manager said that there were regular opportunities for everyone to suggest improvements. Co-production and its potential effectiveness, or lack of it, might be monitored on an ad-hoc basis rather than standardized, as in the case of many public services.	"They do not want much" (board member_1). "…they'd certainly let you know if they were not happy" (peer volunteer_1). "We have a yearly throw all your ideas on a bit of paper…if somebody is struggling with something, has an idea or something is not working" (employee_2).	
Stages/time, that is, WHEN? *Nexus* Australia		
The organization was initiated by the peer community in response to a wave of opioid overdose deaths. Nexus services have evolved over time, but always with precarious short-term funding and fluctuating community and political acceptance. Regular co-evaluation activities such as satisfaction surveys provided feedback for service improvements and use in funding bids. Evaluation was thus considered fundamental to sustainability.	"We added in questions to inform the funding submission so we could say to funders this is what consumers are telling us that they want and why this service works for them" (employee_5).	• Co-design and planning • Co-delivery and co-implementation • Co-evaluation
Evaluation of Nexus activities provides evidence of value such as avoidance of ambulance call-outs and hospital stays. However, all Nexus activities might be challenging to measure, that is, less direct, harm reduction activities and information sharing ripple through the peer community, at low cost and with impact on public health.	"[without Nexus] there would be a lot more dirty equipment on the streets. There'd be probably a lot higher rates of hep C and even HIV" (volunteer_4).	
Outcomes, that is, WHAT? *Aegis* Scotland		
Aegis provides day-care for older people. Local community support the service provision seeing it as being important and needed in the area. A number of local residents are actively involved in service co-production. Although voluntary in its nature, co-production is induced by a specific need, and a sense of citizenship and responsibility toward local community. There is no direct benefit to co-producers and individual participation delivers a collective value. Although non-complimentary, the day care centre provides tangible direct support to older people as well as less tangible benefits to the wider community whose family members can remain living independently due to services being provided in a local setting.	"If we want to keep this service, we need to support it" (board chair_3). "All of them have their work and families, but really contribute as much as they can and work here really hard to protect their service and local people" (employee_2).	• Non-complementary -Mainly non-voluntary (i.e. created to replace diminishing services) • Tangible service • Public/collective value with elements of personal value
Outcomes, that is, WHAT? *Nexus* Australia		
Nexus provides support, information, education, advocacy, and harm reduction for people who use drugs ("peers"). Peers are also involved in multiple aspects of service delivery, for example, peers exchange their experiences of their own changed health behaviors and knowledge in return for trust, respect, and a non-judgemental relationship as well as clean replacement equipment. Peers gain a sense of their usefulness, self-esteem, and identity from helping others. Due to their experiences, co-production end-users are in a position to become co-producers, turning problem into solution. Training in how to use Naloxone, for example, enables peers to literally save lives. Indeed, peers are likely to be in situ when overdoses occur and can respond immediately in time-critical situations. In addition, interviewees also gave examples of how peers influence ongoing service design.	"If you have been marginalized and if you are in that part of society which is really shunned, to recognize that individual as a bit of a hero is really powerful" (peer volunteer_4). "He decided he'd do the Naloxone training and then two days later… he got in a car and a girl, they all thought she was asleep, and he recognized from what he'd learnt that she's gone over. He got them to pull over the car and he brought her back on the side of the road" (employee_4). "They're also involved in smaller things like…this is what we are doing with our website. Give us your thoughts so we know that it works well" (employee_6).	• Complementary • Largely voluntary but co-production has high dependence on co-producers • Tangible and intangible • Mainly personal/private value but also public/collective value

