



What Is a Vision Zero Policy? Lessons from a Multi-sectoral Perspective

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Abstract

Vision Zero is a term mainly connected with road traffic safety and has its roots in the Swedish road safety strategy. It was formally adopted by the Swedish parliament in 1997, and due to the initial success of lowering the number of deaths in traffic crashes significantly, it has become a role model for road safety strategies in countries and cities all over the world. In Sweden, Vision Zero for road safety has also inspired the introduction of Vision Zero policies in other sectors, and this chapter focuses on Vision Zero from a multi-sectoral perspective. The purpose of this chapter is twofold: to present five different cases of Vision Zero policies and to discuss what constitutes a Vision Zero policy based on these five cases. The five cases are found in road traffic safety, fire safety, patient safety, suicide, and workplace safety. Every case has its unique preconditions in terms of laws, actors, scope, etc., but they are also similar in relation to injury prevention and the ambition to decrease the number of deaths and serious injuries. The five Vision Zero policies are summarized by presenting the problem and problem framing, the goal, measures, and solutions as well as leading actors and governing structures. We find that the problem itself is quite self-explanatory in each case but that the problem framing and attribution of responsibility differ. All cases have on paper been inspired by the road safety strategies, but the systems approach, so intimately connected with Vision Zero, is more or less absent in the cases of fire safety and suicide. Furthermore, in the field of fire safety, responsibility is placed on the individual and on the business sector rather than based on a shared responsibility and ultimately on the system designers. In all five cases, there are a set of measures in place, but there are differences in implementation due to temporal factors and also what kind of governing and steering structures are in place. There is also a difference in internal support where the Vision Zero for suicide stands out as having less support among agencies working with the issue. Finally, the monitoring systems differ from case to case. The Vision Zero for road traffic safety stands out as having a monitoring and evaluating system based on specific safety targets ultimately aiming toward zero (management by objectives). Based on the empirical findings, we argue that besides having a clear problem and problem framing, a toolbox of measures, a monitoring system, and a governing structure, a policy based on a visionary approach with an ambition to reach zero needs additional perspectives or criteria in order to be successful: (1) a **scientific** approach to problem framing and solutions, (2) a **comprehensive** approach, (3) a **long-term** commitment, and (4) a system and structure based on **governance**. These criteria do not necessarily have to be in place in order to adopt Vision Zero, but they are a prerequisite for building a system based on Vision Zero.

Keywords

Vision Zero policies · Comparative policy content analysis · Road traffic safety · Suicide · Workplace safety · Fire safety · Patient safety

Introduction

The term Vision Zero has received broad international attention after its launch in Sweden in the end of the 1990s as a road safety measure (c.f. Belin et al. 2012; Belin and Tillgren 2012). Vision Zero for road traffic safety contains a number of ethical and practice-oriented approaches and measures. The term and at least parts of the policy package of Vision Zero have diffused to other countries, cities, and policy areas (c.f. Elvebakk 2007). A quick search on the Internet gives plenty of results from all over the world. Vision Zero is not only discussed in terms of road safety, but as a vision that can be implemented in many policy areas. In Sweden, there are Vision Zero policies in many sectors, such as within healthcare, and there are ongoing discussions about introducing Vision Zero policies in yet more areas, for instance, drowning. Vision Zero approaches are adopted in various spheres, such as public administration, private companies, and organizations.

The questions raised in this chapter depart from an empirical material where five Vision Zero policies within various policy areas in Sweden related to injury prevention are compared. Parts of the empirical material were analyzed from a different perspective in an article from 2018 (Kristianssen et al. 2018). The areas in question are road safety, workplace safety, patient safety, fire safety, and suicide. The Vision Zero for road safety is, in the documents analyzed in the article, described as a role model for the other Vision Zero policies. The policies have at least four elements in common: they are all nationally adopted, they are adopted within one single country (Sweden), they are all related to injuries (a medically reasonably homogenous and well-defined area), and they all present a vision for zero fatalities. What differs is that they are applied in different policy areas which entail variances in the specific preconditions of each policy area, both in terms of actors and structures.

Departing from that empirical material, the purpose of this chapter is twofold: first, to provide a short description of each Vision Zero policy and, second, to scrutinize and discuss what characterizes Vision Zero from a conceptual point of view and what it should contain from a normative perspective to be able to manage a zero approach. This is important because visions are often used directly as, or transformed into, steering tools. The question is if it is always appropriate to use a vision as a tool for implementing policy. It entails both opportunities and risks, and the zero approach has been labeled both paternalistic (Ekelund 1999; Elvebakk 2015), inefficient (Elvik 2003), and unrealistic (Lind and Schmidt 1999). On the other hand, research has also shown that the innovative approach of Vision Zero enables actors and institutions to break away from habits and known patterns of behavior (Belin et al. 2012) and that zero fatalities and serious injuries are not an irrational goal from a conceptual point of view (Rosencrantz et al. 2006). The conceptual perspective of Vision Zero is furthermore important to study as there are several similar approaches, but with clear differences, such as the concept of zero tolerance.

The chapter is divided into five parts starting with this introduction. The second part will explore the use of visions as a steering and governing tool and how visions

relate to policy. The third section contains a description of the five Vision Zero policies, and the fourth part is a comparative analysis. The fifth and final section of the chapter is devoted to a discussion about the concept of Vision Zero, related terms, as well as to principles regarding governing by Vision Zero.

Theoretical and Analytical Framework

Controlling adverse occurrences, whether environmental, social, or health-related as in the case of injuries, often constitutes considerable challenges to modern societies since their determinants are rarely confined to single policy domains in reach of traditional top-down governmental initiatives. On the contrary, such problems, often referred to as wicked problems (Rittel and Webber 1973), are complex by nature with determinants rooted across a spectrum of policy areas and sectors, calling for broader collaborative approaches, often referred to as “governance” (c.f. Hedlund and Montin 2009). These problems require a broad set of measures, subject to continuous scrutiny and evaluation, as well as a long-term commitment to finding solutions to the problem. There are a number of models and practices available when working with solutions for these kinds of broader societal problems. They stem from various policy fields and perspectives such as foresight or backcasting models, policy innovation, reforms, strategy management, mission statements, and steering by vision. Research on these topics is performed within many disciplines such as future studies, policy studies, studies in technology development, engineering, business and management studies, etc.

