



Beyond ‘vulnerable groups’: contexts and dynamics of vulnerability

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Abstract

This paper reviews approaches to vulnerability in public health, introducing a series of 10 papers addressing vulnerability in health in Africa. We understand vulnerability as simultaneously a condition and a process. Social inequalities are manifest in and exacerbate three key dimensions of vulnerability: the initial level of wellbeing, the degree of exposure to risk, and the capacity to manage risk effectively. We stress the dynamic interactions linking material and social deprivation, poverty, powerlessness and ill health: risks or shocks and their health impacts are intimately interconnected and reinforce each other in a cycle which in the absence of effective interventions, increases vulnerability. An inductive process which does not begin with an a priori definition or measurement of ‘vulnerability’ and which does not assume the existence of fixed ‘vulnerable groups’ allowed us both to re-affirm core aspects of existing conceptual frameworks, and to engage in new ways with literature specifically addressing vulnerability and resilience at the population level as well as with literature – for example in ecology, and on the concept of frailty in research on aging – with which researchers on health and poverty in Africa may not be familiar. We invite conceptual and empirical work on vulnerability in complex systems frameworks. These perspectives emphasize contexts and nonlinear causality thus supporting analyses of vulnerability and resilience as both markers and emergent properties of dynamic interactions. We accept a working definition of vulnerability, and recognize that some definable groups of people are more likely than others to suffer harm from exposure to health risks. But we suggest that the real work – at both intellectual and policy/political levels – lies in understanding and responding to the dynamics, meanings and power relations underlying actual instances and processes of vulnerability and harm.

Introduction

In this paper we revisit approaches to research and intervention on vulnerability in public health, in light of our own research and this series of 10 papers addressing vulnerabilisation and efforts to decrease or cope with vulnerability in health in Africa. Authors were invited to contribute original research, research syntheses, or theoretical reflections on the broad theme of vulnerability and equity and health in Africa, engaging critically with the concept of ‘vulnerability’ as an entry point for improving health and quality of life in low and middle income countries and for advocating for more inclusive and equitable policies and interventions at global, national and local levels. Vulnerability was introduced in the call for papers in fairly broad terms, highlighting the combination of high exposure

to risk and high health needs, particularly when access to the social and economic resources needed for effective protection from health risks and the social and economic consequences of ill health are limited. The final set of papers reflects a number of disciplines – epidemiology, public health, anthropology, communications, critical theory, law – topics, and genres, from individual life (and death) histories to epidemiological models based on GPS data to critical analyses of interventions aiming to control HIV, poverty, or urban slums. A pre-publication workshop found that this variety of perspectives, while challenging, yielded a richer and deeper understanding both within and transcending disciplines. We invite readers to join our ongoing reflection and to take up the challenge these papers present, in research, intervention, and advocacy.

A new take on vulnerability

The series begins with Ridde *et al.* (1) GPS mapping and epidemiological analysis of how people in Burkina Faso define ‘indigence’ and how this may both reflect and shape access and actual vulnerability. Beyond its substantive contribution, this paper invites us to keep looking at new methods or application of other fields’ methods, not for the sake of novelty, but to make sure we continue to be able to see – literally – distributions and realities to which our habits and schemas may blind us.

Still at the population level and in Burkina Faso, Ouedrago’s (2) study of young HIV positive women offers what appears to be a fairly ‘typical’ and accessible picture of vulnerability of young seropositive women. However, it immediately forces us to remember that health concerns must be negotiated in relation to other concerns – survival, relationships, security, love – that reflect the structuring of risk, and vulnerability, and agency.

The third paper by Chib *et al.* (3) about an SMS HIV awareness-raising campaign in Uganda is still in the ‘typical’, accessible range of work with ‘vulnerable groups’, as it describes interventions seeking to reach and ‘empower’ young people, especially young women. The paper, however, takes a less ‘typical’ turn in a reflection and self-critique of technicist interventions that do not actually take into account the structural and dynamic issues which create, reinforce, or obscure vulnerability in this context.

