Using local communities to establish geographical boundaries for case studies

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Abstract:

Background Case studies are widely used in the social sciences to explore complex phenomena in natural settings. Applying boundaries is vital to ensure cases are easily identifiable and similar enough to be treated as instances of the same phenomenon.

Aim To discuss using local communities to establish geographical boundaries in case studies

Discussion Post codes can be used to define geographical boundaries. A broad range of statistical data can be collected from these areas, including demographic information, which can assist in identifying communities that have issues or characteristics which may benefit from further research. Collecting data from communities enables researchers to access appropriate populations.

Conclusion Using local communities to identify case boundaries helps to provide a clear periphery to the case and generate local solutions to local problems.

Implications for practice This approach enables researchers to immerse themselves in the local community, ensuring it engages with research projects and findings.

Key words: study design, data collection, nursing research

Introduction

Case studies are well established in social sciences as appropriate ways of conducting research in depth (Feagin et al 1991; Yin 2014). They are used to obtain and explore complex problems in natural settings. Case studies provide flexibility as researchers can refine the research question during the study and use multiple techniques to collect data (Stake 1995). However, cases must be 'bounded' to maintain their focus and scope and avoid the 'blurring' of information (Stake 1995). By defining a case's boundaries, its scope and nature become clear. Examples of boundaries include social groups, geographical areas or time periods (Yin 2009, Crowe et al 2011).

The aim of this paper is to discuss the benefits of using established, geographically defined, local communities as boundaries.

Definition

Case studies are empirical enquires used to investigate in depth an event, activity, or process in a natural setting (Yin 2014). They are particularly useful when little is known about the issue being explored (Appleton 2002) and can use multiple sources of data to investigate the phenomenon. This may enable new research questions to evolve as new data emerges (Stake 1995) and provides flexibility for the chosen methodology and the procedures selected to collect the data (Luck et al 2006). Stake (1994) proposed that case studies are defined by an interest in individual cases, not the methods of inquiry used, whereas, Yin (2003) emphasised more the method and the techniques that constitute a case study. Stake (1994) advocated a more qualitative approach, with a naturalistic emphasis, and stressed the importance of contextual description (Zucker 2009). This approach involves understanding individual perspectives and shared social experiences in a defined community and is the one used in this paper.

Types of Case Study

A research question generally defines a study's design. However, a case can also inform and determine the study and the research question (Hyett et al 2014). It may be selected because it is representative of other cases or because of its uniqueness, depending on the true interest of the researchers (Crowe et al 2013).

Case study has been described as either explanatory, exploratory or descriptive (Yin 2009). Explanatory case studies try to address 'how' and 'why' questions, and are used to obtain in-depth, causal information (Yin 2009). Conversely, exploratory studies are often used to formulate hypotheses or research questions, while determining the feasibility of research topics (Yin 2014). Meanwhile, descriptive case studies provide in-depth and detailed insight into a unique or revelatory case in its own context (Yin 2014).

Depending on the focus of the research, case studies can also be described as 'intrinsic', 'instrumental', or 'collective' (Stake 1995). Intrinsic case studies explore the details of a single, unique case, rather than what it represents; they have limited transferability. The uniqueness of the phenomenon and how it is distinguished from everything else need to be clearly identified. In intrinsic case studies the case is 'dominant' and 'of the highest importance' (Stake 1995, p.16.)

In instrumental case studies, the issues remain dominant, and the case provides insight into a defined event or phenomenon or refines a theory (Stake 1995). They use particular cases to gain a broader appreciation of an issue or phenomenon, thereby gaining broader appreciation of another issue or phenomenon (Stake1995).

Collective cases use an instrumental approach to study multiple cases sequentially or simultaneously to broaden the exploration of an issue or phenomenon (Appleton 2002). Each case is studied holistically and remains a single entity (Stake, 1995, 1998); this ensures the cases can be compared, theories tested, and findings replicated (Stake 1998).

Yin (2014) and Stake (2006) emphasised the importance of using multiple sources of data to study the phenomena in their natural settings; however, their approaches are not mutually exclusive and are influenced by the researcher’s philosophical viewpoint (Appleton 2002).

Selecting a case

A case is a specific, complex, recognisable and integrated system that is the object of the study, not the process (Stake 1995). It needs to be easily identifiable (Dempsey & Dempsey 2000) and similar enough to each other to be treated as instance of the same phenomenon (Ragin and Becker 1992).