TABLE 2 Context of and reasons for co-production

Analytical story	Examples from the data	Co-production factors	Analytical question
Scotland			
Aegis is located in a rural township with <1000 residents, with a housing trust providing the building at subsidized rent. The service was established in response to community protests when the council and National Health Service closed the local public service facility. The move to co-produced provision was managed through a European Union project aimed at developing new community co-production initiatives.	"There are isolated older adults that live here because it's a huge parish…these people would be out there on their own" (employee_2). "The service is important … it's a very, very necessary part of the village" (client_2).	• Geographical • Socio-political • Level of interaction from local, to regional and national	Context, that is, WHERE?
Co-production is contextualized and depends on the willingness and ability of relevant stakeholders to contribute to and maintain the co-production process. In a rural context, a limited pool of volunteers increases pressure on co-producers. Rural context also translates into overlapping role identities brining different types of involvement and challenges. For example, a carer who is also a board member helped to infuse client needs into organizational discussion. On the other hand, employees' dual role as staff and community members can lead to personal conflict.	"It felt like energized co-production, with hundreds of people coming to meetings… [but now] it's pretty one-sided co-production and where we have expressed an interest in doing things differently, possibly more efficiently…we have not met anybody saying 'yeah …let me think about how we could do that'" (board chair_3). "Once you are helping their granny it's amazing, but once you cannot help them you a bad person" (employee_1).	• Geographical • Socio-political	
Australia			
Nexus operates from an anonymous-looking industrial unit in a state (provincial) capital city. Although precarious and short-term, funding for the service comes mainly from state government. By funding the service, albeit by fluctuating amounts over time and within strict controls, the government can be considered a co-producer. The CEO and board chair expressed concerns that impending changes to funding arrangements could jeopardize their unique peer co-produced service that emphasizes harm reduction, with priority being diverted to meet funder criteria in order to survive. By following funders' rules and an inability to shape services the "co" component of co-production can be lost.	"We've funded them on the basis of preferred service provider, so now we have to go to tender…we were told - under this policy - you have to test the market" (State government representative_1). "…the service is being disempowered by government and the rhetoric of empowering individuals…the service to represent consumers is being undermined all over the place…[Nexus] is in jeopardy of becoming just an outsourced service of what government approve of" (employee_4).	• Geographical • Level of interaction from local, to regional and national	Context, that is, WHERE?
Considering geographical community, Nexus tends to be unpopular with local residents and business owners. With fluctuating community acceptance, co-produced services were sometimes perceived as "unwanted" or "shameful", raising questions in relation to community buy-in.	"When we moved to this building … there was a lot of concern. When we move into the neighborhood, people think a bunch of junkies are going to be hanging out. To a degree that's true, but this is a perfect block with so many community services. We have to demonstrate to the council that we can manage that" (employee_5). "The broader community…are coming from a position of inadequate understanding and appreciation of the benefits for such a service and are happier to jump on any mistakes or errors" (board member_6).	• Geographical • Socio-political	

(Continues)

TABLE 2 (Continued)