We then continue with a series of papers that unpack in some detail dynamics and types of vulnerability, particularly those that arise out of efforts to ‘help’. These papers also show the critical importance of context. The first in this series is a powerful case study by Storeng and Drabo (4) that directly challenges comforting notions that ‘access to emergency obstetrical services’ is the solution to maternal mortality. It traces an ultimately fatal story of how the social and health sides of impoverishment interact with health ‘shocks’. A second detailed case study by Alice Desclaux (5) highlights how attempts to exercise ‘choice’ can have devastating outcomes, and cautions us that the pronouncements and policy guidelines of ‘experts’ and also, tragically, the real world implications of trying to stay evidence-based (by changing guidelines to reflect new evidence) can structure and shape desires, beliefs, and action in ways that profoundly disempower people and limit choice.

Staying in the realm of the interaction of global policy (and the capabilities of global agencies to offer or withhold money and treatment) with lifeworlds and the reality of HIV, stigma, and survival, Omenka and Zarowsky (6) describe new forms of vulnerability in the ARV therapy era, but also new forms of resilience and agency demonstrated by Nigerians struggling to maintain access to the social, medical, and financial resources that may allow them to survive with HIV, even if PEPFAR or the Global Fund pull out.

Kakudji (7) then brings our focus specifically onto health services, which can be social determinants of health but also social constructors of increased vulnerability through the casual brutality or tacit triage of 'worthy' versus 'unworthy' patients.

In contrast, Forman (8) highlights how the combination of human rights analysis, activism and legal challenges can transform both discourse and reality for millions of people living with HIV – up to a point. Mohindra and Shrecker (9) move us back out of the 'health' sphere to social determinants of housing and urbanisation under a global neoliberal economic order, focusing on power, public policy, and public resistance.

Finally, Dagenais *et al.* (10) bring us back to a reflection on the impact of our own practice as researchers, and how this intersects with policy and political and social realities both in Africa (Burkina Faso) and more broadly.

We have found an inductive process which does not begin with an a priori definition or measurement of 'vulnerability' and which does not assume the existence of fixed 'vulnerable groups' to be both challenging and productive. This process has allowed us both to re-affirm core aspects of existing conceptual frameworks, and to engage in new ways with literature specifically addressing vulnerability and resilience at the population level as well as with literature – for example on the concept of frailty in research on aging – with which researchers on health and poverty in Africa may not be familiar. We do come back to a working definition of vulnerability, and we recognize that some definable groups of people tend generally to be more likely than others to suffer harm from exposure to health risks. But we suggest that the real work – at both intellectual and policy/political levels – lies in understanding and responding to the dynamics, meanings and power relations underlying actual instances and processes of vulnerability and harm.

These papers shed new light on shadow zones of vulnerability and vulnerabilisation in Africa. They bring together diverse theoretical, methodological, disciplinary and substantive perspectives and show the importance of context to understanding new forms of vulnerability and resilience. This is particularly important for designing interventions, and for understanding why tragic results may result from efforts to exercise freedom and choice. They reveal that while vulnerability pre-exists interventions, it can also emerge from – or be exacerbated by – the actions of individuals or the ways in which institutions and discourses interpret reality and make it amenable to intervention. Nearly every paper shows how individuals and institutions can 'co-create' new blind spots and unexpected and unintended consequences. They highlight the bio-social and political nature of both individual and collective experience, and the intersectorality of vulnerabilities and deprivation: economic, health-related, social, interpersonal, and human rights. And they show how, despite our determination to avoid seeing and portraying 'the poor' as mere

passive victims, we often address vulnerability without an understanding of resilience. Finally, the collection as a whole suggests that scholars and practitioners from diverse perspectives can and must transcend their own disciplinary boundaries and learn from and with others if neither human experience nor structural forces are to be lost from view.