When deciding and defining what a case is, researchers need to consider carefully theoretical issues, existing literature and the setting (Stake 1995, George & Bennett 2005).

Access to the case selected is an important consideration. The case needs to provide the researcher with appropriate potential participants, who can address or inform the research questions (Crowe et al 2011). The case also needs to provide support for the research to take place and the researcher will need to work collaboratively with any community leaders, to make these community connections and links with the local population (Stake 1995). This access and collaboration with the study population enables the researcher to explore in depth the complexities of the case (Appleton 2002).

The researcher must address any burden on and risks to the participants, including potential ethical concerns, confidentiality and anonymity. This ensures the demands of the case study can be met by potential participant organisations and individual participants. If participants consider the disruption to their time, the resources required or the emotional burden to the research to be too high, they may not participate (Crowe et al 2011).

Selecting a boundary

A case may be selected because it is either typical or atypical of the phenomenon of interest. It is important to study a case in its context as this provides several advantages (Stake 2000), including richer and more complete data that provide more detailed insight into the phenomenon, increasing the potential relevance of the study's results. To select an appropriate case for study, there must be a clear boundary, which defines the nature and scope of the case.

However, it may not be easy, to distinguish the case from its context, and the case must also be readily distinguishable from other events, behaviour or actions (Stake 2000).

To overcome these problems, Yin (2003) and Stake (1995) suggested using boundaries to define the case's nature and scope and ensure the scope remains reasonable, although the nature and focus of the case may change as the study progresses. Setting boundaries also allows a study's findings to be compared with similar studies (Yin 2009).

A case can be bounded by different factors, including time, geography, place and events (Ragin and Becker 1992). Time boundaries identify a case's beginning and end (Yin 2009). Researchers specify boundaries to help define the case, for example, a local annual event such as a festival or summer school (Stake 1995). Case boundaries need to be clearly defined and unambiguous. If they are, then it will be easier to relate them to the research question and identify the data collection methods required (Holloway and Wheeler 1996).

A boundary may be implicit, such as a hospital ward or unit, which could be bounded by location or time depending on the research question (Dempsey & Dempsey 2000). An example of a hospital unit bounded by time would be an outpatient department which has defined operational times.

Appleton and Cowley (2008) explored how health visitors at three community healthcare trusts made assessments and used professional judgement. The trusts were selected for the study because they provided health visitor services, but each used different guidelines to help health visitors to decide if families required additional support. In this study the implicit case boundaries were at the Trust organisational level.

Local communities as boundaries

Locally defined communities can provide easily accessible defined boundaries. These established communities often yield useful demographic and contextual data that can be used to describe and define the nature of the case.

Many countries throughout the world use postal codes to identify geographical areas. These were introduced to assist postal delivery but have been extended in some countries to a range of administrative, health and statistical information and services. National governments collect demographic data about the population living in each postal code, such as statistics about the economy, society and population including socio-economic status, types of housing, household characteristics, health inequality, child health, health conditions, mortality, employment rate, cultural identity and education. It is possible to compare and review these data, as they are usually accessible and available through established public health and national statistics databases.

Use of post codes as geographical boundaries for cases, can enable researchers to explore in depth different populations and communities across geographical areas. This can help to contextualise and understand the properties of the cases. By using defined communities with similar demographic properties, researchers can explore specific research questions and compare findings. As government data are established and verified, examining these data within established postcode boundaries can help to detail the complexity of the case.

Several studies have used postal code based information to select participant populations. Edenborough et al (2008) explored the experience of child-to-mother violence, by using Australian National Census information to identify appropriate participant populations. Jackson et al (2017a, 2017b)'s mixed methods case study sought to understand the burden of pressure injury in a community and used a single UK 'postcode district' (approximately 45,000 households) to provide data about patients with pressure injuries, including demographics and the incidence of pressure injuries.

It is important to establish contact with local communities. By understanding local communities, case study researchers can identify appropriate populations to study and access contextual data from a multitude of sources, thereby informing the case. However, if the researcher has little or no in-depth knowledge of a community, it may be difficult to conduct research in that community. By creating appropriate connections with local government bodies to identify local community leaders, for example, researchers can begin to engage with communities to overcome this issue.

