



# Comics for Health Literacy

## The Comics

- 7 *Stay Home with Flu*, written by Meredith Li-Vollmer, artwork by David Lasky, 2010. Courtesy of Public Health—Seattle & King County.
- 8 *Stay Safe in the Heat*, written by Meredith Li-Vollmer, artwork by David Lasky, 2017. Courtesy of Public Health—Seattle & King County.
- 10 *Climate Changes Health*, written by Meredith Li-Vollmer, artwork by Mita Mahato, 2019. Courtesy of Public Health—Seattle & King County.



# Home with Flu

Stay home when you've got the flu. Be prepared to keep your children and teens home if they get sick.

## Why it's important to stay home with flu

You can pass the flu to others when you cough or sneeze. You're most contagious while you've got a fever AND for 24 hours after the fever has gone.

### MOST CONTAGIOUS



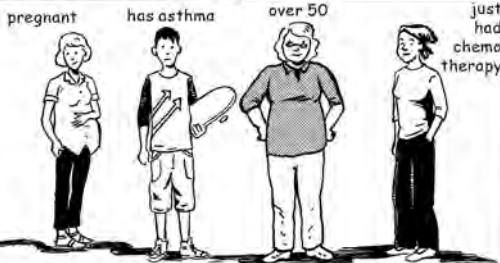
during fever

and



one full day after fever has gone

Some people are at much greater risk of serious health problems if they get the flu.



Many people who are at higher risk look healthy.

If you go to school or other gatherings when you are still spreading the virus, you will put others at risk.



## Check to make sure your child is well before school or childcare each day

(Does your child have:

**fever**

above 100°F



AND one of the following:

**cough**

**sore throat**

OR



If so, your child may have the flu. Other symptoms can include runny nose, body aches, diarrhea, and vomiting.

## If your child is sick, consider these child care options.

So you can care for her in the afternoon?

I think that'll work.



Ask relatives, friends, or neighbors for help.

Thanks! The kids can be at my place tomorrow.

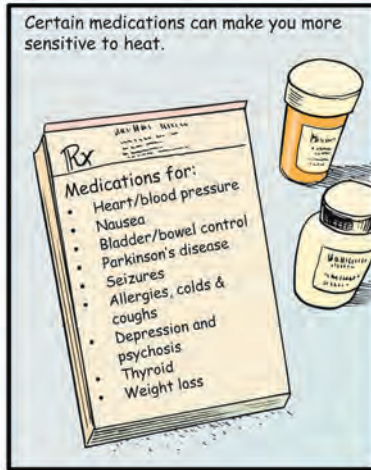
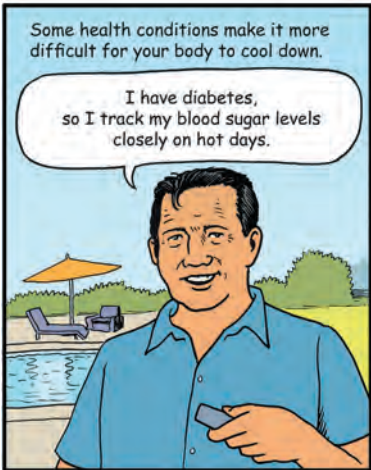


Set up a neighborhood child care network. Find a small group of families to trade off child care days.



For more information, visit [www.kingcounty.gov/health](http://www.kingcounty.gov/health).





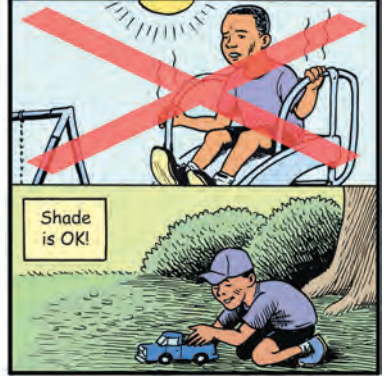
Check on family and neighbors who may be more vulnerable to heat.



Children can also have heat exhaustion because they are so active and forget to drink water.



On hot days, keep children out of the direct sun during the hottest part of the day.



NEVER leave babies, young children, or pets in a parked car, even with the window rolled down. Not even for a minute! Cars can get dangerously hot in seconds!



