“Disease-Breeders” Among Us: Deconstructing Race and Ethnicity as Risk Factors of Immigrant Ill Health

Sylvia Reitmanova

Published online: 11 July 2009
© Springer Science + Business Media, LLC 2009

Abstract  Race and ethnicity are well-established epidemiological categories that relate to the patients’ risk of exposure and their susceptibility/resistance to disease. However, this association creates the notion that factors other than a personal identity need not be held responsible for patients’ health problems. This work deconstructs the notion of race and ethnicity as risk factors for immigrant ill health, which is prevalent in current medical research and practice, by tracing its roots in Canadian history. The understanding that medical knowledge is subject to diverse historical, social, cultural and political influences can change the way health professionals perceive their patients as a health threat.

Keywords  Race · Ethnicity · Immigrants · Health risk · Health threat

Prologue

A few weeks ago my 3-year-old daughter developed a severe ugly-looking rash on her trunk and limbs. Although I have a medical degree, I could not determine the cause of her problem, and because the rash was getting worse, I decided to take her to a nearby walk-in clinic. By the time she was seen by a family physician, the rash had covered her body completely. While I expected that the physician would ask a broad range of diagnostic questions, I was perturbed when he started his clinical inquiry with the question, “Have you been abroad recently?” The questions on potential food and drug allergies, family skin diseases or recent exposure to infections were on the bottom of his list.

Physicians conducting medical interviews on a daily basis may feel that there is nothing wrong with selecting this question as a diagnostic priority. However, as a public health researcher knowledgeable about health issues surrounding immigration and also as a visible minority immigrant patient, I am quite concerned with this question’s priority status.
Therefore, in this work I would like to deconstruct the notion of race and ethnicity as risk factors for ill health and, as well, elaborate on the relevance of these epidemiological categories to medicine and society. By the end of this article, readers should be able to understand to what degree someone’s race and ethnicity can be associated with his or her ill health. They should also be able to trace the roots of the thought processes that led the physician examining my daughter to suspect a foreign origin of her condition prior to considering other options.

**Race and ethnicity in epidemiology: a double-edged sword**

Race and ethnicity are, indeed, long and well-established epidemiological categories defining patients’ characteristics in company with other important categories such as age, sex, socio-economic status, marital status, lifestyle, etc.¹ These factors are important in two regards: they relate to the patient’s risk of exposure and his/her susceptibility/resistance to disease. The role of epidemiologists is therefore to search for the existing associations between these particular categories and specific diseases in order to determine the risk factors. Some results of this epidemiological quest are well-known. For instance, old age is associated with a higher risk of cardiovascular disease, a sex worker’s occupation with a higher risk of sexually transmitted disease, and a smoker’s lifestyle with cancer. The purpose of epidemiological categories such as a patient’s ethnicity and race can be understood in a similar way. For example, while Canadian Aboriginals are found to be at a higher risk of drug abuse-related health problems,² immigrants are associated with a higher risk of developing tuberculosis than their non-Aboriginal counterparts.³

Although social scientists argue that race and ethnicity are social and not biological constructions⁴,⁵,⁶ and therefore irrelevant as epidemiological variables, the establishment of associations between one’s race or ethnicity and specific health problems represents a useful medical concept. For example, if Aboriginal people are found to be at a higher risk of contracting HIV than other groups in Canada, then public health efforts can be directed towards Aboriginal communities. Linking one’s race or ethnicity and a specific health problem can attract more resources with which to address a broader range of health-relevant problems in that particular community. Furthermore, without recognizing race or ethnicity, scientists, researchers, decision makers and service providers cannot truly identify those who are the most disadvantaged and the most deserving of their help.

However, despite the advantages of this approach, establishing an association between race or ethnicity and a specific health problem represents a double-edged sword because the association itself creates the notion that factors other than a person’s racial or ethnic identity need not be held responsible for his or her health problems. As a result, it is often someone’s personal agency that is blamed for his/her final health outcomes rather than the social environment in which these health outcomes are embedded.⁷,⁸ The single association between a patient’s race or ethnicity and health may not reveal other important factors shaping his or her risk of exposure or susceptibility to disease. For instance, it is well established that tuberculosis is a social disease affecting largely those at the bottom of the social ladder. In fact, some authors consider tuberculosis as a penalty for “ruthless exploitation” of the poor in capitalist economies.⁹,¹⁰ For this reason, establishing that being an Aboriginal or a Third World person is per se a risk factor for developing tuberculosis ignores large socio-economic and political forces which frame the life chances and health of these people.
Sick-immigrant paradigm and its consequences