New solutions to major societal problems are thus wrapped in different terms, but the intention to change the current situation and create a different future is the same. Some approaches are focusing on reforming a current system, not necessarily creating a completely new one. Other approaches embrace the idea of a more or less complete overhaul or replacement of the old system. In public administration, reforms are common whether they target small changes or larger transformations. But reforms rarely replace earlier changes, which lead to a layered system (Christensen and Lægreid 2012). This kind of fragmentation has prompted reforms focusing on governance and coordination (c.f. Pollitt 2003). Reforms and policy changes are thus a common part of the everyday routines in both public administration and the private sector, often targeting a specific problem or issue.

Governing by Visions

As mentioned, there are specific tools today for working with comprehensive and complex societal problems, and the ambition of these tools is to have a much broader transformative aim. We will discuss a few of these terms and approaches with a focus on visions as a policy tool. One of those is the use of strategies. A strategy is an “. . .engine of change, a mechanism to transform the present and mold it in the image of a desired future to come” (Kornberger 2013). Strategies are used in politics, in

public administration, in the business sector, and so on, and some are more short term and changeable, while others are long term by nature. The long-term capability of strategies makes it possible to transcend spatial boundaries, temporal restraints, and current challenges. A strategy creates a vision of what the ideal future could look like.

Related to strategies, it is becoming increasingly more common to use visions as a policy and governing tool. In earlier research, visions were often referred to as mission statements (Weiss and Piderit 1999). Using visions as a tool to change the present system entails both opportunities and problems. A vision is intended to inspire and to make people consider new approaches and methods (Hallström and Grafström 2016). A vision does not normally include detailed measures, and that provides flexible opportunities for actors to adapt to the vision (Gioia et al. 2012). A vision is also a long-term commitment with a core message or core image of what the future should look like. On the other hand, as a vision tends to be very broad, the risk is that it turns into nothing but beautiful words. If there is no substance to a vision in the sense that it is translated into specific methods and measures used in order to reach the goal of the vision, then the vision can still inspire, but will not necessarily lead to the intended result. Furthermore, visions sometimes tend to be exclusive rather than inclusive because of the focus on reaching the end goal. Alternative visions or paths to reach a certain goal are excluded in the narrative of the vision (Dignum et al. 2018). On the other hand, for a vision to work, it has to be interpreted and implemented in a comprehensive way reaching as many sectors, actors, and aspects as possible. So, there is duality as the vision needs to be both focused and exclusive in order to focus on and reach a specific goal and at the same time inclusive enough to convince and involve as many relevant aspects and actors as possible. In other words, there has to be dedicated actors driving the transformation process, and the actual problem to be solved has to be well-defined and accepted as a societal problem that needs to be handled with a long-term visionary approach. Dignum et al. (2018) describe the performativity of a vision related to its scope, i.e., reaching beyond what was earlier possible, to its systemic and holistic capability, to its problem description and to its description of the values threatened in the current system, and to its inclusion of a framework for targets and for monitoring the progress. Visions can be studied from various perspectives: (1) as a process, (2) as content, and (3) as output (Dignum et al. 2018). This chapter will concentrate on the content perspective.

Turning Visions into Policies and Goals

The use of visions provides an opportunity to inspire and to think creatively about a societal problem, but there is still a need to present a realistic plan on how to reach that vision. Therefore, we often see a vision complemented by a more specific plan or program for implementation. A vision turned into a more concrete policy program can sometimes be seen or presented as a policy innovation (Belin et al. 2012; Sørensen 2016) where the policy does not only contain specific measures and

solutions but clearly draws from visionary aspects for the future. “The content of a policy is innovative to the extent that it offers a new definition of a political problem, provides a new political vision for the political community, and/or proposes a new set of political goals and strategies” (Sørensen 2016:157). The uniqueness of a policy innovation is that it departs from visions and strategies but uses a specific method or approach to work with those goals and strategies.

One such line of methods are goal-related approaches, and one example is management by objectives (MBO), sometimes also called management by results (MBR). This approach was first introduced in the private sector to promote productivity, but came to influence the public sector as well, and was soon incorporated as a core component in what later became known as the New Public Management (NPM) approach (Hood 1991; Læg Reid 2011). This development was also driven by a political ambition to save public expenditures by means of privatization and competition among providers. The role of politicians should be restricted to clarifying needs, setting goals, and reviewing results, according to the proponents, while meeting the goals should preferably be left to private providers in competition, when possible and appropriate. In addition, the particular field of accident and injury prevention, especially in industrial settings, was also influenced by parallel industrial developments in quality control, such as quality assurance, total quality management, and the like (Kjellén 2000). The core idea was that undesired outcomes were better controlled by means of proactive identification and control of upstream deviations and determinants, instead of dealing with problems in retrospect. This in turn presupposes a thorough understanding of the underlying causes of adverse outcomes and access to valid measures thereof. These developments found their way to broad public applications as well. Working toward specific goals in relation to a complex societal problem has led to an understanding that there is often a need for broader partnerships between key actors in order to reach that goal.

The zero approach is a vision and a goal with an innovative intent and ethical core. Getting the numbers down to zero, whether it concerns domestic abuse or traffic crashes, is for many a reasonable goal. For some actors it is also a question related to morality and ethics, asking whether it is morally or ethically acceptable that people die due to injuries in, for instance, traffic crashes or fires. The zero approach can also be connected to the so-called improvement principles that are based on some kind of zero perspective although these principles cannot necessarily be incorporated into a model such as Vision Zero (Hansson 2019). As Vision Zero diffuses all over the world, to different levels and to various sectors, it is important to distinguish Vision Zero from other zero perspectives. Based on the summary of each Vision Zero policy, we will in the last section of this chapter discuss and make a distinction between Vision Zero and other zero perspectives. We will use zero tolerance as an example of a zero perspective, but with basically the opposite approach to human behavior. A visionary approach and the concept of zero can be interpreted as a reasonable combination, as both concepts concern long-term commitments. Just as with other visions, the challenge is how to transform Vision Zero into a workable policy tool. The implementation phase is thus crucial for the success or failure of the approach. The Vision Zero for road traffic safety is a policy program

targeting a growing societal problem with specific long-term scientific, ethical, and administrative approaches, which we will return to in the next section.

