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Risk, Health and Medicine in *The New York Times*

Abstract The study provides evidence for the increasing usage of risk words in reporting on health and illness. Chronic and civilisation illnesses are well represented and contribute to this trend. Infectious diseases often inform short risk hypes. AIDS' long-term presence has become a less prominent topic, as treatment improves and panic subsides. An epidemiological worldview and strong references to scientific studies carry the instantiation of risk. There is less conscious and/or agentive risk-taking in the reporting on health and illness than in other social domains. While women and children (for example) are frequently represented in relation to risk, they are less likely to be presented as taking risks, and more likely to experience them.

Keywords Civilisation illness · Infectious disease · Health risk · Epidemiology · Vulnerability · Scientific expertise

A number of studies, including our own research, have indicated that risk language is very common in health and healthcare discourse (Hamilton et al. 2007; Hardy and Colombini 2011; Zinn 2011; Zinn and McDonald 2016). A thematic focus on health seems promising,

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since sociological theories have not systematically explored how the social communication of risk differs between social domains in the media. From a sociological point of view, individuals are expected to manage health and illness as responsibly as, for instance, their finances, intimate relationships and careers. However, it is not clear whether the *risk* is mobilised in the same way when reporting on (possible) harm in different contexts. This chapter explores in more detail a number of health-related discourse-semantic issues which took place between 1987 and 2014. For this end, we derived a health-specific subcorpus from the *NYT* corpus, using the title and topic metadata accompanying each article (compare Chap. 3). This ensures that the results are less influenced by dynamics in other thematic domains such as economics and politics.

We start the analysis by examining the relative occurrence of RISK words in the context of health compared to other *thematic domains* (Sect. 5.1). We move on with exploring whether the *nature of risk*, as suggested by Beck (1992), influences media reporting. As an example, we use the increasing dominance of chronic and lifestyle diseases in contrast to the occasional media hypes on infectious diseases such as the 2009 swine flu or AIDS (Sect. 5.2). Scholars such as Beck have challenged notions of modernisations which assume a linear progression of a *rationalist* and *calculative worldview* (such as in the work of Max Weber and Talcott Parsons). Scholars working in a governmentality framework emphasised that the modern worldview finds repeatedly new ways to adapt modern technologies to new challenges (e.g. O'Malley 2008). We explore whether the social understanding of health and illness is increasingly framed by a *rationalist calculative world view* as is characteristic of epidemiology (Sect. 5.3). However, changes in the discourse-semantics of risk might not be due to general social change in the understanding of the world. There might be different reasons why news production refers increasingly to scientific studies and reports, and thus, in the frequency of risk words and their grammatical behaviour. Beck (1992) suggests that advanced modern societies have a growing need for the *provisions of scientific evidence* while critical media studies scholars would make primarily economic factors responsible for the tendency to underpin news with *scientific expertise* (Sect. 5.4). Finally,

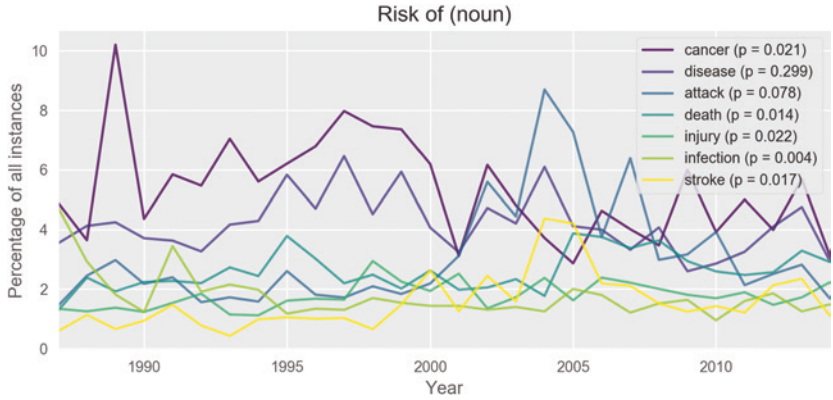

Fig. 5.1 Risk of noun in the *NYT* general corpus

a number of scholars have suggested that recent decades have seen a growing emphasis on individualist values (Douglas and Wildavsky 1982; Putnam 2000) and a growing emphasis on individual decision-making (Beck 1992). To examine these issues, we explore the extent to which everyday people occur in risker positions. We further examine differences between social groups dominating as participants of risk in the general corpus compared with the health corpus and which social groups are presented as generally being at-risk (Sect. 5.5).