Linking personal health with one’s race or ethnicity is a very old concept in Western societies. In fact, the understanding of the health of immigrants has always been dominated by the *sick-immigrant paradigm* which assumed that it is sickness that leads people of diverse races and ethnicities to leave their homelands and seek a new life in another country. Adhering to this ideological framework, immigrants were often suspected as reservoirs or vectors of many diseases and for that reason were assumed to pose a health threat to residents of their recipient countries. As Hall writes:

> Statistics in the United States show that the foreign-born ‘furnished two and one-third times their normal proportion of [the] insane. They have been the cause of epidemics and of the spread of much infection…Favus and trachoma were practically unknown in the United States before the immigration from Southern and Eastern Europe….
> Probably the worst effect of immigration upon the public health is not the introduction or spread of acute diseases, but of large numbers of persons with poor physique who tend to lower the general vigor of the community.\(^\text{12}\)

Similar assumptions about immigrant ill health formed the basis for compulsory medical assessment of all immigrants entering Canada. The purpose of this assessment was to select only the fit and the desirable. As a result, the Canadian Immigration Regulations debarred from Canada, among others, the following immigrants:

1. Idiots, imbeciles, feeble-minded persons, epileptics, insane persons, and persons who have been insane at any time previously.
2. Persons afflicted with tuberculosis or any contagious or infectious disease.
3. Persons who are dumb, blind, or otherwise physically defective, unless security is given against such persons becoming a public charge in Canada.
4. Persons over 15 years of age who are unable to read.
5. Persons who are guilty of any crime involving moral turpitude; persons seeking entry to Canada for any immoral purpose.
6. Beggars, vagrants, and persons liable to become a public charge.
7. Persons suffering from chronic alcoholism or the drug habit, and persons of physical inferiority whose defect is likely to prevent them making their way in Canada.\(^\text{13}\)

Government reports documented the following health causes for deportation of immigrants from Canada: tuberculosis, rheumatism, insanity, failing eyesight, physical and mental weakness, epilepsy, heart disease, varicose veins, leg ulcer, empyema, deafness, dumbness, twisted neck and head, old age, lost eye and thumb, pregnancy, immorality, vicious tendencies, alcoholism, chronic dysentery, diabetes, Bright’s disease, skin ulcer and abscess, malformations, frost bites, lead poison, and bad character.\(^\text{14}\) Unfortunately, these records did not show how such assessments were made and to what degree they were objective and justified, taking into account that “immigrants [were] examined in groups often of 1,000 and over, and as many as 7,000 have arrived in a single day.\(^\text{15}\)

Besides being barred from entering the country, fear of immigrants also led to “campaigns against immigrant-run street markets and fruit stalls, which were condemned as germ-ridden threats to the public health. The fear of uncleanly foreigners has also been extended to imported foodstuffs.”\(^\text{16}\) In Canada, for instance, the 1892 August edition of the *Calgary Herald* appealed to Canadians to boycott Chinese laundry businesses as they were considered “nests of disease.”\(^\text{17}\) For such reasons, immigrants were often subjected to surveillance, detention, or isolation.
The notion of immigrants posing serious health problems and threats, however, varied significantly across race and class lines. Reading Woodsworth’s description of characteristics and traits of various immigrant racial and ethnic groups, one can easily realize that the more closely immigrants resembled the white British living in Canada and the closer their country of origin was in geographic proximity to Britain, the more positive characteristics they were attributed. On the contrary, those with “brown skins,” “bad characters” and “peculiar customs,” such as Levantines and Orientals (defined at that time as Chinese, Japanese and Hindus) appeared to be those whom Canada least desired to embrace. These groups of immigrants, often seen as health and economic threats to Canadians, were attributed the most negative features among all immigrants. As Woodsworth noted: “Whether it is in the best interests of Canada to allow them to enter in large numbers is a most important question, not only for the people of British Columbia, but for all Canadians.”

Similar sentiments appeared in a 1912 editorial in the Vancouver Sun:

The attitude of the people on the Coast, undoubtedly, is that we do not want East Indians at all, but if we are to have them, or at least some of them, it shall be the men only, because we do not want a permanent colony of them, and one which would increase as a natural result of families being located here.