Policy Content as a Framework for Description and Analysis

The next section contains a summary of the earlier mentioned Vision Zero policies. The content of each Vision Zero policy will be summarized using four categories inspired by a model presented in Kristianssen et al. (2018). Although using in part a similar model, this chapter contains a new analysis based on a different purpose and theoretical approach. The analytical framework is also complemented by the earlier mentioned performative aspects of a visionary approach (Dignum et al. 2018). First, what is the **problem** to be solved in each policy area; second, what is the **goal**; third, what **measures and solutions** will solve the problem; and fourth, what **actors** will solve it. More specifically, in order to solve a major societal problem, it is necessary to understand the nature of the problem, its determinants, and its scope, diffusion, and development within all societal sectors. It is furthermore necessary to have access to a credible toolbox containing measures and solutions for how to deal with the problem. This entails a robust program for systematic implementation and evaluation. These aspects related to problem and measures are dependent on the actual goal and governing structures. As mentioned, goals can be set up in different ways with different ambitions, and the measures and solutions are dependent on that ambition. What actors are involved in deciding, prioritizing, and implementing measures can lead to different results. Using a governance structure with the active involvement of broad networks covering many relevant actors within a specific field can from one perspective alleviate the implementation of important measures and from another create a more fragmented implementation process. Having a strict central steering process risks excluding important actors, but the advantage could be more efficient and/or faster processes.

The descriptions will help us to understand the basic components of each Vision Zero policy. It will furthermore provide information on the conceptual development of Vision Zero, and departing from the descriptive findings, we will analyze the five cases comparatively by using the following questions;

1. What is the scope of the problem framing in each of the five cases and are the problems presented scientifically determined?
2. Is there a functioning monitoring system related to each case and does it have a long-term transformation focus?
3. Do the measures and solutions form a comprehensive policy program for each case with a designated governing structure related to each Vision Zero and if so, is the governing structure centralized or network based?

The interpretation and development of what constitutes a Vision Zero is particularly interesting in the light of its diffusion from road traffic to other sectors. The concept is challenged by the differences in preconditions, and any claims of a

generalization of the concept are on the line. In the Discussion section, we will use the findings from the summary and comparative analysis to:

1. Approach the concept of Vision Zero by discussing whether there are discernable determinants for a Vision Zero regardless of policy area and for a successful implementation
2. Discuss whether these determinants have to be in place before adopting a Vision Zero or if structures and system can be created afterward. In other words, is it possible to build a ship while at sea?
3. Distinguish the boundaries between Vision Zero and other zero perspectives

The Five Vision Zero Policies

The descriptions below are based on policy documents related to the actual adoption of the Vision Zero policies and the period leading up to the adoption. We will describe Vision Zero for road safety in more detail as it served as the role model for the other Vision Zero policies described in this chapter. The time period for road safety strategies stretches a bit longer as it served as an example for at least 5–10 years.

Vision Zero for Road Traffic Safety

The Vision Zero for road traffic safety was adopted in 1997 by a parliament decision (Swedish Parliament 1997b; see also Swedish Parliament 1997a; Swedish Government 1997). The decision stated that “no one shall die or be seriously injured in road traffic.” The vision was furthermore underpinned by supporting theories regarding the problem description, ethical and strategic perspectives, and a steering and implementation model related to scientific evidence. The intention of the theoretical support was to show a credible policy package aimed at systematically reducing the number of deaths and serious injuries over time.

The adoption of the vision has been described as a paradigm shift in road traffic safety (Tingvall and Haworth 1999; Belin et al. 2012). The most important changes relate to the responsibility of the individual in relation to the responsibility of the system designer (Nihlén Fahlqvist 2006) and what the problem at hand is – the crash or the injury. The previous road safety work was based on the so-called human factor approach, according to which it is the responsibility of the individual to avoid accidents. Vision Zero on the contrary focuses on shared responsibility, where there is a complementary responsibility with the system designers (i.e., road design, vehicle design, etc.), and highlights prevention of injuries rather than prevention of accidents. Injuries are regarded as the major problem, particularly deaths and serious injuries, while damages to properties must be tolerated as they are necessary to shield the human being from injuries. Another key aspect is that human mistakes have to be

taken into account in designing the system, as it is part of the human nature to make mistakes.

The ethical foundation is that deaths and serious injuries are not accepted within the transport system. The alternative to tolerate a certain number of deaths or serious injuries is not seen as an option in comparison. There may be a way to calculate a balance between the cost of injuries and the benefit of mobility using cost-benefit analyses, but the development of new technology has a tendency to challenge this balance, by creating new ways of prevention. Therefore, the only reasonable conclusion is to strive for zero even though it might take time. There is a strong connection between this long-term approach and terms that were launched regarding quality development already during the 1970s and 1980s such as “continuous improvements” and the like. These terms have been used in both the private and public sector in order to systematically increase quality.

The scientific or evidence-based approach of Vision Zero is to base the road safety work on scientific results as well as on successful policies and approaches. Injury prevention has since the end of World War II been connected to preventive medicine and public health related to a general prevention of health problems. It concerns preventing or limiting harmful exposure that can be sudden or long term, or counteracting the consequences of such an exposure through protection, rescue, care, or rehabilitation. The details differ depending on what specific risk we are looking at, but the principles are more or less commonly applicable. It means that there is a solid scientific base to rely on when it comes to understanding the preconditions for preventing deaths and serious injury even within a policy area such as road safety. Applied to injuries related to sudden events, there are a number of chronological aspects: to prevent or minimize the negative effect of the event itself, to stop or limit the negative consequences of the injury (the consequence of the event), and to take care of, treat, and rehabilitate the injury. Significant efforts have been made to lessen the consequences of road traffic crashes, often with great success. Vehicles are safer, barriers prevent vehicles from crashing off the road, and poles are folding when hit. These are all safety interventions made to shield the human being from being exposed to potential lethal violence. Speed limits reduce the potential violence but also lessen the risk for crashes by increasing the driver’s control of the vehicle. The number and scope of possible measures are comprehensive, and the technological development is constantly producing new possibilities. It is ultimately the responsibility of the system owner to craft the modern and safe transport system design in relation to mobility demands, environmental concerns, and accessibility. The main principle of Vision Zero is that human tolerance for crash violence (Haddon 1968) should guide the design of the transport system.

