



Service and value co-production and co-creation in emergency services and emergency management

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Service and value co-production and co-creation in emergency services and emergency management

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Introduction

This special issue explores the phenomenon of co-producing and co-creating services, policies and knowledge and the creation or destruction of value in the delivery of emergency services and more broadly in the research and practice of emergency management.

Some of the papers in this issue were presented at the XXII International Research Society for Public Management (IRSPM) annual conference held in Edinburgh, Scotland in 2018 on the theme of “Creating and co-creating value in public service delivery”. Other papers in the special issue result from a subsequent call for papers on the same theme of the conference.

The special issue seeks to understand what should be considered as value in the co-production and co-creation of emergency services and emergency management since it is not always clear what “value” is and for whom it is created. In addition, the special issue offers a reflection upon the current concepts of co-production, co-creation and public value creation and links this discourse to the field of emergency management. These issues are exemplified by the domestic and international response to Covid-19. At the time of writing many governments are asking citizens to self-isolate if they or emergency response teams suspect they may have the virus, or to ‘socially distance’ if citizens are in a ‘vulnerable’ group. They are in effect asking for voluntary behavioral changes from the public as part of policy development and implementation. Whether a more or less prescriptive approach is adopted by governments, all approaches have acknowledged that the response of users and members of the community is crucial to both the direction and the success of the policy adopted.

In this editorial we will first discuss what co-production and co-creation is in emergency management and emergency services, then we will present the articles of the special issue and how they relate to the topic of co-creation and co-production and finally we will provide some suggestions for further research and theoretical development.

Co-production and co-creation in emergency services and emergency management

The term co-production indicates “a process through which inputs from individuals who are not “in” the same organization are transformed into goods and services” (Ostrom 1996, p. 1073). The importance of the topic of co-production and co-creation lies in the fact that it recognizes the need to break the silos of disciplinary and/or professional knowledge to solve complex problems and deliver more satisfactory and effective services and policies. In essence, the government, at all levels, increasingly recognizes that it cannot deliver all services and policies on its own and sometimes needs the help of the whole community to be effective. This way of managing and administering public goods represents a conceptual shift in emergency management and in the public sector in general. For example, in the United States emergency preparedness is now seen as a shared responsibility across federal, state and local levels of government and within the

community. Examples of this shift can be seen in the Federal Emergency Management Agency's promotion of the "Whole Community" approach (FEMA, 2011) and the recently released "Building cultures of Preparedness" (FEMA, 2018). Thus, service users and policy recipients now have to be taken into account during the design stage of a service since "*the delivery and management of services are no longer just the preserve of professionals and managers — users and other members of the community are playing a large role in shaping decisions and outcomes*" (Bovaird 2007, p.846). A requirement exemplified by the response to the outbreak of Covid-19 pandemic in both the United States, and the UK where, in March, the president declared a national emergency invoking both the National Emergencies Act and the 1988 Stafford Act and the Prime Minister announced that he would be proposing a plethora of new emergency powers (Johnson 2020).

This radical new approach to the field of emergency management potentially changes the definition and scope of emergency services. The conventional definition of emergency services as performed by trained professional in the sector of law enforcement, fire and rescue services and emergency medical services should now also include co-opted and spontaneous volunteers acting as first responders. Emergency services have often relied on co-opted but pre-trained volunteers in the past. An example of spontaneous volunteers acting as responders in the United States is the Cajun Navy. The Cajun Navy is a group of people with boats that provide rescue services to people in the event of flooding. Like the Cajun Navy, other groups or spontaneous volunteers provide both emergency services and relief in the aftermath of a disaster. For instance, in Australia in the aftermath of the 2011 Queensland floods the "mud army" helped with the cleanup operations (Rafter, 2013). However, the response of Europe and the United States to the spread of Covid-19 represents attempts at mass mobilization and significant behavioral change in the preparedness stage as opposed to the reaction and recovery phases. It is distinctly possible that mass mobilization may also be required in the recovery stage of the Covid-19 outbreak to avoid a renewed resurgence of the virus.

The involvement of citizens or private entities in the production, creation and/or delivery of services and policies results in more or less formalized public-private partnerships and in processes of co-production and/or co-creation. Co-production and co-creation are two ways of working in public-private partnerships (Velotti, Botti and Vesci, 2012; Dudau, Glennon and Verschuere, B, 2019). When developing processes of co-production, tasks and/or objectives are established ex-ante by a public administrator/official/agency. In this form, private partners are less involved, being constrained by predetermined tasks set up by public entities and the public servant is assumed to have more control. Conversely, co-creation happens when there are no objectives set in advance; rather objectives have to be established through negotiation and participation (Velotti, Botti and Vesci, 2012; Dudau, Glennon and Vershirer, 2019). Understanding co-production and co-creation as the result of negotiation and participation does not highlight the fact that these partnerships are often aimed at the production of a service or part of a service and that the co-production of services is "*an essential and inalienable core component of service delivery*". According to this perspective co-production entails the conscious or unconscious participation of the user in the delivery of the service as well as the creation or destruction of value (Osborne, Radnor and Strokosch, 2016).