5.1 Risk Semantics in Health Discourse

Our findings have already shown that in a number of linguistic constellations, health is a key issue when risk words are used (e.g. Sect. 4.1.5 and Fig. 4.2). The analysis of RISK as participant showed that *cancer, disease, (heart) attack, death, injury* and *infection* constitute a large proportion of instances in the health domain (Fig. 5.1).

The rise in *risk of attack* almost always refers to the increased risk of heart attack discovered in those who take Vioxx, a medication introduced in the USA in 1999 for the treatment of arthritis and other pain conditions. From 2004, for example:

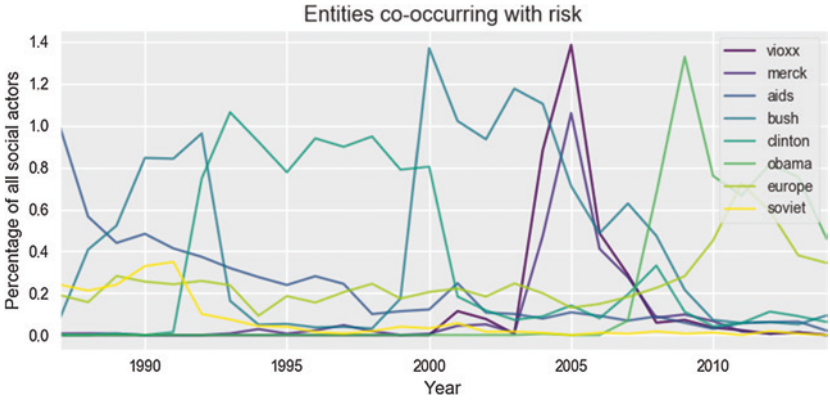

Fig. 5.2 Comparing proper noun entities that co-occur with risk in the *NYT* corpus

- *It reported that both drugs appeared to increase the **risk of heart attack** and **stroke**, but that the danger from Vioxx appeared higher.*
- *In an April 2004 study in the journal Circulation, researchers from Harvard Medical School found that Vioxx raised the **risk of heart attacks** relative to Celebrex; two months later, several of the same researchers reported in another journal that Vioxx increased the risk of hypertension* (Fig. 5.2).

We also looked at proper nouns that co-occur in sentences containing a risk word. Here, the salience of health topics is clear: during the height of the Vioxx scandal, *Vioxx* comprised a larger proportion of proper nouns co-occurring with risk than did presidents Clinton, Bush or Obama at their peaks, as well as the Soviet Union during its collapse, or Europe during the Eurozone crisis in 2011. AIDS, similarly, is the most prominent entity co-occurring with risk in 1987, with potentially higher peaks outside of the data sampling period. This shows that health and scandal, and health-related scandals, in particular, have great potential to influence short-term frequencies of risk communication. It also proves a clear difference between short-term risk hypes as in the case of the Vioxx scandal and long-term issues that feed into a lasting and only slowly decreasing level of RISK in media coverage as in the case

of AIDS. With the character of AIDS changing from an acute deadly infectious disease to a manageable chronic illness, risk words co-occurring alongside the condition are decreasing in usage (Berridge 1996). We will examine the difference of the character of risk in the following.