This inconsistency in Canadian selective attitudes and behaviours toward immigrants (on one hand, the white settlers from Western Europe were welcomed to this country and, on the other hand, Asian immigrants were coerced to comply with various restrictions and taxes) can be explained only on the premises of racial discrimination. Unfortunately, these sentiments were not exclusive to Canada. For instance, the Californian Vallejo Daily Independent of 1873 published the following news piece under the title, “Still They Come”:

Thirteen hundred and nine more Chinamen arrived in San Francisco yesterday to spread pestilence [bubonic plague] and take the bread from the mouths of our poor people. Seriously, what is to be done with these creatures? The immigration is assuming frightful proportions with the prospect that, a few years hence, they [the Chinamen] will swarm upon our coast like the locusts of Egypt.

Another American newspaper, The Modoc Independent of 1880, reported in a similar spirit that

[there was no division in judgment in California as to the evil effects of Chinese immigration. It was the slave class that was shipped to this country—the lowest class of China’s teeming millions. Virtue was unknown to them. In a word, their habits, manners, customs, language, morality and religion constituted a system incompatible with civilization in this country. The two could not exist together, and it had been truly said that “we must conquer, be conquered or exclude them.”

This kind of negative reporting in newspapers coincided not only with certain attitudes toward “unscrupulous, lying, and treacherous Chinamen,” but also with serious actions taken against them. For instance, about 4,500 Chinese immigrants were placed in quarantine, and all Chinatown was burned down after only two cases of bubonic plague were discovered in Hawaii in 1899. Fear of this plague led also to implementing quarantine laws in San Francisco which did not apply to the houses of non-Asians.

Incidents of violence against Chinese immigrants were present in Canada, as well. In 1892, an alcohol-fuelled mob rioted in Calgary’s Chinese district after an outbreak of smallpox was linked to a laundry business run by Chinese people, although only four
deaths from smallpox were reported.27 The Calgary Herald condemned the riot, but it also advised Canadians to avoid sending their laundry to the Chinese businesses so that they “may render the stay of Chinamen in Calgary useless and, in a short time, without violence, without any interference with personal liberty, … rid of what the majority regard as an obnoxious element.”28

Despite the fact that contemporary Western societies, proud of their democracy, law and human rights charters, proclaim their concerns about world peace, justice and equality, many studies document that North Americans believe that immigrants have been and continue to be a health threat. The passage of time between the last century and this one has not changed the notion of immigrants as “disease-breeders.”29 In fact, Tomes drew a parallel between the atmosphere of germ panic in North America that surrounded the immigration from Southern and Eastern Europe at the beginning of the twentieth century and the one that surrounded the immigration from the Third World at the end of the millennium:

The association of immigration and infectious disease has intensified scrutiny of national border crossings, from Ellis Island inspection lines to detainment camps for Haitian immigrants. As historians have noted, fears of racial impurities and suspicions of immigrant hygiene practices are common elements in both periods.30

Recent research provides sound evidence that negative health discourses about immigrants are readily present in the Western world even today, whether they concern the Ebola virus of black Africans, the SARS of the Chinese, or the over-reproduction of Latinas, which all threaten in different ways the highly regarded and healthy bodies of white Canadians, Britons, or Americans respectively. In addition, studies showed that more attention is paid to these assumed health risks rather than to the actual health issues of immigrants suffering from trauma, torture, malnutrition and physical violence endured in the past. Moreover, immigrants’ negative health images are as frequent as the images of immigrants posing threats to the safety, economic stability and cultural traditions of the native-born populations.

This negative representation of the “other” (a social construct implying immigrants’ presumed or real physical, psychological and behavioural differences) can be traced to the Enlightenment period, during which Europe embraced the concepts of biological determinism and social Darwinism. Scientists of that era believed that people’s minds, qualities and abilities (which were presumed to be as different as were their languages) were biologically determined. All these assumed differences had to be classified in some way. As a result of these classification efforts, Carl Linne first classified human races into four categories based on their physical differences. He also linked these different physical characteristics to different cultural, behavioural and moral traits. Other scientists modified and advanced his classification; however, they always maintained the same organizing principle—namely, the hierarchy of races.