The literature on public administration primarily discusses the co-production and co-creation of value for public goods or services. The term value often refers to public value (Moore, 1995) and this can be an output, a product, and/or an outcome of public services or policies. However, value

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3 can also be understood at the individual level as motivation of individuals to co-create or co-
4 produce services (Pestoff, 2012). More recently Lindgren et al (2019) have demonstrated how
5 public value can be produced and/or created at the level of the individual as well as at the collective
6 level and that it can be produced or created at the same time as private value is being created.
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8 Thus, public and private entities and citizens can create public and private value and may at times
9 create both simultaneously.
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12 In addition to the literature on public services there are several studies that address the co-
13 production and co-creation of knowledge in other related disciplines. One example of the co-
14 production of knowledge and policies is in science–policy co-production (Miller, 2001; Jasanoff,
15 2004; Scolobig et al., 2014;). Science-policy co-production results from the interaction of
16 scientists, citizens/end users and policy makers (Scolobig, 2016). For instance, in Italy the co-
17 production of *experiences of co-creation* can be found in engaged academics and engaged
18 scholarship and in innovative experiences of partnerships between academy and community
19 partners. Engaged scholarship or the engaged academic is a scholar that is committed to high
20 academic standards and “actively works to create useful knowledge and ... connects with real
21 communities and organizations involved in disasters and emergency management (Trainor, Stern
22 and Stubbio 2018, p. 166).
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27 However, despite an increasing tendency, in some countries, to develop and implement policies
28 that are co-produced and/or co-created by politicians, scientists and the public at large a
29 problematic aspect that should be taken into account is the question of who determines what
30 deserves to be co-produced or co-created and who are the entities included in this participatory
31 process. The response of the United States to COVID 19 illustrates how competing values and
32 therefore interests might interfere with response. For instance, the United States has initially
33 downplayed the danger of COVID 19 in an attempt to protect
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37 *(...) economic activity over the recommendations of public health officials and medical experts.*
38 *This appearance of distrust in science, and in scientists, only exacerbates an erosion of public*
39 *trust. It also calls into question the extent to which decisions in response to the crisis are made*
40 *on the basis of data and evidence. All of these factors highlight an urgent need for scientists,*
41 *public health experts, engineers, federal and local agencies and those in the private sector to*
42 *step up and act on behalf of the greater societal good (New Voices in Sciences, Engineering &*
43 *Medicine initial cohort, March 18, 2020).*
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47 Thus, the question that arises is what is the greater societal good? Is the greater societal good
48 responding to a health crisis or to protecting economic activity?
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52 **Papers in this issue**

53 The papers in this special issue are primarily empirical and address co-production and co-creation
54 from the perspective of the individual (Baker and Deham; Malinen, Algera and Mankkinen, and
55 Bakker and colleagues), and the organizations operating within networks of emergency
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3 management systems (Sienkiewicz-Małyjurek, Caliskan and Altintas and Murphy, Wankhade and
4 Lakoma). The methods used by the authors are both quantitative and qualitative.

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6 **Baker and Deham** have used an innovative way for researchers to co-create knowledge. Going
7 beyond participant observations, they propose and exemplify the perspective of the researchers as
8 a citizen responder as a means to gain in-depth knowledge about processes and service delivery.
9 In this instance co-creation of knowledge and value is, at least partly based on reflexivity.

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11 They discuss how a “regime” narrative about the use of governmental agencies as first responders
12 is produced and reproduced in the emergency management sector and the implications this has on
13 informal response from participants such as citizen volunteers. A “regime” narrative is a unilateral
14 version of the facts, in this case the version of the formal or official response establishment. The
15 article discusses the conflict generated by the creation of value for survivors and citizen volunteers
16 during informal response operations and the destruction of value for official responders. It also
17 raises questions on the co-production of “regime” or dominant perspectives. It juxtaposes an
18 alternative perspective, namely the creation of an innovative co-created narrative of aid in post
19 disaster relief, where survivors are seen as an integral part of the response systems. The study
20 focuses on the response of spontaneous volunteers in search and rescue operation during Hurricane
21 Harvey in the Houston area in 2017. The Houston area was subjected to unprecedented rain that
22 caused many areas to flood. Since the turn in weather was sudden, the population was not asked
23 to leave but to stay in their homes. Baker and Deham base their discussion on the observation of
24 three epiphanies, the epiphany of unstrapping, the epiphany of de-securitization and the epiphany
25 of appropriation. In the authors view the response of spontaneous volunteers is an example of less
26 formalized public private partnerships, co-production and co-creation. Their article is also the first
27 time that the authors methodology of co-autoethnography have appeared in this journal.