5.2 Lifestyle/Chronic Versus Infectious Diseases

Media hype about infectious diseases such as the 2009 *swine flu* (H1N1 influenza virus) has a significant short-term impact on media coverage. Similar issues such as the SARS outbreak in Southern China (2002–2003), as well as other zoonotic diseases, repeatedly feed into the concerns about a large epidemic, similar to the 1918 *Spanish flu*, which cost millions of people their lives. Organisations such as the WHO suggested that it is not a question of whether an infectious disease such as the *Spanish flu* would hit again, but simply when (Woolf 2014). AIDS was such a case of an (inter)national emergency, where potentially everyone was at-risk of transmission (though of course, groups such as gay men and blood transfusion recipients were especially vulnerable). But over the years, in the Western world, AIDS has been managed successfully and thereby increasingly lost newsworthiness. The recent Ebola virus epidemic (2013–2016) is a recent warning that infectious diseases still pose a threat. There were major concerns that the virus could spread in the Western world; however, Ebola remained mainly endemic to West Africa. As a result, it did not become an ongoing major news event in Western news coverage.

In contrast to claims of the continuous threat of an outbreak of a high-impact infectious disease, there is a well-known trend of civilisation illnesses and chronic illnesses becoming more dominant influencers of population health (e.g. Kuryłowicz and Kopczyński 1986). But are well-known and ongoing concerns about lifestyle and chronic illnesses newsworthy enough to make it into the print media and is the growing use of risk words linked to reporting on such illnesses? Or are risk words deployed in relation to the repeatedly occurring threats of new infectious diseases?

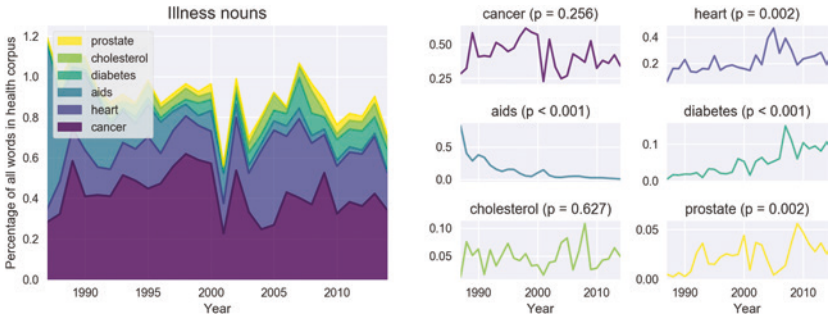

Fig. 5.3 Participants, decreasing and increasing (health subcorpus)

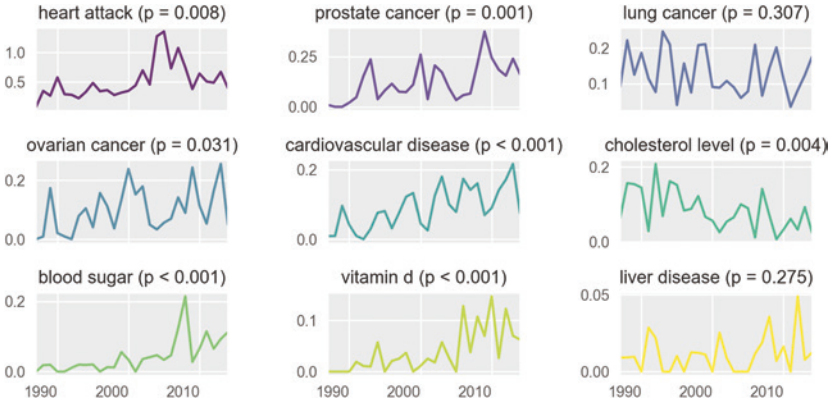

Fig. 5.4 Nominal bigrams, decreasing and increasing (health subcorpus)

Our analysis of both participants in the health subcorpus (Fig. 5.3) and bigrams (recurring combination of two-word combinations from open word classes) (Fig. 5.4) show the same patterns. The instantiations of risk in the area of infectious diseases are dominated by HIV and the AIDS and are decreasing over time. Not all, but most of these trends are statistically significant. For example, in Fig. 5.3, *cancer* and *cholesterol* and, in Fig. 5.4, *lung cancer* do not show clear trajectories. More general terms such as *virus* or *infection* which may link to other infectious diseases do not have a similar impact on the mobilisation of risk words in later years. Therefore, we have not included them in the figures.