Analytical story	Examples from the data	Co-production factors	Analytical question
Scotland			
A strong sense of ongoing threat to regular services. The wider community protested when threats of closure first occurred.	"It's very necessary to keep it going…it would be disastrous if it wasn't here. It's very much needed" (client_1) "There's mild interest. I think there's still gratitude…if there was a crisis, we would still get people again… like what happened before, speaking up" (board member_2).	Replacement of services withdrawn due to financial costs	Reasons, that is, WHY?
The community member-volunteers were not "obligated" to participate; however, complexity around participating or not participating was evident. Volunteer board members said that their roles could be burdensome and it was hard to find suitable replacements. Simultaneously, there was a sense that the board leaders had developed a sense of ownership—perhaps thinking that, if they stood down, things could fall apart.	"It's our responsibility because it has a huge impact for the area and we cannot allow it to go belly up" (board chair_3).	Desire to support more vulnerable community members	
Service delivery volunteers liked the work and enjoyed receiving training, including on first aid and dementia care. They expressed concern, however, that new volunteers were not stepping forward. They said they were partly motivated by wanting Aegis to be available for them *"when their time came"* (volunteer), resulting in a feeling that they had to volunteer, to keep the service open.	"The cohort of volunteers we have got is pretty much the same as on day one, and they are all getting older and looking at the seats for the people who use the service and saying - that's mine" (board chair_3).	- Desire to support more vulnerable community members	
Australia			
The organization was initiated by the peer community in response to a wave of opioid overdose deaths. The peer community wanted a service that was distinct from existing church-based or AA-style programs.	"We formed because of the community identifying a need, and that's continued to be the foundation of who we are—and what we do is a peer-based organization providing peer-based services with a consumer voice and focus" (employee_4).	Filling in gaps in delivery of "unpopular" services	Reasons, that is, WHY?
Some peers start as volunteers who originally volunteered as a form of rehabilitation as well as to help the wider peer community and move to paid roles as employees. Involvement of peers in service design was part of a radical approach from the inception of Nexus.	"If I want to teach to inject aseptically, I've got a list of about 25 things to pay attention to. If I try to didactically teach that to someone, they are not going to retain any of it … If you are actually there when the person is doing it, you can see straight away what they do not know … The information is far more likely to be believed and retained and acted upon and then shared with others" (employee_6).	Personal experiences	
Drug users are more trusting of educational approaches and information that is delivered from peers. Within the community, peer volunteers with relevant personal experiences support their community by dispensing equipment and sharing information about safe behaviors through their social networks.	"We've all got our badges of authenticity [points to needle marks] …I see them when I'm getting them a pamphlet down and they'll see it, and they'll be—okay cool, so now I can talk to you" (employee_5).	• Personal experiences • Filling in gaps in delivery of "unpopular" services	

associated public service withdrawal "allowed" its emergence as a co-produced alternative. For Nexus, while there is evidence regarding its benefits, its support of drug users is counter to a traditional view of drug users as criminals. However, both do interact with mainstream services, for example, the GP practice for Aegis and emergency services for Nexus. Regarding Alford's (2015) distinction between dependent and independent, both services are *dependent* on co-producers. Aegis would not exist without co-producers who help provide a low-cost service necessitated by public spending cuts. For Nexus, although fully voluntarily, peer volunteers penetrate a user community that is hard-to-reach with regular services. Although in both cases citizens are directly involved in service implementation that is fundamental to core service activity, as opposed to engaging in peripheral activity such as organizing fundraising events (Brandsen & Honingh, 2016), Aegis represents a largely non-complementary service (i.e., a service that, although restricted in size and locations, is assigned to statutory bodies) and Nexus a complementary service that could be perceived as new and revolutionary.

Dichotomizing voluntary versus involuntary was complicated. The Scottish volunteers co-produced actively and consciously, but partly did so as a result of pressure—initially around sustaining their rural community, but increasingly to avoid being seen as personally failing their community, evoking the "dark side" of co-production outlined by Steen et al. (2018, p. 285). Australian peers were more likely to have chosen to volunteer without a form of covert coercion, but other clients also participated in co-production through their receipt of health services and spreading of harm reduction behaviors through their networks. Both cases exemplify co-produced service delivery tending to be potentially "unfair" in engaging those who are already vulnerable (Bovaird, 2007, p. 856) and marginalized through geographical peripherality or social stigma.

Turning to benefit and value, Aegis enabled provision of a tangible service to older people and Nexus provided both—tangible services for their clients as well as less tangible benefits (e.g., information, change in perception of how services ought to be provided). Both Aegis and Nexus provide personal benefit and private value, though varying, for clients and co-producers. Aegis volunteers discuss benefit from training and aspiration for future benefit as clients. Peer co-producers at Nexus can access clean equipment, tailored health information, a route to employment, and the psychological benefits of feeling valued for their expertise and giving back to their marginalized community. However, there are problems as well as benefits, exemplified in personal burnout and burdens of obligation that were highlighted by Scottish volunteers. Collective benefit and public value accrue to host geographical communities from clean streets and reduced reliance on emergency services (Nexus), and a more liveable community (Aegis).

The 3Ws typology "what" dimensions were useful for highlighting similarities and differences between cases, but we found that disadvantages not included in the original typology could arise from co-production.