Finally, the steering model for road traffic rests upon a safe system design where several actors are viewed as system designers. There are numerous actors involved in particularly implementing road safety measures, which in some ways has led to a fragmented governing system. The Swedish Transport Administration has a lead role today in the development of road safety measures, but this has not always been the case during the last 10 years. In order to find an efficient way to work with road safety, several of structures have been set up. Networking is one method to bring

actors together. There are various networks discussing and analyzing the current status of road safety in Sweden, a number of them led by the Swedish Transport Administration. Studies show that these networks tend to be set up more for information exchange than focusing on decision-making or raising public awareness (Hysing 2019). Another method used to coordinate efforts is the system of management by objectives. This means continuous measuring of the number of deaths and serious injuries and identifying and monitoring the most important indicators of road safety over time and also giving feedback to the relevant actors.

Vision Zero for Fire Safety

The Vision Zero for fire safety was launched in 2010 by the Swedish Civil Contingencies Agency (MSB). The vision, stated in the national guidelines for fire safety, said that: “no one shall die or be seriously injured due to fire in Sweden” (Swedish Civil Contingencies Agency 2010: 5, our translation). Prior to the adoption of the Vision Zero, national strategies had been discussed for a long time leading to updates in laws and regulations (c.f. Swedish Government 2002). The main problem is that around 100 individuals die every year due to fire and approximately 1000 individuals are seriously injured. The new laws that had been adopted did not lead to a reduction in these numbers, which prompted the introduction of a Vision Zero. According to the national guidelines, the responsibility for fires is placed on the individual and on the business sector, although there is an awareness of the theories regarding human errors and the limitations of placing responsibility solely on the individual. This is a clear break from the systems approach presented in the Vision Zero for road traffic. One explanation is that existing policy and legal frameworks at times create obstacles for implementing measures related to a systemic perspective.

The ultimate goal of zero fatalities is intended to be reached by using interim goals. The results from each time period will be thoroughly evaluated. The first period stretches to 2020. The national guidelines present a number of measures divided into four strategic areas, knowledge and communication, technological solutions, local coordination and collaboration, and evaluation and research. In each of these areas, separate measures were presented such as scrutinizing databases, campaigns, increased collaboration, specific technical innovations, etc. (Swedish Civil Contingencies Agency 2010). These measures were not linked together theoretically in the guidelines, and no coherent steering or governing model was presented to clarify or develop the issue of responsibility to make credible the long-term abilities of the vision.

The Swedish Civil Contingencies Agency has a lead role in evaluating the national guidelines, but the implementation of the Vision Zero falls on several actors, particularly the local authorities. There is a national advisory committee including members from all kinds of societal institutions. But, issues of responsibility and steering are leaning very much on the law regulating fire safety in Sweden (Swedish Law on accident prevention 2003) which places the main responsibility for fire safety on the individual. As the law tends to limit the scope of Vision Zero, there are

a number of initiatives today focusing on outlining a system's approach for the area of fire safety (see the ► [Chap. 38, "Vision Zero on Fire Safety"](#)).

Vision Zero for Patient Safety

The Vision Zero for patient safety was presented in 2013 in a national strategy produced by the National Board of Health and Welfare. This was an assignment from the government and the document stated that "Vision Zero is the image of a future where human beings do not die or are seriously injured within the health or dental care system" (The National Board of Health and Welfare 2013: 8, our translation). The Vision Zero for patient safety was preceded by a number of discussions and initiatives, such as the introduction of a new law on patient safety from 2010 (Swedish Law on Patient Safety 2010: 659; Swedish Government 2007; Swedish Government Official Investigations 2008; Swedish Government 2009).

The main problem presented in the national strategy is that 100,000 individuals are injured every year in the Swedish healthcare system, which means approximately 9% of all patients treated at hospitals. The main reasons for these injuries are poor routines, that regulations are not followed, failures in leadership, and regional differences. The responsibility for reducing injuries and deaths fall on the healthcare system (the National Board of Health and Welfare 2013). The national strategy presents a clear system's approach and the writings have been inspired by the ideas and theories regarding the human factor presented in the Vision Zero for road safety.

In order to reach zero, effect goals have been introduced. They focus on patient safety culture, increasing patient participation, reducing the number of frequent and serious healthcare injuries, and increasing knowledge about effective measures and when to implement these measures. The vision consists of a list of 16 areas where measures are needed but no coherent theoretical framework is presented. On the other hand, the steering model puts the caregiver as responsible for the system, and there is a plan for systematic safety work in line with a continuous improvement approach.

The National Board of Health and Welfare is the lead agency in the sense that it produces reports and acts as a coordinator, but many actors are working within this area. You can find them in both the private and the public sector. One particularly important actor is the Health and Social Care Inspectorate that deals with complaints and irregularities in the healthcare system based on the Patient Safety Law. The inspectorate produces reports and statements regarding the state of the Swedish healthcare system. The vast number of actors working with patients makes it difficult to grasp what is the system to be monitored in accordance with Vision Zero. In addition, Sweden has a considerable number of private actors within the health sector as well as actors on different levels of public administration, which leads to a challenge concerning coordination. One risk and sometimes also a direct consequence are differences in quality, methods, and techniques depending on region, which can make healthcare geographically unequal.

The Vision Zero for Suicide

The Vision Zero for suicide was decided by the Swedish parliament in 2008 after a government proposal. The vision states that “no one should find him- or herself in such an exposed situation that the only conceivable way out is suicide. The government’s vision is that no one should have to end their life” (Swedish Government 2007, our translation). The decision to adopt a Vision Zero for suicide was not based on clear requests from actors working with suicide. On the contrary, the national strategy produced by the National Board of Health and Welfare and the Public Health Agency in 2006 argued against a Vision Zero policy. “The ethical problems related to suicide prevention cannot be completely solved. Therefore, it is not appropriate to formulate a Vision Zero for suicide similar to the Vision Zero for road traffic fatalities. It is possible though to work towards reducing the number of suicides.” (National Board of Health and Welfare and the Public Health Agency 2006: 27, our translation).