In contrast, the analysis shows that a number of chronic and civilisation illnesses and related health issues occur prominently and increasingly in media coverage of recent decades which mobilises risk language. Most prominently are *heart attack*, *cardiovascular disease, blood sugar, vitamin D* as well as *prostate cancer* in Fig. 5.4 and *heart*, *diabetes* and *prostate* in Fig. 5.3 all characterising high-significance upward trends the *NYT* news coverage over three decades.

In summary, our data show that the social shift of the *nature* of health risks influences risk reporting. The growing social prominence of many (but not all!) lifestyle and chronic diseases is reflected in the news coverage of the *NYT* in mobilising RISK language.

The character of these illnesses might have also supported the growing importance of epidemiological approaches to health and illness, which rests on statistics and probabilistic calculations to manage medical uncertainties. We, therefore, turn to the prevalence of an epidemiological worldview in news coverage.

5.3 Epidemiology

Skolbekken's (1995) observation of a risk epidemic in scholarly articles of medical journals in the USA, Britain and Scandinavia from 1967 to 1991 might be crucial for understanding increased usage of risk language in the health area. He suggests that the shift towards risk cannot be explained by a change in terminology only. Instead, he hypothesised that the *risk shift* results from a particular social culture that developed historically and is linked to the development of probability statistics, to a focus on risk management and to health promotion and computer technology. However, he does not provide evidence regarding the extent to which the *risk epidemic* might have influenced public discourse.

In the following, we examine whether an epidemiological worldview dominates the framing of health risk. We suggest that a broader use of concepts typical for epidemiological thinking such as the *risk factor* would be a good indication of such a shift. The nominal group RISK FACTOR stands for the notion of health and illness being influenced by a range of distinct variables, which together affect the likelihood of

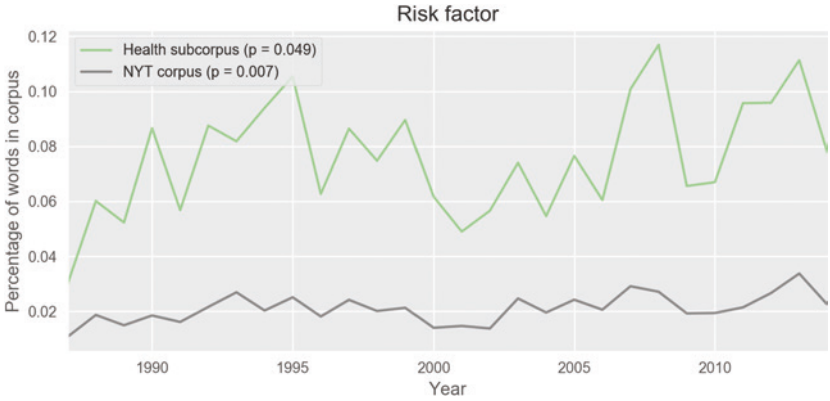

Fig. 5.5 Increasing frequency of risk factor in *NYT* corpus and health subcorpus

a negative outcome such as illness or disease. For example, smoking, drinking and unhealthy diet are all risk factors increase the likelihood of heart disease. It is important to note that for a generalised worldview, it is not necessary that the actual risk factors and their influence are objectively known or calculable but that it is expected that such factors exist and could at least theoretically be identified.

Figure 5.5 shows that in both the general corpus and the health subcorpus, we find such a trend of an increasing presence of the RISK FACTOR. There is much more variation in relative frequencies in the health subcorpus (due in large part to its smaller size). Even so, the overall relative frequency of the risk factor is much stronger which supports the view that the thinking in different factors contributing to the occurrence of an undesired event such as an illness is much more prominent in the health sector than in other social domains.

When exploring the text behind these dynamics (Table 5.1), examining the concordance lines makes clear the fact that RISK FACTOR is almost always linked directly to reporting about an empirical study or refers to epidemiological evidence more generally.