Working definitions: seeking clarity when uncertainty is central

Definitions are necessary for the conceptual clarity that allows both research and well-thought through – if not always ‘evidence based’ – interventions. However, uncertainty is intrinsic to the idea of vulnerability. The process of ‘defining’ a term or a group establishes limits and boundaries which tend to become fixed and static, and often lead to a preoccupation with measurement rather than understanding, particularly in fields with strong quantitative traditions such as economics or epidemiology. For example, Schwartz *et al.* (11) argue that testing hypotheses about effect modification in epidemiology is important for describing and measuring the interactions of a limited number of defined risk factors on an outcome of interest, but is insufficient to capture and predict the ‘complex interactions and synergies’ of real-world differential vulnerability and impact. They introduce a range of additional mathematical and statistical methods that can better capture the messy reality, but unlike the more commonly used concepts and tools, few of these methods would be accessible to non-specialists. Defining can reify categories and produce new forms of vulnerability, such as when ‘sex workers’ are stigmatised. In their still relevant review, Alwang *et al.* (12) comment that approaches to vulnerability in various disciplines tend either to emphasize measurement, or understanding. We argue for the centrality of understanding – and for measurement which is provisional and responsive to the change which is central to the very notion of ‘vulnerability’.

That said, our understanding of vulnerability includes both static and more readily measured aspects, and dynamic dimensions, which focus rather on the ways in which people respond to and are affected by recurrent shocks over time. In line with an extensive development literature, we understand vulnerability as simultaneously a condition and a process – a condition of heightened fragility of a population or specific group, and a process that is potentially reversible or avoidable through appropriate interventions. The process of ‘vulnerabilisation’ is largely determined by a combination of three elements: (1) the initial or underlying condition of the affected individuals or groups; (2) their exposure to individual or collective risks or shocks which could affect their wellbeing; and (3) their capacity to cope with these risks and their consequences (12).

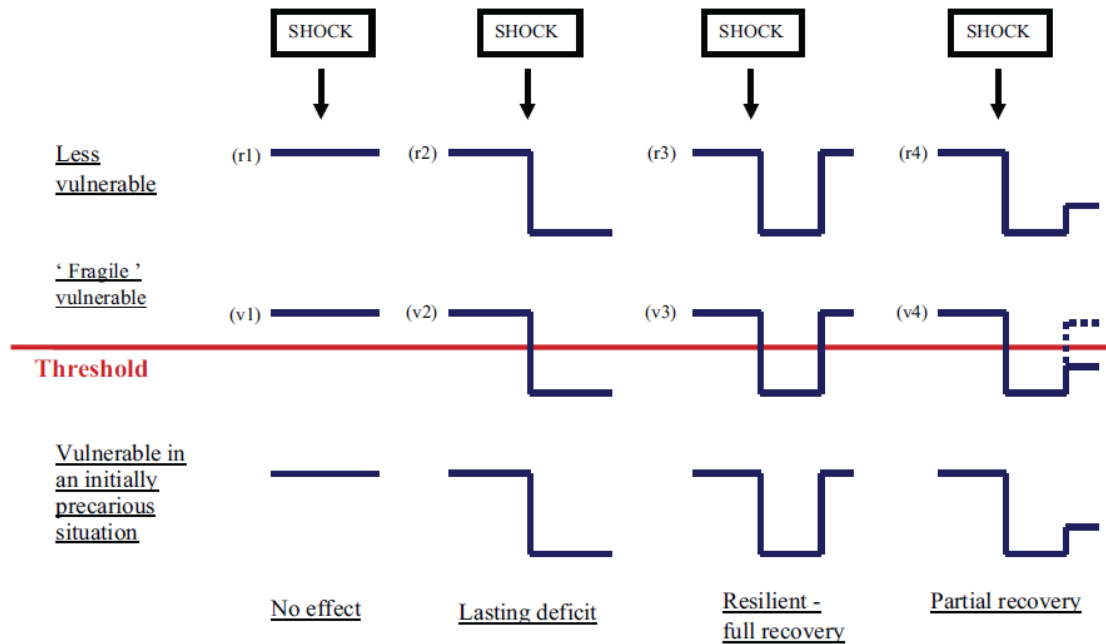


Figure 1. Conceptual framework for the analysis of vulnerability: initial and final conditions after exposure to an unexpected social risk (shock)

- **Threshold:** threshold of socially acceptable well-being, such as poverty line, quality of health standard, or other established measure of social condition
- **Less vulnerable:** people protected against a non-socially acceptable loss of well-being. Exposure to risk can cause a deficit of wellbeing (r2, r4), but their final condition remains socially acceptable.
- **‘Fragile’ vulnerable** are exposed to a loss of wellbeing that is not socially acceptable.
- **Initially precarious individuals** present a level of well-being that is already below the acceptable threshold. Shocks can accentuate this deficit (p2, p4).