The main problem to be solved is that approximately 1500 individuals commit suicide every year. For a long time, this was seen as an individual problem, and one reason for this is that every suicide is complex and cannot be generalized. Vision Zero for suicide added parts of a system’s approach to the policy area by placing the responsibility for suicide prevention on the healthcare system and its work to identify and support individuals in risk of committing suicide (Swedish Government 2007). Also in relation to this policy area, the government has been greatly inspired by the Vision Zero for road traffic safety.

In conjunction with the Vision Zero decision in 2008, the parliament adopted a nine-point program for suicide prevention, which was a mix of both measures and effect goals. These focus on the production of information material particularly for school pupils, on reducing alcohol consumption, on reducing access to lethal means in all kinds of societal contexts, on creating a national function for knowledge assessment, on continuing preventive work within the healthcare system, on gathering and analyzing research results, on initiating campaigns, on improving statistics, and on supporting voluntary organizations in their suicide preventive work (Swedish Government 2007).

These measures and goals did not present a coherent theoretical framework. The parliament decision does not reveal a clear steering and governing model or implementation scheme regarding how the vision will be carried out or who is responsible for what. The Public Health Agency and the National Board of Health and Welfare are key actors in implementing the vision, for setting up measures, and for gathering knowledge and spreading information, but issues of steering are still an ongoing discussion within this field. The critique is still widespread (Tryssel 2018), and the number of actors and levels that constitute the system is considerable, just as in the case of patient safety.

The Vision Zero for Workplace Safety

The Vision Zero for workplace safety was presented in a government proposal in 2016. It says that “No one should have to die as a result of their job. Concrete measures are necessary in order to prevent work-related accidents leading to

injury or death” (Swedish Government 2016a, our translation). This was preceded by growing concerns that not all accidents were reported and that workplace safety was becoming more fragmented and harder to monitor. The Swedish parliament therefore urged the government in 2014 to initiate a dialogue concerning fatal accidents, to encourage more research and education within this field, to improve statistics, and to reduce the number of workplace-related incidents such as bullying. The Vision Zero for fatal accidents was one of three parts of the government strategy from 2016 and the other areas focused on a sustainable working life and psychosocial work environment (Swedish Government 2016a, b, c).

The main problems presented by various actors in the field as well as in the government decision were the growing number of accidents in the workplace, but not necessarily fatal accidents. There were also growing concerns regarding the upward trend of longer periods of sick leave. Another problem was the large number of actors with workplace activities in Sweden, making it hard to monitor workplace safety. One cause of these problems was related to the fact that there are more foreign entrepreneurs active in Sweden, not necessarily following or having the knowledge of Swedish workplace law. Another cause is the growing number of short-term employments, increasing migration and movement of people, and more sub-entrepreneurs. These are, for different reasons, risk factors in terms of safety (Swedish Government 2016a).

In relation to the government strategy from 2016, a number of investigations were launched but no long-term strategy for the realization of the vision was presented. The Swedish Work Environment Authority is the lead agency concerning analyzing and evaluating the development of the policy area. The Authority has been given the task to increase supervision and monitoring of both Swedish and foreign companies. The work will also include a gender perspective as well as improvements regarding information and communication. The steering model for workplace safety is called systematic safety work (SAM) (the Swedish Work Environment Authority 2001) and has been in place for a long time. SAM emphasizes that the responsibility for workplace safety rests with the employer and that the employer should work continuously with mapping the workplace risks as well as making the necessary arrangements for preventing accidents and health problems. These tasks are supported by a comprehensive set of rules and regulations as well as an organization of internal safety representatives. The authority responsible for supervising that employers abide by the rules can also initiate legal action when necessary. As the government has launched a number of inquiries related to this area, the foundations of the Vision Zero are under construction rather than being built into the work from the beginning. A number of committees containing experts are presenting reports related to parts of the government decision. It is interesting to note that this and earlier mentioned Vision Zero policies have been inspired by the vision for road safety, but the theoretical and practical foundations have not been in place to a larger degree. One question that will be addressed in the following analysis is whether it is a problem or an opportunity to issue a Vision Zero on that basis.

Analyzing Differences and Similarities in Vision Zero Components

Despite the striking similarities in terms of problems addressed (injuries) and the way the visionary goals are formulated (zero deaths, etc.), it is obvious that the five Vision Zero policies also differ significantly with regard to the preconditions needed to actually influence the development of injuries in the desired direction within each policy area. The differences are manifested in problem framing, in the monitoring of relevant facts, plus, not least, in access to means, strategies, and governing structures.

Problem Framing

Problem framing is always an important foundation for any policy aimed to address a certain problem. The framing should be scientifically anchored, broad-minded, and problem oriented. The framing helps to clarify the nature of the problem at hand, including its spectrum of determinants and potential strategies, and thus creates trust in the theoretical possibility of prevention.

In this respect, the Vision Zero policy for **road traffic** safety can be viewed as a role model. By clarifying the key mechanisms of crash violence, its transmission to human tissues, and potential to harm if human tolerance limits are exceeded, combined with a modeling of theoretically available alternatives to prevent this transfer to human bodies, there is a growing trust in the potential to prevent the problem. The question is no longer *if* the problem can be prevented, but rather in what pace and to what costs. Related to this, emphasizing the distinction between accident and injury is an important contribution. Accidents (crashes) may continue to occur due to system imperfections but do not necessarily need to cause death or severe injury. In contrast to earlier views where accidents were seen as the phenomenon to prevent, Vision Zero points out deaths and serious injuries as the undesired target outcome. Injuries are preventable even if accidents continue to occur.