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31 Volunteering is also the subject of the paper by **Malinen, Algera and Mankkinen**. In terms of
32 our theme, the motivation to continue volunteering for the fire service can be understood as service
33 co-production since volunteers are asked to perform specific tasks on the basis of established
34 procedures. While large urban areas generally benefit from full-time career firefighters, sparsely
35 populated areas often rely more on volunteers. Long-term volunteer numbers have recently been
36 declining in many countries. The authors have used a large on-line survey and the well-established
37 Volunteer Functions Index to investigate the initial motivations of volunteers to join the Finish fire
38 service and the (much less researched) motivations of those who come back and continue
39 volunteering for the service. The authors then look at the role of socio demographic variables such
40 as gender and age and at regional differences (using urban, semi-rural and rural areas) to explore
41 variations in the motivation to volunteer. This fascinating study finds significant differences in
42 almost all of these factors and distinct differences to findings in the general volunteer literature.
43 There are differences in the motivation to join the service from those continuing to stay with the
44 service and variations in both when gender, age and geography are factored in. The only common
45 factor was that there were no significant regional differences in the initial decisions to volunteer.
46 Overall, the initial motivation to volunteer is due to volunteers’ willingness to gain skills or an
47 understanding of the fire brigade, secondly the influence of their relatives to join and then as a
48 third factor there are values such as wanting to do good. Although the authors acknowledge the
49 inherent limitations of a study based in one country, the theoretical and practical implications are
50 considerable and the need to replicate the study and validate the findings is demonstrable. The
51 study also confirms that motivations are dynamic and can change over time and the paper sheds
52 light on the transactional aspect of service co-production in the fire and rescue service.

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5 **Bakker, van Veldhoven, Gaillard, Hertogs and Feenstra** present an exciting new questionnaire
6 for the assessment and early diagnosis of potential problems in the functioning of emergency
7 workers in their private life outside work. Rescue workers particularly those in the front line have
8 demanding jobs and previous research has shown that an accumulation of involvement in critical
9 incidents makes the rescue worker susceptible to the development of psychological symptoms.
10 Most studies to-date emphasize the risks of rescue workers' sacrificing their health and private
11 life. Building on earlier work that identified the most important life tasks as being, social life;
12 maintaining family, home and finances; maintaining mental health, providing meaning and
13 maintaining positivity the study developed a Life Tasks Test to help the diagnosis of rescue
14 workers and protect them against the corrosive effect of "cumulative confrontation with
15 adversities". It was the first questionnaire to be designed and implemented specifically for
16 emergency workers and was based on the response from 108 police officers in urban areas in the
17 Netherlands. The team's results found the test valid for four of the five life task domains although
18 they found little evidence for the validity of the social life domain with the exception of 'support
19 from colleagues' which is related to the quality of the social network at work. With such a small
20 study in one service, and one country there are obvious and acknowledged issues with
21 generalizability but the potential practical implications for management, workers and their trainers
22 being able to co-create individual and collective value are clear and substantial.
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28 The article from **Caliskan and Altintas** on patient transfers by air ambulances and seaborne
29 transport (in this instance an ambulance boat or a ferry) in addition to or in combination with
30 traditional road vehicles, is a contribution to the very limited information and literature that we
31 have on the performance of these types of specialist services. Performance appraisals of ambulance
32 services tend to focus on two sets of performance criteria. The clinical contribution of the service
33 to the patient and the response time or duration in getting patients from the call out to their arrival
34 at hospital (with cost being a factor in both). Although there are medical journals that accept papers
35 on the clinical performance and patient outcomes of those transferred by these specialist services,
36 the current paper is purely about non-clinical performance. Existing studies also tend to be in the
37 more affluent countries and are often focused or based on large urban areas. The current paper is
38 part of an attempt by the authors and colleagues to build upon a series of studies that look at the
39 performance of these specialist services in Turkey. Turkey is obviously a large country with
40 significant numbers of islands and archipelagos. In particular, this is a study of the helicopter and
41 seaborne services to two islands in the Aegean Sea where multiple transfers from different types
42 of ambulance can result in varying response times. As well as being in a 'literature poor' research
43 environment the authors are also dealing with a 'data poor' environment and have had to use
44 patient registration forms for the 5-year period up to 2013. The study found both seasonal and
45 weekly variations in transfers are affected by factors as diverse as operating times and the weather.
46 All types of transfers were higher in the summer due to tourism. Although the current paper is
47 largely descriptive, we hope it will encourage the study of similar specialist services in the future
48 perhaps through comparative studies.
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53 **Katarzyna Sienkiewicz-Malyjurek** discusses the background and antecedents of collaboration
54 and the drivers of relational risk in public safety networks (PSNs) based on the current emergency
55 management arrangements in Poland. In Poland, public safety is the responsibility of state
56 authorities at both the central and local government level. The aim of the article is to "identify the
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inter-related impact of the antecedents of collaboration on the emergence of relational risk and the impact of relational risk on the effectiveness of collaboration in public safety networks”. The study answers two research questions aimed at understanding which of the antecedents of collaboration influences the emergence and extent of relational risk in PSNs and how drivers of relational risk impact upon collaborative effectiveness in PSNs. The antecedents or drivers of collaboration identified by the author are legal requirements, organizational dependency, institutional complementarity, past experience and common problems. Relational risk refers to the risk an organization takes when engaged in collaborative relationships. The outcomes from collaborative relationships can be influenced by a lack of reciprocity, enmity and/or different cognition (misunderstanding the necessity of collaboration, lack of dependency awareness). The study’s findings are based on a sample of 83 of 100 correctly completed questionnaire of professionals and practitioners from emergency and rescue units, including the police, state fire brigade and emergency medical services; local government officials responsible for security issues; and academics research workers working in PSNs. Utilizing a structural modeling equations method, the author finds that legal requirements and past experience most affect the emergence of relational risk, while different cognition and enmity have the greatest impact on the effectiveness of collaboration. Though the author accepts that these findings need to be replicated in other contexts; they can be considered as the first steps toward a better understanding of factors influencing collaboration and therefore the co-production of service and the creation of value in similar PSNs and possibly for any organizations working in network settings or in partnerships.