Conclusion

Using local communities in case studies provides researchers with a clearly defined accessible, identifiable population, that offers manageable amounts of rich and broad data from a defined geographical or bounded research population. Local communities share and access local services, so may share similar experiences, but may have different demographic characteristics or features. By using post codes as boundaries for cases, researchers can access wide ranging information about local communities, ensuring their research has local relevance in research design and findings.

References

Appleton, J.V. (2002) Critiquing approaches to case study design for a constructivist inquiry. Qualitative Research Journal; 2:80–97.

Appleton, J. and Cowley, S. (2008). Health visiting assessment—unpacking critical attributes in health visitor needs assessment practice: A case study. *International Journal of Nursing Studies*, 45(2), pp.232-245.

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A. and Sheikh, A. (2011) The case study approach. BMC Medical Research Methodology, 11(1). http://www.biomedcentral.com/1471-2288/11/100

Dempsey, P.A. and Dempsey, A.D. (2000) Using nursing research Process, critical evaluation, and utilization 5th edn. Baltimore, MD: Lippincott Williams & Wilkins.

Edenborough, M., Jackson, D., Mannix, J. and Wilkes, L. (2008) Living in the red zone: the experience of child-to-mother violence. Child & Family Social Work, 13(4), pp.464-473.

Feagin, J., A. Orum, and G. Sjoberg. (1991) A case for case study. University of North Carolina Press: Chapel Hill, NC.

George, A.L, and Bennett, A (2005) Case studies and theory development in the social sciences Cambridge, MA: MIT Press.

Holloway, I., & Wheeler, S. (1996). Qualitative research for nurses. Oxford England: Blackwell Science

Holloway, I. and Wheeler S. (2002) Qualitative Research in Nursing. Second edition. Blackwell Publishing, Oxford.

Hyett, N., Kenny, A. and Dickson-Swift, V. (2014). Methodology or method? A critical review of qualitative case study reports. *International Journal of Qualitative Studies on Health and Well-being*, 9(1), p.23606

Jackson, D., Durrant, L., Bishop, E., Walthall, H., Betteridge, R., Gardner, S., Coulton, W., Hutchinson, M., Neville, S., Davidson, P. and Usher, K. (2017a) Health service provision and the use of pressure-redistributing devices: mixed methods study of community dwelling individuals with pressure injuries. Contemporary Nurse, 53(3), pp.378-389.

Jackson, D., Durrant, L., Bishop, E. et al.(2017b) Pain associated with pressure injury: A qualitative study of community-based, home-dwelling individuals. Journal Advanced Nursing. 00:1–9. https://doi.org/10.1111/jan.13370

Luck, L., Jackson, D. and Usher, K. (2006). Case study: a bridge across the paradigms. Nursing Inquiry, 13(2), pp.103-109.

Ragin, C.C. and Becker, H.S. (1992) What is a Case? Exploring the Foundations of Social Inquiry. Cambridge, USA: Cambridge University Press.

Stake, R.E (1994) Case studies. In N.K.Denzin and Y.S.Lincoln (Eds): Handbook of Qualitative Research (pp.236-247).London: Sage Publications.

Stake, R.E (1995) The art of case study research London: Sage Publications Ltd.

Stake, R.E. (1998) Case Studies. In N.K. Denzin and Y.S. Lincoln (Eds): Strategies of Qualitative Inquiry. Thousand Oaks, London, New Delhi: Sage Publications.

Stake, R.E. (2000) Case studies. In N.K and Y.S Lincoln (Eds): The SAGE handbook of qualitative research. Second edition. Thousand Oaks: Sage Publications

Stake, R.E. (2006). Multiple case study analysis. New York: Guilford Press.

Yin, R. K. (2003). Case study research: Design and methods (3rd ed.). Thousand Oaks, CA: Sage.

Yin, R.K. (2009) Case study research; designs and methods (4th edition). Thousand Oaks, CA: Sage Publications.

Yin, R.K. (2014) Case Study Research Design and Methods (5th edition). Thousand Oaks, CA: Sage Publications.

Zucker, D.M. (2009) How to Do Case Study Research *Teaching Research Methods in the Social Sciences*. 2.Retrieved from https://scholarworks.umass.edu/nursing_faculty_pubs/2 .