Moving to the 5Ws co-production framework

When discussing co-production, our interviewees referred to the *context* in which co-production took place and *reasons* for being involved in co-production. These led to the emergence of two new categories of *Where* and *Why* of co-production (Table 2).

Why

Some of the articles included in our review provide some commentary on drivers of co-production—that is, *why* does it happen? Those articles mostly dwell on a set of high-level drivers including a desire to awaken community members to more active citizenship. However, some articles raise the impact of direct catalytic issues, including that there is no alternative provider (e.g. Bovaird, 2007; Osborne et al., 2016).

The *why* of co-production is significant, as both cases in our study arose from crisis, although one of them was complementary. For Aegis, after years of closure threats and prolonged public service "austerity" cuts, co-production became a last resort for a rural community to retain day-care services. Also significant, this move was enabled by aligning with a growing Scottish public policy background promoting co-production and, at the time of conducting our study, EU funding availability. The "why" of Aegis' emergence could inform its current minimal, and perhaps sensitive, place in the service system. In Australia, Nexus emerged in the late 1990s, responding to multiple overdose deaths. Traditional service models were fatally flawed and did not effectively reach target populations. Nexus is currently successful and popular with its advocates. To date, it has operated relatively under the radar, supported by State government employees who understand its unique role and are prepared to withstand an environment of intermittent community backlash. However, interviewees raised questions about a changing political environment of competitive tendering and how this will affect the co-produced service.

Given that both cases emerged from crisis, and both have evolved in relation to the political/funding and political/community contexts, we suggest identifying *why* co-production started as a significant dimension within a theoretical framework. Considering "why" could have specific implications for sustainability; for example, Aegis represents a response to unsustainable public services, yet the long-term sustainability of the "new" co-produced services also appears questionable, bringing another challenge to public administration.

Where

We suggest that it is significant to look at *where* co-production occurs, as factors related to contexts and spaces of operation could influence co-produced services. As noted by Alford (2015), "service publicness" could influence co-production, and this resonates with our cases. In Scotland, public service retrenchment and a context of rurality means that local people are increasingly implicated in co-production because there is no alternative (Steiner et al., 2022). With limited human resources, it becomes difficult for co-producers to leave as a needed service could fail and they would be perceived as letting their community down (Muñoz et al., 2015). There is also a wider political contextual issue to consider, related to the Scottish "community empowerment" policy and pressure felt by the NHS commissioners, from central government, to ensure to keep a local service open in people's ownership. Nexus may be in a related position. While it is successful in harm reduction and saving lives, it is politically sensitive. It has continued to be funded but has operated "quietly" out of an inconspicuous, relatively disadvantaged urban neighborhood nestled among some manufacturing and wholesale units. Keeping Nexus' controversial harm reduction methods low-key is why occasional media headlines created by problematic peers are so challenging. Indeed, this also points to the importance of service settings; in our case studies, although different in their nature, health-related services were seen as being crucial by policymakers, local communities and volunteers. Importantly however, and as evidenced in other studies (Riccucci et al., 2016; Van Ryzin et al., 2017), in differing service areas (e.g. education, environment, health), the same factors in the co-production process might have different effects.

Alford (2015) also suggests that the balance of "capability resources" of co-producing actors is significant to co-production. In Scotland, having a prominent retired GP and active local business owner on the board gives sound credentials for the community to respect. At the same time, these community leaders could also re-activate community protest—meaning that NHS managers have to treat the board with respect. Differently woven, a balance of capabilities can be seen in Nexus, with a range of skilled employees and a sound management relationship with the government representative, combined with peers giving deep access to the target community. While all of these collaborations seem balanced and finely honed, any change at Aegis or Nexus could influence these complex interdependent relationships drawn from contextual community of place and community of interest spaces.

As such, co-production happens where there is a "space" with sufficient capacity to co-produce, a range of skills and knowledge, and systems/public administration and governments that support service co-production, albeit "quietly". Altogether, given the addition of *why* (reasons and drivers) and *where* (contextual spaces), we propose a revised co-production framework (see Figure 3).