People who work outside should take frequent breaks to cool off.



Drinking water and other fluids often is important. Don't wait until you're thirsty.



Eat foods with a lot of water in them.



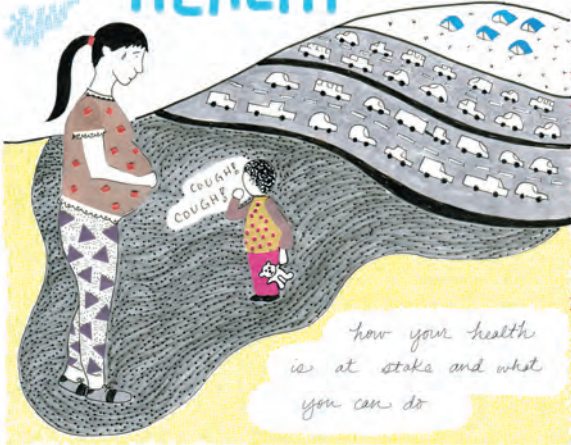
Play in fountains and sprinklers, go to the swimming pool, and stay in the shade.



Try to go somewhere with air conditioning on a hot day.



# CLIMATE CHANGES HEALTH



For years we've heard stories about the impact of climate change



But climate change is harming our health and the health of our children



## CLIMATE CHANGES THE AIR WE BREATHE.

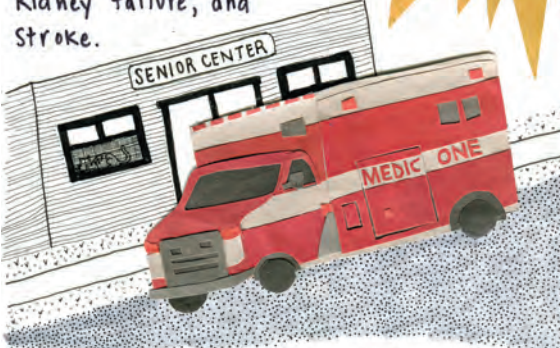
Wildfires are more common with rising temperatures and drought.



# CLIMATE CHANGES

HOW MANY PEOPLE WILL BE HOSPITALIZED OR EVEN DIE FROM EXTREME HEAT.

During hot weather, our emergency rooms see more patients with heart problems, kidney failure, and stroke.



Most homes in our region don't have air conditioning, so it's harder for people to escape the heat.

# CLIMATE CHANGES

THE FOOD WE EAT.

Our local food supply is changing.



Warmer water temperatures reduce the salmon population and also create conditions that make shellfish unsafe to eat.

# CLIMATE CHANGES

OUR EXPOSURE TO DISEASE CARRIERS.

Shifts in our climate make Western Washington more hospitable to mosquitoes, ticks, and other disease vectors,



So more people are likely to be infected with diseases like West Nile Virus and Lyme disease.

Unpredictable weather patterns affect growing seasons for some fruits and vegetables.



Some crops may be harder to find and more expensive.

# CLIMATE CHANGES

## THE LIVEABILITY OF OUR NEIGHBORHOODS.

More frequent and severe storms will increase local floodings and power outages. Floods also expose people to water contaminated with sewage and toxins, and also indoor mold.



# CLIMATE CHANGES

## HOW WE FEEL.



Not surprisingly, wildfires, heavy rainfall, flooding, and windstorms increase stress and anxiety. When the weather feels unpredictable and out of control, people's mental health suffers.

Climate change is especially harmful to people who work outdoors, those with chronic health issues (like diabetes and allergies), people at lower income levels, and children.



Unless we make changes—individually and as communities—these threats to our health are going to get much worse.



The sooner we take action, the more harm we can prevent.



# WE CAN MAKE A DIFFERENCE THROUGH THE CHOICES WE MAKE

## What we choose to buy:

- ENERGY STAR APPLIANCES
- LED LIGHT BULBS
- DRYING RACK FOR LAUNDRY



## What we choose to eat:

- MORE VEGETARIAN MEALS
- less meats
- less dairy



## And how much we choose to purchase:

- REPURPOSE OLD CLOTHES, TOWELS, AND SHEETS
- REPAIR OR UPGRADE MEMORY OF ELECTRONIC DEVICES INSTEAD OF BUYING NEW.
- CARRY REUSABLE WATER BOTTLES



# WE CAN MAKE A DIFFERENCE THROUGH SUPPORT FOR SMART COMMUNITY PLANNING AND CLEAN ENERGY POLICIES.

We can choose active forms of transportation. We can connect with our neighbors to form carpools, plant trees,



The good news is that our actions as individuals, neighborhoods, and communities can slow climate change.