In comparison, the framing of Vision Zero for **fire** safety appears less elaborated. Fire safety as an academic discipline rests historically on knowledge on fire dynamics in buildings, extinguishing techniques, and rescuing strategies. It is presupposed that a fire becomes increasingly dangerous to humans as it escalates. Recent research, however, shows that many fatalities occur already in the initial stage of a fire before it spreads to the whole dwelling. Smoldering fires in upholstered furniture may generate imminent toxic gases with rapid medical effects, and clothing fires may cause immediate life-threatening burns. Professional learning accumulates from larger fires subjected to callouts, but what kills is usually smaller fires in fabrics and furniture, some of them not even attended by rescue services. In addition, there is an obvious social dimension related to the groups at risk of being killed and seriously injured in fires. Victims typically represent medically and/or socially very vulnerable categories – an aspect of the problem that is highly overlooked in the current profession-based learning system. How the social and medical sides of the fire problem are to be addressed is not well described. To summarize, therefore, important flaws remain in this policy area with regard to problem framing and convincing preventative alternatives.

Patient injuries occur in healthcare contexts and are generally understood and explained as negative health consequences from errors or neglects during medical care in health facilities. Patient safety is seen as an integral part of the quality of care, subjected to managerial efforts in line with general principles for quality improvements. The main responsibility rests with the care provider, while the role of societal bodies is to ensure this accountability through information, advice, and enforcement. The problem framing in patient safety therefore appears comparatively transparent and understandable. But even though the problem here is rather straightforward, other challenges affect the problem framing. For instance, the Health and Social Care Inspectorate (IVO) stated in its yearly report from 2019 that one major problem today for patient safety is that progress is made so fast, concerning, for instance, medical methods and techniques. The healthcare system as a whole does not have the capacity to make sure that the improvements are spread evenly throughout the system or that they are implemented in an appropriate and informed way (IVO 2019).

Suicide is a complex phenomenon with determinants deeply rooted across societal sectors. A suicide incident is by definition self-inflicted in order to terminate life. But suicide cases are often, both practically and scientifically, blurred with adjacent phenomena, such as fatalities without known intention, cases of self-harm without intention to kill, overdose episodes among substance abusers, and the like. Underlying modifiable societal determinants remain largely unexplored. Further, there is theoretical ambiguity among researchers regarding to what degree suicide results from reasoned decision-making or from sudden situational and overwhelming circumstances (“psychological accidents”). The same ambiguity is reflected in different views on preventative strategies, spanning from mental illness identification and treatment to environmental modifications in order to reduce access to lethal means. The problem framing on suicide appears partial as it reflects a medical view of the problem and its solution, mainly, rather than a social one.

Fatal accidents in the **workplace** are, like patient injuries, easy to define without theorizing too much. Fatalities at workplaces result from falls from heights, collapsing structures, incidents with machinery, etc. The spectrum of events is more varied when compared to road traffic, but the injurious mechanisms of uncontrolled “violence” (mechanical, thermal, chemical, etc.) to the human body are similar, as well as the spectrum of measures available to prevent transfer of this harm to human bodies. The basic principle is to minimize deaths and injuries from occupational accidents by technical and organizational measures. The main responsibility rests with the employer, while the role of societal bodies is to ensure this accountability through information, advice, and enforcement. Like patient safety, the problem framing on occupational safety seems fairly transparent and understandable.

Monitoring and Surveillance

Any phenomenon subjected to systematic change should be possible to measure with regard to frequency, distribution across relevant subcategories, and development over time. When policy makers claim that something occurs too often or too rarely,

and therefore should decrease or increase, it is already implied that relevant facts exist. If the problem is injuries and deaths, the art of providing such data in a systematic manner is usually called injury surveillance (a sub-discipline of public health surveillance), or simply “injury statistics.” Surveillance is a broader term that includes the collection, processing, analysis, and feedback of relevant data to those who need to know in order to take proper actions. Surveillance is aimed to serve as a driver for change. Criteria for good surveillance systems underline issues like accuracy of case definitions and inclusion criteria, validity and reliability aspects, timeliness, as well as the quality of analysis, reporting, and utilization of data. Without access to good data, it is not really possible to say what is wrong, what needs to be done, or to evaluate interventions. The preconditions concerning each of the five Vision Zero policies differ remarkably in this respect.

The policy area of road **traffic** can be seen as a role model also related to this issue. The Swedish Transport Administration has taken the issue of injury surveillance very seriously and clarified operational definitions on fatalities as well as major injuries from road traffic. Validated data collection routines are secured, combining information from the health sector and the police. The data series go back quite far in time which means that analyses on trends can be performed. It is also possible to follow subgroups so that profiled interventions can be prioritized and evaluated. Furthermore, the Vision Zero for road safety has been in place for more than two decades and the actors within the policy area have had quite some time to coordinate and also to establish a specific structure.

In **fire** safety, the situation remains more challenging. The registration of fire fatalities now follows an updated and validated routine combining data from rescue services and the health sector according to a likewise updated case definition of fire fatalities. However, there is still no case definition of major injuries from fire and no regular data collection routine established on major injuries, in spite of the priority these injuries are given in the Vision Zero.

Monitoring **patient** injuries appears even more challenging. Definitional and operational difficulties create barriers for establishing a regular comprehensive surveillance system on patient injuries. Conditions that may have contributed to a patient injury are something that often must be judged by experts in retrospect. Reporting systems based on patient compensation claims or staff reports on managerial deviations highly underestimate the real situation. Valid estimates must be derived from patient record reviews which are time-consuming and expensive. Due to these circumstances, it is currently not possible to give a clear overview of the problem and its development over time and by subcategories.

Data on **suicide** are available from the national cause of death register. Besides confirmed cases of suicide, statistics reported based on data from the register often include cases with unknown intent as well, despite striking differences in terms of demography and fatal mechanism (drowning, suffocation, poisoning, etc.) between the two categories. Adding unknown cases to the confirmed ones inflates the numbers considerably. Data on the so-called suicide attempts, available from national inpatient statistics, include a broad spectrum of injuries from self-harming and self-destructive acts, without information on whether there was an intent to really end life.

Workplace safety, finally, represents longstanding traditions on data collection and analysis for the purpose of prevention. In Sweden, data collection is based on compensation claims to the Swedish public insurance agency, plus, in severe cases, reports directly to the Swedish Work Environment Authority. Triangulation against the national cause of death register ensures reasonable validity on deaths, while underreporting exists among nonfatal cases. Incidents in informal and illegal sectors are probably more extensively underreported.