DISCUSSION

This study set out to understand how to systematically analyze co-production cases. Having applied a theoretical framework of *who, when*, and *what* (3Ws) co-production typology identified through a literature review, we suggest that the *why* and *where* of co-production should be considered by policymakers and practitioners when implementing co-production. Interestingly, although reference to *why* and *where* can be found in some of the articles that we used to develop our original typology, to date, the two dimensions have not been included in any co-production typology or theoretical framework that we have found. Moreover, although many empirical co-production articles discuss their study context (Brandsen et al., 2018) as well as motivations or incentives (Van Eijk & Thomas, 2014) for co-production, literature in the field lacks a comprehensive understanding of how co-production travels among different contexts, and how to ensure successful co-production. Indeed, existing co-production research struggles to describe the context of and reasons for co-production in a structured manner and in relation to other facets of co-production. To assess the transferability of successful co-production, a more granular focus on of the *where* and *why* of co-production is needed and, in this article, we highlight the importance of a systematic analysis of these two dimensions.

Our "5Ws" co-production framework shows the importance of co-production *context*, that is, "the circumstances, environment, background, or settings which affect, constrain, specify or clarify the meaning of an event" (Christensen & Lægreid, 2013, p. 132). In our case, context is associated with the *where* of co-production, with socio-political and cultural factors, the level and scale of co-production, geographical conditions as well as service settings influencing the process of co-production (for detailed discussion on the meaning of context in public administration, see Pollitt, 2013). Influenced by a specific context, processes of co-production are shaped by co-production *reasons* (i.e., *why?*), *actors* involved (i.e., *who?*), and its *stages/time* (i.e., *when?*). Thereafter, *outcomes* of co-production, represent *what* has been co-produced. As such, all together our "5Ws" co-production framework helps to identify what works (i.e., outcome), for who (i.e., actors), and in what circumstances (i.e., context, reasons, and stage/time of co-production) (Pawson, 2006). Here, we refer to Pawson's work as it emphasizes the role of context and mechanisms (in our paper, the latter termed "process") in shaping the outcomes of an intervention, as well as identifying outcome patterns, generative mechanisms, and contextual conditions (Pawson, 2006)—all used to build and refine theories concerning complex causal mechanisms and explore how these mechanisms interact with contextual and individual

characteristics (Fletcher et al., 2016). The latter can be particularly useful when developing new theories in the complex field of co-production.

The *Why?* Dimension reveals that co-production reasons vary. In the case of Aegis, the created service derives from the need to support more vulnerable people, although the service might be also useful to its creators and co-producers in the future, when they get older. In Nexus, personal experiences and a desire to support more vulnerable people overlap, although some co-producers participate purely due to altruistic reasons. The second area of *Why?* Shows more clear-cut reasons for co-production with Aegis replacing services threaten by withdrawal, and Nexus delivering "unpopular" services which could be perceived as innovative. Although in a different manner, the two are very important for both the state and service users. Replacement of existing services translates into financial savings for the state but, at the same time, represents the added value of a protected service used by a community. Similarly, the delivery of "unpopular" services releases governments from direct involvement in what can be perceived as problematic areas of public administration, while bringing potential innovation and increased effectiveness of current service delivery.