# CLIMATE CHANGES HEALTH

SO WE MUST INFLUENCE CLIMATE CHANGE.



Our health and our future generations depend on it!

## Discussion

All of the comics included in this anthology aim to influence how people make decisions that affect their health and the health of the community, whether that's through visually demonstrating health behaviors, or enhancing people's understanding of a complex health issue, or expanding what people consider a public health concern. When comics provoke the reader to contemplate, critically evaluate, or even recognize a public health issue, they work in the service of health literacy.

Advancing health literacy is challenging and complex. Health information is often technical, complicated, and laden with jargon. The impenetrability of some health recommendations can discourage even an avid reader from perusing health education materials, let alone trying to understand them. At the same time, the people we target for health messaging each have their own characteristics and information needs; public health issues may not rank among their main concerns. Health communicators must respond to these factors in their approaches to communication if they want people to access, comprehend, and act upon health messages. They must take into consideration the varying levels of reading ability and numeracy in the general public and the widening gap in science education. They must meet language access needs and ensure relevant communication for diverse audiences, each with distinct health concerns. Communicators must be able to deliver health messages across an ever-growing number of information channels and platforms. Attention spans are shorter in the age of vast digital media, and health messages must compete with expanding sources of misinformation and increasing political rhetoric around public health issues. This complexity calls for new options and approaches.

Comics, I believe, are uniquely well suited to meeting this call. They offer multiple modes for conveying information in a single encounter, and the dynamic visual and textural elements have the potential to garner attention. But the power of comics is more than the explanatory power and attractive visual appeal of illustration and text. Comics offer distinctive possibilities for exploring public health issues through narrative storytelling. They tap into how an issue makes people feel and how it plays out in their realities. Whether or not people engage with public health messages may only minimally be about the clarity of information. They receive a message within the context of their emotional states, their social worlds, and the specifics of their own positionality. Does the message stimulate an emotion? Does it relate to the world as they experience it? The possibilities that comics offer to evoke a response, create connections, and stimulate empathy are the most compelling reasons to use comics for health literacy. By drawing the reader into the social and emotional dynamics of a health message, comics can foster a deeper level of engagement.

## Why Comics Work for Health Literacy

### The Explanatory Power of Comics

Comics have a unique visual vocabulary that lends itself to conveying specific information and facilitating the construction of meaning, two qualities that make it a powerful medium for promoting health literacy. I became aware of this potential after reading Scott McCloud's groundbreaking work *Understanding Comics*, in which he demonstrates how comics harness multiple elements to communicate, including words, images, flow, moment, and frames. Skillful use of these elements can increase the explanatory power of health information, sharpening its clarity, relaying elements of social context, and amplifying its persuasive quality.



**Fig. 1.1.** The image alone can powerfully convey the main symptom of norovirus infection. Artwork by David Lasky for "Norovirus Fact Sheet." Courtesy of Public Health—Seattle & King County.

### Comics Pack Information Through Pictures

The image is the powerhouse of comics. Even without accompanying text, an image is capable of relaying specific information, such as a demonstration of a desired behavior or an illustration of steps in a process. The density of information packed into a well-planned image can reduce (or in some cases, eliminate) the need for text. For example, without any words, a single panel of a child clutching his stomach and thinking of a toilet can concisely convey the main symptom of norovirus (fig. 1.1).