Means, Programs, and Governing Structures

Finally, we have analyzed the questions of governing and steering structures in relation to specific measures and solutions. We find that steering and governing also presuppose access to effective means, a program clarifying what needs to be done, when and by whom, in addition to a structure on how to govern the program over time in a sustainable manner. Access to means implies that important determinants should be identified and found modifiable through well-known interventions. A program is a plan for action based on grounded assumptions on how various interventions are expected to influence the target outcomes. The program should also clarify priorities over time and an allocation of responsibilities among actors. A governing structure is needed to get the program done, including implementation, coordination, performance analysis, corrective actions, and follow-ups on accountability.

Road traffic safety is a field strongly characterized by its systems approach. Road traffic is part of the transport system, aimed to provide mobility with minimal consequences for safety, health, and the environment. The overall responsibility rests with the system designers and providers, while users are expected to follow rules, pay attention, and heed to other road users. System components include road infrastructure, users, and vehicles. Measures need to be directed toward all three of these components, but priority is given to infrastructure and vehicles in order to compensate for the most unreliable component – the users. Accessibility for broad road user categories is another argument for prioritizing technical and environmental improvements, rather than placing stricter demands on users. The governance of this policy area is delegated from the government to the Swedish Transport Administration and is executed in collaboration with other relevant actors in accordance with a negotiated program where responsibilities and commitments are allocated among actors. As Vision Zero for road safety has been decided upon by the Swedish government and parliament, there is an annual reporting mechanism back to these levels on progression and further needs, intended to maintain political anchoring and support. One specific problem related to the governing of road safety is the fluctuation of the status of road safety in relation to other transport-related issues. There is a risk that this fluctuation in prioritization has effects on long-term transformation. To succeed in bringing the number of deaths down requires coordination and cooperation among many actors. Bringing all these actors together has proven quite a challenge for the Swedish Transport Administration as the lead agency. Networks are set up but the capacity of these networks has not been fully developed.

The policy area of **fire** safety appears less matured and organized. Accountability besides the individual responsibility remains unclear, both legally and in practice. The broader systems approach, like in traffic, is yet to be elaborated and fully mandated for coordination and governance to a designated body. Currently, the policy area of fire safety falls under the jurisdiction of the Swedish Civil Contingencies Agency, an agency with very limited possibilities to influence relevant conditions outside its own restricted sector. Standards for buildings and dwellings fall under other sectors, like other fire-related issues on electrical equipment, furniture, home-based healthcare and nursing, social housing, alcohol, tobacco and drugs, etc. A program is outlined, identifying a set of determinants (“indicators”) considered important to modify, but there is no overall steering apparatus established to really implement the program across sectors.

Patient safety, however, is another example of a field characterized by a systems approach, at least in writing. System components include professionals, patients, technology, and organization. The overall responsibility rests with the caregiver (organization), while single professionals are expected to comply with standards, keep themselves updated, and report deviations from safe practice. On the other hand, there is a lack of overall monitoring systems and programs allowing for broader overviews and governance. Therefore, the systems approach and the clarity regarding responsibility are issues still largely theoretical, while a concrete management structure is yet to be established. There are several actors with clear mandates to monitor and report, such as the National Board of Health and Welfare, an organization issuing important guidelines for patient safety. The Health and Social Care Inspectorate also has a monitoring role both on a general level but also directly related to patients’ complaints. On paper we have an authority providing guidelines that caregivers should follow, and we have a monitoring authority issuing actual advice on improvements, but the system is so vast that the implementation of standards is challenged.

The policy area and Vision Zero for **suicide** shows similarity with fire safety concerning the absence of a broader systems approach and a clear lead agency capable of managing the field in the intended direction. Suicide is a comprehensive societal problem rooted in broad societal developments such as economy, health, labor market, family structures, and housing, all of them conditions out of reach for single actors to change. The National Board of Health and Welfare is appointed by the government to serve as a focal point for this area. The agency has a certain mandate over the healthcare system which means that the program in practice is narrowed down to issues possible to influence through the healthcare system, like identification and treatment of depression. This approach may yield some positive results but will not affect the deeper social determinants of the problem. The critical voices from within the healthcare system and from NGOs and voluntary organizations are continuously pointing toward this narrowing down of the system itself, having clear effects on implementation and problem framing.

Workplace safety, finally, is yet another example of an area with a well-established systems approach and with a clear division of responsibilities. The Work Environment Act (1977) assigns the main responsibility to the employer.

The employer should make sure that all equipment is safe and that employees are properly informed and educated to perform the work in a safe way. The Swedish Work Environment Authority is the lead agency expected to ensure, through information and enforcement that the employer takes on the responsibility for workplace safety in a satisfactory manner. The societal steering is thus performed indirectly by regulation, enforcement, and advice, which in practice limits the possibility to directly affect the development. Recognizing that the actors within this policy area are increasingly working on an international market entailing consequences for safety, wages, and social conditions, this also has consequences for the governing and steering structures related to workplace safety.

Discussion

The analysis of the five cases shows the difficulties and challenges of governing based on a vision and in combination with the zero approach. The Vision Zero role model within road traffic safety was developed in close relation to scientific results on, for instance, crash violence and was also influenced by other events over time in Sweden. Although Vision Zero has continued to develop within this policy area and has been subjected to constant improvement, its foundation appears more solid than the other cases. In this final section of the chapter, we will, based on the empirical findings and comparative analysis, return to three questions raised in the analytical framework:

1. Does a policy have to contain specific criteria in order to be called a Vision Zero policy, and what should we normatively ask of a Vision Zero related to reaching its end goal?
2. Do these criteria have to be in place before the adoption of the Vision Zero policy or can they be developed in a continuous transformation process?
3. In the light of its diffusion all over the world, how can we distinguish Vision Zero from other zero perspectives and why is that important?

Are There Discernable Determinants for a Vision Zero and for It Being Successful?