Considering presented findings, we suggest that our 5Ws co-production framework provides a tool that enables comparison of co-production cases and addresses issues of methodological diversity, which have limited the "cumulative effect" of co-production studies (Verschuere et al., 2012, p. 13). In addition to allowing more tractability between studies, the 5Ws typology enables a more nuanced and comprehensive approach to understanding features of successful co-production that considers tangible aspects of public administration policies, governance structures, geographical issues, service delivery settings and networks, as well as those less tangible aspects of citizens' experiences and their motivations that make co-production effective—something that existing typologies fail to do. Importantly, we acknowledge that many empirical papers refer to, for example, the context in which a study took place, but the "where" of co-production is not considered or presented in a systematic way, or as a part of the analysis (e.g., see collection of case studies in Brandsen et al., 2018). Similarly, other researchers analyze motivations behind or the "why" of co-production—again, without considering other aspects of co-production (Van Eijk & Thomas, 2014). Although purposeful and important in influencing our co-production debate (see for example, Brandsen et al., 2018; Loeffler & Bovaird, 2021), this might represent a wasted opportunity to truly understand and unpack the meaning and effectiveness of co-production. Consequently, we advocate using our "5Ws" co-production framework to systematize and simplify co-production research, adding value and efficiency to co-production studies.

Here, we contribute to filling a gap in understanding comparative international co-production research

(Brandsen & Honingh, 2016; Nabatchi et al., 2017). Indeed, the same model of co-production might not work when transferred from one context to another. Hence, before implementing co-production models brought from other countries or regions, policymakers and practitioners need to carefully consider the *where* and *why* questions. The latter can assist in developing tailored interventions, increasing the rate of successful co-production, and avoiding potential failure and wasted public investments. Moreover, as a multifaceted, pluralistic and heterogeneous concept (Loeffler & Bovaird, 2021), co-production represents a challenge, particularly to policymakers who embrace and implement co-production policies. To justify public spending, governments of many countries move toward evidence-informed policies. By introducing the 5Ws of co-production framework we attempt to simplify reality while also addressing the complexity and messiness associated with the plurality and heterogeneity of co-production and, to contribute to research-informed policies, assist in analyzing co-production in a more structured and systematic way.

Importantly, as co-production involves community actors who invest time and effort, the failure of an initiative can discourage people from potential involvement in future co-production. Indeed, one failure can jeopardize future community engagement in co-producing services, having a wider impact on policy efforts (e.g., rather than increasing effectiveness and efficiency of public services, unsuccessful co-production can have the adverse effect). As such, in addition to contributing to a well-established (Ostrom & Ostrom, 1977) but still growing academic interest in co-production (Jakobsen et al., 2019), our work is of interest to public policymakers promoting co-production, as well as those willing co-production practice to thrive.

CONCLUSION

Our study offers four main contributions to the existing co-production debate. Our first contribution is theoretical, as we build on existing co-production typologies and develop a new "5Ws" of co-production helping to unpack triggers, complex processes, and outcomes of co-production through the analysis of *where, why, who, when*, and *what* co-production questions. As such, our article contributes to developing existing co-production theory "by pointing to gaps and beginning to fill them" (Siggelkow, 2007, p. 21). Specifically, we argue—first— that the context (i.e., *where?*) should be an integral part of co-production analyses; indeed, specific socio-political, geographical, and service setting conditions have an impact on the processes and outcomes of co-production, and—second—that the reasons (i.e., *why?*) behind co-production determine who is involved in co-production and when. A comprehensive analysis of 5Ws can assist in better articulation of co-production success factors, beyond the *who, what, when* of co-production. For

example, rural geographical context with lack of other service-providers can act as a push factor for co-production, with rural culture of self-help underpinning participatory work of local people. On the other hand, a problematic and controversial service delivery in an urban context can support alternative to traditional solutions with personal experiences acting as a pull-factor and a foundation of a successful co-production process. This relates to Thomsen et al. (2020, p. 669) suggestions indicating that co-production "might be contextualized or bound within specific cultural and geographic setting" as well as their call to investigate why co-production happens. Indeed, to be successful in any co-production efforts, all these dimensions need to be taken into consideration.