It was the scientific and technological advancement and industrial prosperity of Europe during that historic era which led scientists to a belief (which they empirically evidenced, for instance, by measuring people’s skulls) that the white race was naturally and inherently superior to all other races. By maintaining this discourse of “the inferior other” in both scientific and public realms over several centuries, a non-white personal identity acquired a wide range of negative associations, connotations and meanings. Said in his influential work on orientalism explained that “degenerated” and “uncivilized” non-white races were framed identically to the other undesirable elements in Western societies such as criminals, the mentally ill, the poor, women, etc….
Conclusion

One may wonder why it is important that health professionals talk about this “othering” discourse today. As Said noted, the construction of personal identity permeated by “othering” discourse is highly relevant to many political issues such as immigration, criminal law, foreign policies, and education,46 since those today deemed different and inferior experience profound inequalities in economic status, housing, health, education, criminal justice, and the labour market.47 The concept of “othering” serves as the boundary-maintaining mechanism that leads to the preservation of social distance and hierarchy between various groups in society.48 One of the efficient means of maintaining a socially stratified society with the white race on top of the social hierarchy is to feed continuous fear of and prejudice towards the “others.” One way to feed this fear is to represent the “other” as a threat to health. For instance, by constructing immigrant personal identity as a tuberculosis threat, tuberculosis management and policies tend to focus on restricting immigration and surveying immigrants rather than on addressing the broad social, economic and political reasons which foster tuberculosis within the immigrant population.49

To avoid designing health policies and clinical practices operating on the premises of the “othering” discourse, we need to implement several changes in our medical, nursing or science school curricula. These curricula need to challenge the notion that disease is purely a biological entity residing in a depersonalized human body.50 Future health professionals and service providers need to know that medical knowledge is subject to diverse historical, social, cultural and political influences.51 They need to reflect on how history, economy and politics—as well as their own personal biases and prejudices—can affect many health conditions, clinical practices, health policies and research, and even the structure of health organizations.52,53 Until our medical schools are ready to introduce such an educational approach, the query, “Have you been abroad recently?” is likely to continue topping the list of diagnostic questions posed when addressing the health problems of our visibly different immigrant patients.