Such a tendency would support Mairal's (2011) suggestion, analysing Defoe's fictional story on the Plague in London, that a new style of journalism had developed during modernisation which is characterised by connecting an object *of risk* to an object *at-risk* with the (subjective)

Table 5.1 Randomised concordance lines for *risk factor* in the health subcorpus

- *One risk factor is having dense breast tissue, which is a double threat: cancer is more likely and harder to detect, because X-rays do not penetrate this tissue as well as they pass through fat (2009, Quandary With Mammograms: Get a Screening, or Just Skip It?)*
- *But the WHO formula includes most of the major players, called clinical **risk factors** that affect bone health (2009, As Bones Age, Who's at Risk for Fracture?)*
- *The association's 2009 Best Practice Statement on Prostate-Specific Antigen presents a balanced assessment of the test 's strengths and weaknesses and provides comprehensive guidance on how to interpret test results based on a patient's individual **risk factors** (2010, Should I Get the Prostate Cancer Test?)*
- *Other **risk factors** include obesity, Type 2 diabetes and lack of physical exercise, as well as occupational exposure to certain pesticides, dyes and chemicals used in metal refining (2010, Small Advances Against Pancreatic Cancer)*
- *There is some evidence that UV nail lights could be a **risk factor** for skin cancer (2010, THE CLAIM: Salons' UV nail lights can cause skin cancer)*
- *The World Health Organization says that indoor air pollution caused by such cooking methods is the fourth greatest health **risk factor** in developing countries, after unclean water and sanitation, unsafe sex and undernourishment (2010, Developing Nations to Get Clean-Burning Cookstoves)*
- *Women who worried about losing a job did not experience an increase in heart ailments, but they were more likely than women with high job security to be overweight or to have high blood pressure or high cholesterol, **risk factors** for heart disease (2010, Hazards: Job Stress Raises Women's Heart Risk)*
- *Researchers say they have identified another **risk factor** for childhood obesity: school lunch (2011, Childhood: When the Cafeteria Line Leads to Tater Tots)*
- *Dr. Freedman said the stable rates of bladder cancer could potentially be owed to greater awareness and other unknown changes in **risk factors** (2011, Hazards: Smokers' Bladder Cancer Risk Has Risen)*

probability of harmful consequences. We argue, referring to Weber, that even when the particular science might be weak or not reported in detail, the particular framework of reporting would use the notion of *risk* to make sense of possible harm. It stands for an emerging calculative worldview becoming more common with growing scientisation or rationalisation of the social world (Weber 1948).

In summary, we have suggested that the term RISK FACTOR links to an epidemiological worldview. The focus on scientific evidence is much stronger in the health domain than in other social domains, as illustrated in earlier examples where reporting less regularly refers

to concrete science and uses the notion of the *risk factor* more metaphorically. Since the *risk factor* occurs often when news coverage refers to scientific research and a particular study, we explore in the following whether there is further evidence for *risk* entering news coverage mainly through reporting on concrete scientific research and expertise.

5.4 Scientific Expertise

In the former section, we have argued that RISK words might enter media coverage as part of an epidemiological worldview becoming commonplace. However, media studies have emphasised that the organisational and broader economic conditions of news production are important elements for understanding the production of news (Herman and Chomsky 1988; Philo 2007). Institutional changes in news production such as growing concentration and competition with online (social) media during recent decades have had a potentially profound effect on the genre and subgenres of traditional print journalism. News are increasingly produced with increased time pressures, for global, online consumption, often with heavy budget constraints. Reports on particular issues such as new technologies, health and illness or social policy often build on general journalistic expertise rather than specialised journalism. When time is limited, journalists might rely on information provided by sources considered trustworthy in general, such as scientific experts and scientific research (Grundmann and Scott 2014). Foreseeably, an increased reliance on provided reports and press releases could result in an increasingly scientised style of news journalism. In a similar vein, it could be argued that specialised journalists would become part of the epistemic communities focused on issues such as climate change. Consequently, specialised journalists would increasingly use language practices typical of the particular epistemic community they are part of.