The second contribution is methodological and relates to the development of a tool that enables a systematic comparison of a variety of co-production cases. In existing studies, context is frequently presented as a study background; here, we argue, it should be a key component of co-production models and analysis, carefully studied to better understand the complex underpinnings of successful policy and practice. We conclude, therefore, that using the tool is helpful for identifying shared features among cases of co-production while understanding specific co-production characteristics that can determine whether co-production works or not. The latter can be particularly useful when, inspired by successful examples of co-production, policymakers attempt to import co-production ideas and embed them in their national context. Indeed, without considering the *where* and *why* of co-production, these attempts may fail, leading to a costly public administration exercise that can jeopardize future engagement and buy-in of co-production stakeholders. As such, we respond to the call to better understand "the processes through which service users and citizens learn to create value and how these might be supported (and by whom)" (Osborne, 2018, p. 229). Moreover, our study provides evidence that a comparison of cases that are different in many respects is possible and informative in terms of illuminating co-production theory. Using our framework to explore case studies of co-production could help to more consistently identify changes in features of co-production over time and between different societies and different spaces. Indeed, in their recent research on citizen-state interactions, Jakobsen et al. (2019, p. 14) encourage scholars to develop new frameworks in the field and conclude that they "can help to generate … shared reference points, language and assumptions [for scholars], but also help the casual reader to understand how the citizen plays a role in governance". As such, we hope that this methodological contribution will assist "to capture the full picture when seeking to understand what inputs, activities, and processes lead to public outcomes" (Sowa, 2016, p. 588), overcoming critiques relating to the "wooliness" (Osborne et al., 2016) and lack of conceptual clarity (Sorrentino et al., 2018) of the concept, as well as

challenges associated with the "methodological hurdles" in the field (Jakobsen, 2012, p. 28). We believe that the proposed tool can facilitate a comprehensive analysis of co-production, identifying what works, for who and in which circumstances (Pawson, 2006).

Thirdly, our study helped to illuminate a number of "hybrid features" of co-production. For example, the real-life cases we scrutinized went beyond the types of co-producer covered in theory—including funders as influential co-production stakeholders. Considering what was co-produced, our study evidenced that the distinction between voluntary and involuntary co-production can be blurry—with both taking place at the same time. More precisely, in both of our cases, new services were created because of some element of regular public service failure, suggesting co-production as a solution. This, again, shows the importance of exploring "why" co-production happens.

Finally, while theoretical articles mainly highlight the positive value and benefits of co-production, we observe there can be downsides experienced by co-producers. Although co-production is organic and can be empowering and beneficial for communities, clients, and other co-producers (Bovaird, 2007; Jakobsen, 2012; Ostrom, 1996), there is also evidence of elements such as lay co-producer burnout and threats to truly collaborative co-production due to government-imposed funding and performance criteria. Future public policies should not perceive co-producers as unlimited free-to-use resources and, instead, recognize that co-production needs to be facilitated— both financially and through relevant administrative support—to ensure the longevity of co-production and its successful outcomes.

LIMITATIONS AND FUTURE STUDIES

We recognize some limitations of our study and recommend future research to address these. Firstly, due to time and resource constraints, our study used a narrative literature review and focused only on theoretical articles and co-production with community members. We recommend testing our findings through a wider systematic literature review. Secondly, our empirical data derived from a limited number of case study locations and we welcome new contributions from other contexts testing and further developing our framework. Indeed, the qualitative and exploratory nature of our study prevents us from making any claims associated with the generalisability of our findings. Although by comparing two heterogeneous cases of co-production embedded in different international, geographical, and socio-political contexts, our intention was to ensure that the typology is applicable in the wider diverse international context, we recommend testing our findings and presented typology in future studies. The latter could include a bigger empirical sample, exploring different geographical contexts, service settings and

co-production motivations, to comprehensively expand our knowledge about the 5Ws of co-production and its dimensions. Finally, our study did not quantify aspects of co-production (Brudney et al., 2022), providing only a qualitative account of co-production cases. We call therefore for research exploring cost–benefit analyses which can assist in creating policies aimed at increasing the efficiency of public services. Future studies could also include analysis of how different public administrative structures allow and enable what we called "quiet co-production" to test new approaches and innovate public service delivery. Finally, identifying pathways to legitimizing what can be perceived as "controversial co-production" might assist in introducing more radical, albeit more efficient, forms of modern service delivery.

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