Adapted from (15,16)

The conditions and processes through which vulnerability emerges and is sustained over the life course and in different social groups remain poorly understood. We wish to draw attention precisely to the dynamic interactions linking material and social deprivation, poverty, social exclusion and ill health, because both ‘static’ and ‘dynamic’ dimensions of vulnerability are at play: risks or shocks and their health impacts are intimately interconnected and reinforce each other in a cycle which in the absence of effective interventions reinforces and eventually increases vulnerability (Figure 1). Individuals and groups already bearing the burden of previous generations’ deprivation tend to be more exposed to risks (for example, they work or live in unhealthy or dangerous environments), and also to have a more limited capacity to manage risk successfully (for example, through limited access to assets, insurance, public protection, social networks, and thus being forced to resort to less effective coping strategies such as having to sell basic household assets to secure health care or repay debt) (12-14). Thus, social inequalities are manifest in and exacerbate all three dimensions of vulnerability: the initial level of wellbeing, the degree of exposure to risk, and the capacity to manage risk effectively. As several of the papers in this series demonstrate, managing an initial shock depletes the resources of the affected household or individual, thereby decreasing their capacity to manage subsequent shocks (4,5,12,14). Vulnerabilisation, like impoverishment, becomes a downward spiral of successive losses in welfare after successive shocks (15).

We are primarily interested in the dynamic dimensions of vulnerability, because the people and populations described in these papers are faced with recurring shocks – both catastrophic and individually ‘minor’ – and are generally not living in circumstances which allow them to access extensive reserves of material or political assets. Neither, however, are they permanent victims, even if they remain ‘young women’ or ‘migrants’ or ‘people living with HIV’. The concern of development policy and funders for efficiently targeting the ‘most vulnerable’ however, in interaction with the reliance of social and development actors on donor funding, has led to a proliferation of identified ‘vulnerable groups’ to the point where almost no one is excluded.

In a contribution to a collection of papers on vulnerability and research ethics, Schroeder and Gefenas (17) address the problem of vulnerability being “too vague and too broad” a concept to be analytically or practically useful for protecting research subjects who might actually be at risk of an identifiable harm from participating in research. They begin by reminding us that we can all recognize serious vulnerability when we see it – all too often, as they point out – and proceed to develop a definition that begins with a common sense dictionary definition and incorporates the Council for International Organisations of Medical Science (CIOMS) and other medical ethics concerns with protecting the vulnerable, whilst avoiding the problem of the all-encompassing list of vulnerable groups. Their proposed definition is:

To be vulnerable means to face a significant probability of incurring an identifiable harm while substantially lacking ability and/or means to protect oneself. (17)

The papers here show that not all serious harms are identifiable in advance, and indeed that new forms of vulnerability may be created through efforts to address identified harms. For research and practice aimed at prevention of harm in complex social and health contexts we therefore urge caution in using even this dynamic definition. However, we also go beyond a conception of vulnerability as underlying deficit or weakness or even “social determinant of health” and include the dimension of capacities to cope with specific risks over time. This increasingly systems-level and interactive view of vulnerability is expressed in a recent synthesis of views on vulnerability in public health:

In public health and in relation to health care, vulnerability is broadly described as the inability to substantially protect oneself from potential harm..., ‘the susceptibility to harm’ resulting from the interaction of risk factors and supports and resources available to individuals and groups..., and the ‘progressive loss of wellbeing, i.e. health’ related to social and economic deprivation As such, vulnerability is often contextual, dependent on social and cultural systems and political and economic trends. (18)

We would largely concur with this definition, with one important caveat: the notion of power is critical but is largely missing in this synthesis. Future work on the nexus of vulnerability-resilience must make increasingly visible both ‘power to’ exert agency and choice – however limited or ultimately unsuccessful – in ‘protecting oneself’, and the ‘power over’ some by others which is implicit in the passive notions of ‘available resources’, ‘political and economic trends’ and even ‘social and economic deprivation’.