From a different angle, following a societal macro-perspective, Beck (1992) argued that in late modern societies, when scientific expertise has come under pressure, scientific evidence is even more important for claims-making. Complementing the former argument of the economic

pressure on news production, the media might utilise science as a point of reference in news coverage to provide their reports with more weight and objectivity, and thereby, discourses of risk would become more pervasive.

It is difficult to separate all these arguments, since they are interwoven in journalistic practice. Referring to science serves both requirements of news reporting: the provision of a sense of evidence and legitimacy of truth-claims as much as the need to produce news efficiently. The influence of an epistemic community on the way how risk knowledge is reported might be involved in both.

In the following, we examine to what extent the usage of *risk* is linked to the reporting of scientific evidence in news coverage. Instead of referring to the term RISK FACTOR to identify a general rationalist/epidemiological worldview, we operationalise the occurrence of risk in the context of scientific research and scientific expertise.

Our analysis of nouns[1] in the health subcorpus supports the assumption that research-related participants in the discourses have significantly increased over last decades. Of the top 11 increasing participants, three are associated with scientific expertise (*researcher*, *professor* and *f.d.a.*), and three are related to scientific knowledge production such as *study*, *research* and *trial*. The term *study* is the one most often related to RISK among all the other words indicating a strong connection between *risk* as a concept and medical research (Fig. 5.6).

Importantly, the notion of risk does not only refer to statistics and probability estimates, or to possibility of an undesired event, but also to decision-making, which includes questions of agency and responsibility. We will turn to in the next section.

[1] Nouns stand in for the more semantically useful notion of participant for our investigation of the health subcorpus, because frequencies were too low to allow reliable quantification of the participant category.

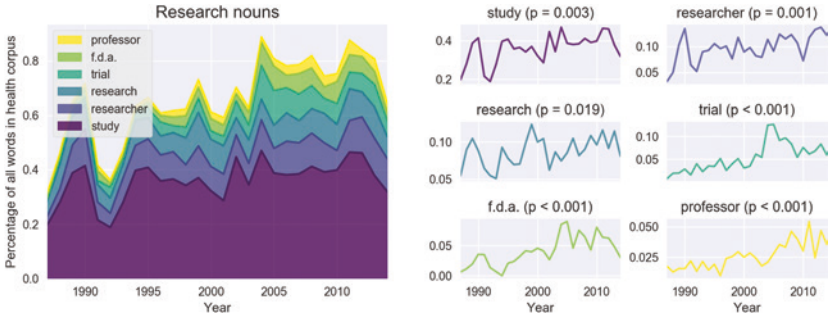

Fig. 5.6 Frequencies of selected terms related to research

5.5 Agency, Vulnerability and Health

Although there are indications for increasing individualism and processes of individualisation in the general corpus, it is not clear to what extent this would manifest in reporting on people in the health sector. The notion of Individualisation has been characterised as an ambivalent process where the desire of individual life shaping is accompanied by vulnerability or what Beck and Beck-Gernsheim (2002) have called *risky freedoms*. Commentators have noted that individualisation processes come with systematic inequalities. The burden of risk varies between different social groups (e.g. Mythen 2004). To what extent this is reflected in or related to the communication of risk in the health sector is open to debate. In the general corpus, we were already able to show some typical patterns (compare Sect. 4.2.6). These might compete or overlap with criteria for newsworthiness in the health domain.

The possibility and experience of (chronic) illness and the need for treatment and medicine make health issues an ongoing topic. For example, potentially everybody is at-risk of developing some varieties of cancer; this challenges dominant norms in Western industrialised societies to autonomously shape life and biography (Beck and Beck-Gernsheim 2002). Showing the 'human face' of suffering, making links to personal experiences, and/or showing that everyone could be affected and other dimensions have each been highlighted as being central for both

successfully constructing social problems (Loseke 2003) and newsworthiness (Kitzinger 1999). Health researchers have shown that good health is often considered as *normal—an assumption* which is often not much reflected upon until it is challenged. A diagnosis of a chronic illness is therefore experienced as a *biographical disruption* which questions generalised expectations of health and requires a reordering of one's identity and biography (Bury 1982). This contributes to an explanation of why illness is such a key topic in the news.