Endnotes

1 Judith S. Mausner and others, Epidemiology, an Introductory Text, Vol. 2nd (Philadelphia: Saunders, 1984).
2 Kevin J.P. Craib and others, “Risk Factors for Elevated HIV Incidence among Aboriginal Injection Drug Users in Vancouver,” CMAJ 168, 1 (2003), 19–24.
3 Public Health Agency of Canada, Canadian Tuberculosis Standards. (Public Health Agency of Canada, 2007), http://www.phac-aspc.gc.ca/tbpc-latb/pubs/pdf/tbstand07_e.pdf.
4 Charles A. Gallagher, Rethinking the Color Line: Readings in Race and Ethnicity, Vol. 2nd (New York: McGraw-Hill, 2004).
5 David R. Hughes and Evelyn Kallen, The Anatomy of Racism: Canadian Dimensions (Montreal: Harvest House, 1974).
6 Diana Kendall, Race, Class, and Gender in a Diverse Society: A Text-Reader (Boston: Allyn & Bacon, 1996).
7 Paul Farmer, Infections and Inequalities (Berkeley, Los Angeles: University of California Press, 1999).
8 Juanne N. Clarke, Health, Illness and Medicine in Canada, Vol. 4th (Toronto, ON: Oxford University Press, 2004).
9 Rene J. Dubos and Jean Dubos, The White Plague: Tuberculosis, Man, and Society (London: V. Gollancz, 1953).
10 Randall M. Packard, White Plague, Black Labor: Tuberculosis and the Political Economy of Health and Disease in South Africa (Berkeley: University of California Press, 1989).
11 Morton Beiser, “The Health of Immigrants and Refugees in Canada,” Canadian Journal of Public Health 96 Suppl 2 (2005).
12 James S. Woodsworth, *Strangers within our gates*, Vol. 2 (Toronto, Buffalo: University of Toronto Press, 1972), 192.
13 Government of Canada, *Eastern Canada. Canada—the New Homeland* (Colonization and Immigration; Government of Canada, 1924).
14 Woodsworth, *Strangers within our gates*
15 Ibid, 192.
16 Nancy Tomes, “The Making of a Germ Panic, then and Now,” *American Journal of Public Health* 90, 2 (2000), 195.
17 Don Sellar, *In our Opinion: More than 100 Years of Canadian Newspaper Editorials* (Markham, Ont.: Fitzhenry & Whiteside, 2006).
18 Marouf A. Hasian, “Power, Medical Knowledge, and the Rhetorical Invention of ‘Typhoid Mary,’” *The Journal of Medical Humanities* 21, 3 (2000).
19 Woodsworth, *Strangers within our Gates*
20 Ibid, 155.
21 Sellar, *In our Opinion: More than 100 Years of Canadian Newspaper Editorials*, 66.
22 Hughes and Kallen, *The Anatomy of Racism: Canadian Dimensions*.
23 n.a., “Still they Come,” *Vallejo Daily Independent* (1873).
24 n.a., “Congressmen Berry and Page on the Chinese Question,” *The Modoc Independent* (1880).
25 Joan B. Trauner, “The Chinese as Medical Scapegoats in San Francisco, 1870–1905,” *California History* 57, 1 (1978), 73.
26 Ibid.
27 Sellar, *In our Opinion: More than 100 Years of Canadian Newspaper Editorials*.
28 Ibid, 52.
29 Tomes, *The Making of a Germ Panic, then and Now*.
30 Ibid, 195.
31 Joshua L. Greenberg, “Opinion Discourse and Canadian Newspapers: The Case of the Chinese “Boat People’,” *Canadian Journal of Communication [Online] 25*, 4 (2000).
32 Sean P. Hier and Joshua L. Greenberg, “Constructing a Discursive Crisis: Risk, Problematization and Illegal Chinese in Canada,” *Ethnic and Racial Studies* 25 (2002).
33 Carmela Murdocca, “When Ebola Came to Canada: Race and the Making of the Respectable Body,” *Atlantis* 27, 2 (2003).
34 Laura Eichelberger, “SARS and New York’s Chinatown: The Politics of Risk and Blame during an Epidemic of Fear,” *Social Science & Medicine* 65, 6 (2007).
35 Murdocca, *When Ebola Came to Canada: Race and the Making of the Respectable Body*.
36 Peter Washer, “Representations of SARS in the British Newspapers,” *Social Science & Medicine* 59, 12 (2004).
37 Leo R. Chavez, “A Glass Half Empty: Latina Reproduction and Public Discourse,” *Human Organization* 63, 2 (2004).
38 Matthew Randall, “Guest Media Lens Alert: Asylum and Immigration. Comparing the Daily Telegraph, the Guardian and the Independent,” (2003).
39 Greenberg, *Opinion Discourse and Canadian Newspapers: The Case of the Chinese “Boat People’.*
40 Hier and Greenberg, *Constructing a Discursive Crisis: Risk, Problematization and Illegal Chinese in Canada*.
41 Hughes and Kallen, *The Anatomy of Racism: Canadian Dimensions*.
42 Ibid.
43 Richard H. Robbins, *Cultural Anthropology: A Problem-Based Approach*, Vol. 4th (Belmont, CA: Thomson/Wadsworth, 2006).
44 Edward W. Said, *Orientalism*, Vol. 25th Anniversary (New York: Vintage Books, 2003).
45 Ibid.
46 Ibid.
47 Gallagher, *Rethinking the Color Line: Readings in Race and Ethnicity*.
48 Hughes and Kallen, *The Anatomy of Racism: Canadian Dimensions*.
49 Sylvia Reitmanova, “Saving the Empire: The Politics of Immigrant Tuberculosis in Canada,” *McGill Journal of Medicine* 11, 2 (2008).
50 Byron Good, *Medicine, Rationality, and Experience: An Anthropological Perspective* (Cambridge; New York: Cambridge University Press, 1994).
51 Clarke, *Health, Illness and Medicine in Canada*.
52 Good, *Medicine, Rationality, and Experience: An Anthropological Perspective*.
53 Kathleen Fuller, “Eradicating Essentialism from Cultural Competency Education,” *Academic Medicine* 77, 3 (2002).
References

Beiser, Morton. “The Health of Immigrants and Refugees in Canada.” Canadian Journal of Public Health 96 Suppl 2 (2005): S30-44.

Chavez, Leo R. “A Glass Half Empty: Latina Reproduction and Public Discourse.” Human Organization 63 no.2 (2004): 173-188.

Clarke, Jaanne N. Health, Illness and Medicine in Canada. Vol.4th. Toronto, ON: Oxford University Press, 2004.

Craib, Kevin J.P., Patricia M. Spittal, Evan Wood, Nancy Laliberte, Robert S. Hogg, Kathy Li, Katherine Heath, Mark W. Tyndall, Michael V. O’Shaughnessy, and Martin T. Schechter. “Risk Factors for Elevated HIV Incidence among Aboriginal Injection Drug Users in Vancouver.” CMAJ 168 no.1 (2003): 19-24.