Systems, vulnerability, and ways of thinking about complexity: frailty and ecosystems

Complexity studies and systems theory are increasingly seen as directly relevant to understanding and intervening against health and social inequalities that have not been erased by Global Funds, or MDGs (19-23). We feel that pursuing conceptual and empirical work on vulnerability in complex systems frameworks will be productive. These frameworks foreground contexts and nonlinear causality, thus supporting analyses of vulnerability and resilience as both markers of and emergent properties of dynamic interactions. Moreover they are less likely to allow a decontextualised focus on individual or group ‘coping’ with ‘hazards’. Two perspectives from the natural and medical sciences are particularly resonant with the frameworks arising from complexity studies and we offer these as contributions to an ongoing conversation. We are not presenting these as comprehensive reviews of large bodies of literature, but as ideas from a small number of papers which we have revisited in our reflection.

The first is the notion of ‘frailty’ in research on aging (24,25), and the second is an understanding of human populations in ecosystemic terms (26). Both ideas emphasise systems, and in particular the variable capacity of systems to absorb and respond to shocks. They provide a more organic model for understanding and acting on vulnerability and remind us that “systems thinking” has long been relevant even to biomedical approaches to health: the life sciences deal with organic systems, and not organograms. Fried *et al.* (24) define frailty as follows:

Frailty can be defined as a physiologic state of increased vulnerability to stressors that results from decreased physiologic reserves, and even dysregulation, of multiple physiologic systems. This decreased reserve results in difficulty maintaining homeostasis in the face of perturbations ..., central to the clinical definition of frailty has been the concept that no single altered system defines this state, but that multiple systems must be involved.

We find the understanding of frailty as multiple interconnected though distinct sub-systems absorbing accumulated deficits and reaching a tipping point where the overall system is no longer able to maintain homeostasis particularly resonant with the complex realities addressed in the papers of this collection. Andrew *et al.* (25) then juxtapose frailty with social vulnerability, allowing both concepts to be more fully elaborated and analysed. While complex systems are, indeed, complex, physiology reminds us that clinicians and researchers can and do hold multiple non-linear systems simultaneously in mind as they endeavour to diagnose and to treat. Using ‘frailty’ as a metaphor or as a literal description of social systems in which individuals and communities are embedded may help us transcend disciplinary or sectoral boundaries in our analysis and interventions related to vulnerability.

Galea *et al.* (26), cited earlier, define vulnerabilities per se quite narrowly, as underlying deficits at individual or collective levels. However their paper is of interest because of their overall adaptation of classical models from ecology to human populations. This idea builds on Levins’ work (27) that understands human populations as “having” durable but not permanent underlying structural vulnerabilities and capacities, and interacting with intermittent stressors as well as protective events. A high degree of variability in health outcomes, in this model, reflects a high degree of vulnerability in the overall system, as a broadly

homeostatic response reflecting broadly shared capacities increasingly gives way to contingent and more variable localised responses. The responses to stressors or protective events can themselves reset the system to a new equilibrium. Extreme variability across space or over time may be, in a sense, the canary in a coal mine – an early warning of frailty and potential collapse of the system as a whole.

Conclusion

The papers in this collection show how the juxtaposition of these concepts from medical, ecological, and population health research highlight key points from existing frameworks while challenging us enough to think about vulnerability, vulnerabilisation, and possible interventions in new and more comprehensive ways. With these authors, while we accept the need for working definitions and for attention to ‘vulnerable groups’, we call attention to the limitations of static approaches to vulnerability. Each of these papers highlights the dynamics, complexity and centrality of context for understanding vulnerability in health in Africa. Individually and collectively, they invite thoughtful analysis and challenge us to act.

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