Reporting of lifestyle and chronic illnesses, issues with drugs and medicine and new scientific knowledge supports a continuously high prevalence of risk words in news coverage. But who is standing out and mobilises risk in news coverage? There is a growing body of research which emphasises the public control of women's health, for example, in the context of pregnancy. There have also been suggestions for a change in perception that puts a larger emphasis on babies as being vulnerable and in need of protection (e.g. Lupton 1999). Therefore, we wanted to know to what extent the discourse semantics of health reflect such issues.

In a first step, we examined to what extent the standard model of the risk frame, the actively risking of health, is represented in news coverage. The first exploration of *risk as process* and people in *risker position* shows that the health domain clearly differs from the rest of the corpus. When comparing the number of riskers, it became obvious that active risking is comparatively less reported in the health domain. We found only 647 instantiation of words as riskers in the health corpus, which is 0.03% of all words in the health corpus. While this is an important finding in and of itself, it had serious consequences for the remainder of our analysis: the frequency of grammatical risking in the health subcorpus is so low that longitudinal change could not reliably be quantified. In comparison, in the *NYT* corpus, 17,408 words occur in risker positions—0.14% of all words, or nearly three times the relative frequency of riskers in the health subcorpus. This reflects what other researchers have also found: instantiations of risk in the health context is dominantly nominal and negative (Hardy and Colombini 2011).

The reason for the lack of agency in health might have to do with a number of factors, including the growing prevalence of lifestyle and

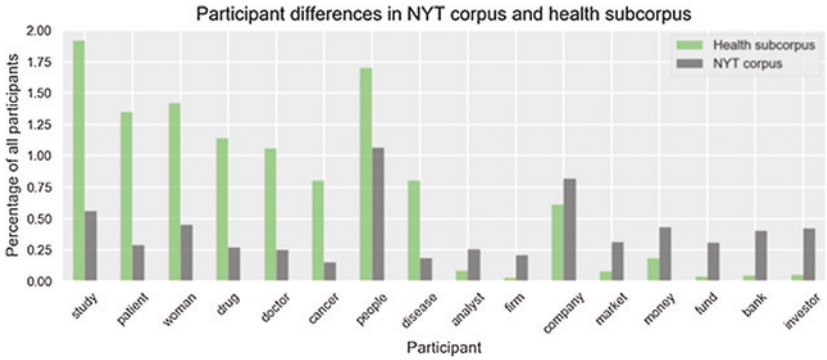

Fig. 5.7 Participant differences in *NYT* corpus and health subcorpus

chronic illness, and their related risks and uncertainties. At the same time, we have already indicated the strong link of risk to scientific research and expertise, which comes with a rather technical understanding of risk. This is again supported by the following analysis of the participants in the health risk corpus.

The strongest participant in the health sector is the STUDY followed by PEOPLE, WOMEN, PATIENT, DRUG and DOCTOR. This result again illustrates the dominance of research in health risk discourse. While there is a general reference made to people, women are outstanding. This supports the view that women's health is of particular social concern and socially regulated. This manifests in the social realm in many ways, but in news coverage as well (Fig. 5.7).

CANCER and DISEASE are the next outstanding participants, highlighting the ongoing relevance of cancer for the use of risk words. As we have shown elsewhere, cancer, in general, has an unclear trajectory, while some specific cancers, such as breast cancer, shift steadily in frequency. The continuous relevance of cancer indicates that ongoing research has not yet helped to overcome the illness. In contrast, as AIDS shifted from being understood as an infectious disease to a chronic illness, and as individuals learned of strategies for controlling the risk of infection, AIDS risk reporting dropped significantly, with AIDS risk almost negligible compared with other threats to health (compare Fig. 4.11).