It is obvious that the compared Vision Zero policies differ in terms of practical feasibility and thereby also in trustworthiness with regard to their possibilities to affect the specific outcomes targeted in each policy. If a policy fails to scientifically frame the problem properly, including determinants and preventability, or fails to measure its problem's frequency and severity across relevant categories and over time, or lacks fundamental instruments for change, it appears problematic to denote it a Vision Zero policy, since there is little or no chance for the policy to fulfill its mission. Doing so may instead erode public trust in Vision Zero policies in general and eventually endanger the whole idea of Vision Zero policies. In our

view, it is the visionary image in combination with a trustworthy apparatus for systematic steering toward this vision that legitimates the term Vision Zero. This in turn, with reference to our analytical framework, rests on the model we have used for our comparative analysis, i.e., in short, the Vision Zero policies are based on wicked societal problems and these problems have to be framed properly and consistently in order for the measures and solutions to work efficiently. One crucial framing regards the system itself and particularly its actors and structures. Another key element is a system of monitoring and feedback.

In order to be implementable, a policy has to be clear regarding problem, measures, solutions, and goals, as well as monitoring and governing system. This is very much true for all policies. But using visions as policy tools require additional approaches. The very essence of a vision is its ability to inspire and to affirm important societal values for an extended period of time. To transform a vision into a workable tool requires patience, and adding a zero approach to a vision necessitates coordinated efforts. Visions thus contain both an element of inspiration and an opening for transformation toward implementation in practice. Based on the analysis of the five Vision Zero policies in Sweden, we conclude that there are problems and opportunities with governing by visions. We would like to take the discussion above a bit further by identifying a number of more specific criteria that in our view are necessary in order to work with a vision based on a zero approach in relation to wicked problems within the field of injury prevention. There has to be:

- **Scientifically** determined problems and solutions (in depth and width), including its spectrum of modifiable determinants at individual, technical/environmental, organizational, and societal levels.
- A **comprehensive** approach. For a vision to be successful, it is necessary to view the society in a holistic way. This requires knowledge of what policy measures are effective together and presupposes an analysis (often referred to as “systems analysis”) of relevant actors and incentive structures. This process often leads to broader policy programs often studied using the so-called program theory.
- A **long-term** transformation process which has to include measurements and monitoring systems, follow-up and feedback routines, program evaluation, and revision.
- A **governance** structure containing a specific system for goal setting as well as commitment, coordination, and leadership, not only from the appointed authorities but from all actors with a vested interest in solving the problem at hand. Since we are here dealing with complicated problems, not only a governing structure is required but also a governance perspective where all relevant actors work together.

If applying these criteria to our five cases as they were presented when adopted, the analysis can be summarized as following:

	Road safety	Fire safety	Patient safety	Suicide	Workplace safety
Scientific foundation	Broad	Narrow	Broad	Narrow	Broad
Comprehensive approach	Broad	Narrow	Broad	Narrow	Broad
Long-term monitoring system	In place*	Insufficient	Insufficient	Insufficient	In place*
Governance system	In place*	Missing	In place*	Missing	In place*

*“In place” here means that basic functions are in place, while operational quality and effectiveness may differ considerably

Building the Vision Zero Ship at Sea?

We have concluded that the Vision Zero for road traffic safety has a more profound foundation than the other cases in many perspectives. But the question is whether it is problematic to launch a vision without the same kind of foundation. One risk is that the vision remains only on paper and never reaches the implementation stage. On the other hand, having such an ambitious vision can inspire actors to construct methods, models, and above all identifying the system within each area, especially now when there is a role model for Vision Zero. Another problematic aspect is if the methods of the role model turn out to be less effective. The rise of deaths in the road safety statistics in recent years is a concern and adds a dimension to the discussion on having a vision as a steering and governing tool in relation to wicked societal problems. However, there is an alternative way to look at the problem with premature Vision Zero policies. They can also be perceived as challenges, revealing managerial weaknesses, and prompting actions to deal with the fundamental requirements that need to be in place for rational and systematic mitigation of adverse societal outcomes. If following the key components of working with a Vision Zero mentioned above, it should be possible to avoid an empty vision.

A Conceptual Distinction

Reviewing a policy area, intended for a Vision Zero approach, by means of our criteria applied above for policy comparisons, might facilitate the identification of such structural improvement needs. There is yet no ownership or standardization on the Vision Zero concept. But given its popularity and rapid dissemination in combination with an increasing diversity with regard to contents and applications, it might be useful to seek further clarification in order to streamline the uniqueness and theoretical relevance of the concept in contrast to parallel types of policies with similar aims and applications (for an overview of improvement principles, see Hansson 2019).

Among parallel policies and concepts, zero tolerance policies may deserve special attention. Vision Zero and zero tolerance policies are often confused, or referred to interchangeably, in the public debate. The two policies are, however, quite different. The zero tolerance concept was first introduced in crime prevention based on the idea that strict police response to minor offenses would be a way to prevent major crimes. The principles were popularized by Wilson and Kelling (1982) by launching their “broken windows” theory and claiming that indulgence to minor crimes, such as breaking windows and littering, will give way for more severe nuisance and crime (Kelling and Coles 1997). The ideas gained widespread interest and were quickly disseminated to other fields, especially drug prevention. Strict and prompt punishment of any drug involvement, even minor, was expected to deter from more serious involvements. The zero tolerance policy, as applied to crime and drug prevention, has been extensively criticized for being indiscriminate and brutal (Sharkey 2018). It is also blamed for raising barriers between the police and communities (Cox and Wade 1998). In drug prevention, the zero tolerance policy has been criticized for preventing abusers from seeking medical help in critical situations and thereby contributing to unnecessary deaths in overdoses (Tham 1998). As a reaction, the so-called harm reduction strategies are now increasingly advocated as a way to save lives. Drug users are welcomed to clinics where they can get qualified medical assistance and advice without risk of being accused of criminal behavior. The approach is intended to appear forgiving and supportive instead of intolerant and punishing. This helps to clarify the important difference between Vision Zero and zero tolerance policies. While the Vision Zero policy, as first presented in traffic safety, clearly reflects a harm reduction strategy, developed in reaction to the earlier behavior-centered strategy, the zero tolerance approach is directed toward controlling human behavior entirely, moreover by repressive means. According to the Vision Zero philosophy, environments should be designed to tolerate normal deviations in human performance by allocating responsibility to system designers as well, while the zero tolerance approach maintains strict individual responsibility and proclaims intolerance to human failure.

Cross-References

- ▶ [Vision Zero in Sweden: Streaming Through Problems, Politics, and Policies](#)
- ▶ [Vision Zero on Fire Safety](#)

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