The article by **Murphy, Wankhade and Lakoma** is a general review paper that offers a way to examine the performance regime of emergency services by identifying the roles and responsibilities that are involved in the inter-related domains of policy development, public service delivery and public assurance. The article shows how these activities are related to each other and to wider considerations such as underpinning public service values, the operating environment and the resources available to the service at any one time. In the past, the model has been applied to a range of locally delivered public services including local government, health and social care and the police. As its title suggests, this article focusses on the strategic and operational landscape of the three ‘blue light’ emergency services in the UK (the police, fire and ambulance services), as the organizational landscape has recently been changing rapidly and there are further foreseeable changes in the future. Their purpose is to ‘map the overall picture’, so that future research can look at the strengths and weaknesses, and perhaps identify potential improvements in the organizational landscape or the conceptual framework, although the authors admit that they may have “strayed into subjective or evaluative areas when comparing the current landscape to ones that have existed in the past”. Indirectly the paper identifies challenges to systemic innovation, improvement co-production and co-creation in emergency services in the United Kingdom. It might also be useful as a contribution or starting point for investigating strengths and weaknesses in the organizational landscape and performance management regimes of public services in other countries.

Conclusions and further research

The special issue provides an interdisciplinary platform and a forum for an engaged and critical analysis of the emergency services amidst mounting calls for professionalization in these

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3 organizations along with the growing interest and capacity of the professionals and practitioners
4 (in these services) for co-production and co-creation of knowledge. Collectively the papers have
5 highlighted how the creation of value is not a given, since it can vary depending on the perspective
6 assumed. Baker and Deham for example highlight how the creation of value for citizens and
7 volunteers as first responders might represent a destruction of value for professional responders.
8 This presents a challenge for both scholars and practitioners of how to create a system in which all
9 the parts work together towards achieving a common goal and how to make sure that all the entities
10 involved feel part of the same venture and aspirations. Is it unreasonable to suggest that, in essence,
11 this is the challenge posed by the Covid-19 virus pandemic? Does it require an existential threat
12 to generate the focus for this collective endeavor? and if so, why hasn't it yet happened with
13 climate change?
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16 Individually all of the papers either directly or indirectly ask serious questions of current
17 arrangements for the provision and deployment of emergency services. From the inadequacy of
18 basic data in specialist ambulance services (Caliskan and Altintas) to the needs of our human
19 resources (Mallinen *et al*, Bakker *et al*) or the inter-related systems we adopt for preparedness,
20 response and recovery (Baker and Deham, Sienkiewicz-Małyjurek and Murphy *et al*), you only
21 have to ponder the current Covid-19 pandemic to see how relevant these issues are. The case for
22 collaboration co-production and co-creation in the emergency services is ever more compelling.
23 The need for further research undeniable.
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26 27 **Acknowledgements**

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29 The editors of this special issue thank all the authors that have contributed with their articles to
30 further the debate on co-production and co-creation of value in emergency services and emergency
31 management. A special thanks goes to Dr. Paresh Wankade, the chair of the panel on service co-
32 production and co-creation in emergency services.
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