Focussing on at-risk participants shows some remarkable differences to the above findings on risk participants in general. In health discourse in the *NYT,* there are particular groups which are very typically qualified as being vulnerable and at-risk. Outstanding are children, who are the most common at-risk entity in both general and health corpora. This reflects both the newsworthiness of reporting on children as vulnerable (Seale 2003) and the importance of risk language when reporting on vulnerable children. The at-risk status for the even younger *babies* refers to health as well. With *children* growing up and becoming youth and students, the at-risk status shifts away from health issues. YOUTH and STUDENT stand for the thematically broader at-risk status of these groups in the general corpus.

The at-risk PATIENT is the typical role for the health sector, while the at-risk POPULATION and at-risk GROUP reflect the rationale of risk more generally. Particular groups or populations at-risk are identified on the basis of a set of formal risk factors.

Interestingly, the strong co-occurrence of women with risk more generally is not repeated for *at-risk* participants. The data show that MAN, BABY, WOMAN and PEOPLE are similarly qualified as being at-risk. Consequently, we hypothesise that the general concerns and instantiations of risk language differ from the representation of the at-risk status of social groups.

Altogether, AT-RISK has become a common expression of vulnerability which is applied to all kinds of issues—as we have seen in the analysis of the general corpus (compare Sect. 4.2.7). It includes, for example, SECTOR, STRATEGY or NATION. Also, the attribution of at-risk status to *borrowers* and *homeowners* during the subprime mortgage crisis shows how AT-RISK has become a common way to express a generalised quality of vulnerability of a social group. In this respect, women do not differ from men and other social groups in the health sector. While not being singled out as a social group with a generalised *at-health-risk* quality, women still appear more often in the context of risk language than other social groups (Fig. 5.8).

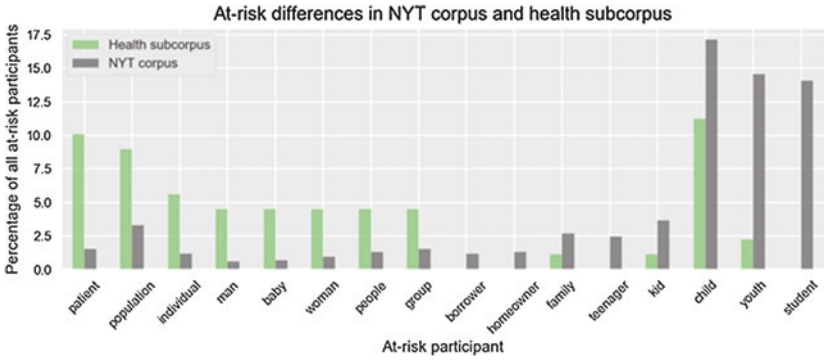

Fig. 5.8 At-risk participant differences in *NYT* corpus and health subcorpus

5.6 Summary

Our data show that risk words occur frequently in the health domain. The health corpus contains only 5.5% of the words and 4.6% of the articles of the full corpus but 15% of the risk words. This indicates a much higher density of risk words in news coverage on health issues in the *NYT*. The changing nature of health risk is also reflected in news coverage. Even though news hype regarding infectious diseases take place from time to time, the larger and increasing body of the news mobilising risk languages refers to chronic and civilisation illnesses. We found an indication for a changing worldview in risk reporting, as well as a larger body of news coverage referring to scientific research. Thereby, two developments seem to complement one another: first, a changing culture in the understanding of health and illness which rests on a rationalist epidemiological worldview (Skolbekken 1995); second is a growing pressure and need to produce legitimate news—a process that involves building on trustworthy evidence such as scientific research (Beck 1992). Finally, we found that active risking/risk taking is clearly underrepresented in the health domain. Only about 3.7% of all riskers in the general corpus are in the health domain, an almost negligible number. At the same time, children are a group which is strongest connected to the at-risk construct. CHILD is leading in the

health corpus as well as in the general corpus reflecting the major social concern about children. Altogether, the health corpus shows a broader spread of at-risk status across different general people categories including *man*, *woman*, *people* and *population* indicating that the general concern about women is not expressed through the *at-risk* compound.

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