Dubos, Rene J. and Jean Dubos. The White Plague: Tuberculosis, Man, and Society. London: V. Gollancz, 1953.

Eichelberger, Laura. “SARS and New York’s Chinatown: The Politics of Risk and Blame during an Epidemic of Fear.” Social Science & Medicine 65 no.6 (2007): 1284-1295.

Farmer, Paul. Infections and Inequalities. Berkeley, Los Angeles: University of California Press, 1999.

Fuller, Kathleen “Eradicating Essentialism from Cultural Competency Education.” Academic Medicine 77 no.3 (2002): 198-201.

Gallagher, Charles A. Rethinking the Color Line: Readings in Race and Ethnicity. Vol.2nd. New York: McGraw-Hill, 2004.

Good, Byron. Medicine, Rationality, and Experience: An Anthropological Perspective. Cambridge; New York: Cambridge University Press, 1994.

Government of Canada. Eastern Canada. Canada - the New Homeland. Government of Canada, 1924.

Greenberg, Joshua. “Opinion Discourse and Canadian Newspapers: The Case of the Chinese “Boat People.” Canadian Journal of Communication [Online] 25 no.4 (2000), http://www.cjc-online.ca/viewarticle.php?id=601.

Hasian, Marouf A. “Power, Medical Knowledge, and the Rhetorical Invention of “Typhoid Mary.” The Journal of Medical Humanities 21 no.3 (2000): 123-139.

Hier, Sean P. and Joshua L. Greenberg. “Constructing a Discursive Crisis: Risk, Problematization and Illegal Chinese in Canada.” Ethnic and Racial Studies 25 (2002): 490-513.

Hughes, David R. and Evelyn Kallen. The Anatomy of Racism: Canadian Dimension. Montreal: Harvest House, 1974.

Kendall, Diana. Race, Class, and Gender in a Diverse Society: A Text-Reader. Boston: Allyn & Bacon, 1996.

Mausner, Judith S., Richard F. Morton, Anita K. Bahn, and Shira Kramer. Epidemiology, an Introductory Text. Vol. 2nd. Philadelphia: Saunders, 1984.

Murdocca, Carmela. “When Ebola Came to Canada: Race and the Making of the Respectable Body.” Atlantis 27 no.2 (2003): 24-31.

n.a. “Congressmen Berry and Page on the Chinese Question.” The Modoc Independent April 17 (1880).

Packard, Randall M. White Plague, Black Labor: Tuberculosis and the Political Economy of Health and Disease in South Africa. Berkeley: University of California Press, 1989.

Public Health Agency of Canada. Canadian Tuberculosis Standards. Public Health Agency of Canada, 2007, http://www.phac-aspc.gc.ca/tbpc-lath/pubs/pdf/tbstand07_e.pdf.

Randall, Matthew. “Guest Media Lens Alert: Asylum and Immigration. Comparing the Daily Telegraph, the Guardian and the Independent.” (2003). http://www.medialens.org/alerts/03/031208_Asymlm_Immigration.HTM (accessed September 24, 2007).

Reitmanova, Sylvia “Saving the Empire: The Politics of Immigrant Tuberculosis in Canada.” McGill Journal of Medicine 11 no.2 (2008): 199-203.

Robbins, Richard H. Cultural Anthropology: A Problem-Based Approach. Vol. 4th. Belmont, CA: Thomson/Wadsworth, 2006.

Said, Edward W. Orientalism. Vol. 25th Anniversary. New York: Vintage Books, 2003.

Sellar, Don. In our Opinion: More than 100 Years of Canadian Newspaper Editorials. Markham, Ont.: Fitzhenry & Whiteside, 2006.

Tomes, Nancy. “The Making of a Germ Panic, then and Now.” American Journal of Public Health 90 no.2 (2000): 191-198.

Trauner, Joan B. “The Chinese as Medical Scapegoats in San Francisco, 1870-1905.” California History 57 no.1 (1978): 70-87.

Washer, Peter “Representations of SARS in the British Newspapers.” Social Science & Medicine 59 no.12 (2004): 2561-2571.

Woodsworth, James S. Strangers within our Gates. Vol. 2. Toronto, Buffalo: University of Toronto Press, 1972.