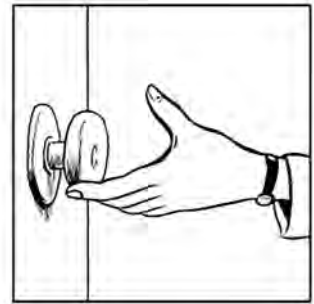
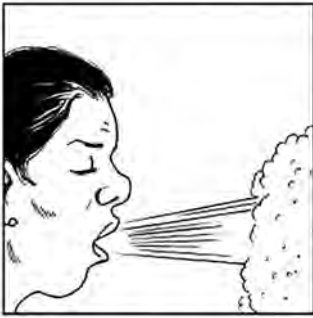
### Comics Add Words for Clarity and Narrative

Images can carry a density of information, but their meanings are still open to interpretation. Images alone do not always result in fidelity of information

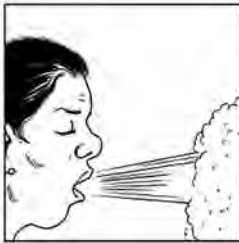
between sender and receiver, a quality needed when the goal of a piece is to clarify a concept or provide specific instruction. In comics, words can clarify and reinforce the desired meaning as well as expand narrative and expository possibilities.

For example, the images in figure 1.2 convey (without words) that the comic is about illness. By adding just a brief amount of text, the panels in figure 1.3 clearly demonstrate how the flu virus is transmitted.

Writing for comics must be precise and spare to fit into the panel structure. This forced brevity often makes for a better reading experience. Complex sentence structures, passive voice, and wonky jargon frequently obfuscate the key messages in public health writing. When comics are executed well, the image carries much of the meaning,



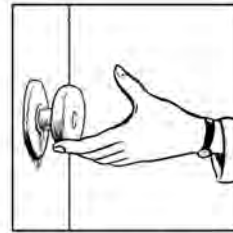
## HOW FLU SPREADS



Flu germs spread when people cough, sneeze, or talk.



If flu germs get on hands...



...they can pass the germs to other objects.

**Fig. 1.2.** Images indicate that this is a message about illness. Artwork by David Lasky for “Flu Fact Sheet.” Courtesy of Public Health—Seattle & King County.

**Fig. 1.3.** Adding text conveys more clearly that this sequence demonstrates how flu spreads. Artwork by David Lasky for “Flu Fact Sheet.” Courtesy of Public Health—Seattle & King County.

allowing the text to sparingly fill in information that cannot be derived from images alone. Writing about health within the comics genre challenges the writer to be brief, resulting in lean and focused language that makes information easier to process.

### The Sequence in Comics Has Meaning

Unlike other forms of illustration, comics panels can be arranged in sequences that serve an additional informational function. As McCloud notes, panels provide an organization that indicates the passage of time and/or changing of physical space, and they also provide a narrative flow.<sup>1</sup> The comics scholar Hillary Chute has noted that the comics medium’s panels and gutters—the spaces between the panels—require the reader to fill in the narrative between the panels to determine how they are connected.<sup>2</sup> The construction of meaning in the gutter can be multidimensional; for instance, reading through a sequence of panels, a reader could interpret the passage of time and also connect what has happened in a concluding panel to be an outcome of what was previously shown.



Flu vaccination offers you protection from getting the flu...



...and if you stay well, that protects people who are more vulnerable.

**Fig. 1.4.** The sequencing of these panels demonstrates how specific behaviors have health outcomes. Artwork by David Lasky for “Flu Fact Sheet.” Courtesy of Public Health—Seattle & King County.

For public health purposes, we can use sequence to explain causal relationships, demonstrated in figure 1.3 about the transmission of flu virus. The sequence shows how flu virus transmits indirectly as droplets from coughs and sneezes, and then gets spread from surface contact with objects like door-knobs. To reinforce the importance of the sequence, we used ellipses in the text to propel the reader from panel to panel. By following the flow, the reader can see how easily flu spreads and why hand washing is crucial.

Sequential panels can also be deployed to indicate outcomes of health behaviors. For example, in the first panel in figure 1.4, a patient receives a flu vaccination. In the next panel, because she had the vaccination, the patient can visit an infant and an older adult without risking spreading the flu to her loved ones.

### Comics Can Provoke Emotional Responses and Capture Social Contexts

Comics are most successful when the image, words, and sequential elements operate simultaneously to form meaning beyond the literal information presented. Skillful application of these elements can create an emotional response or encourage empathy, and in concert, they have more persuasive power in promoting specific health behaviors.

This is most obvious in a narrative comic with a story line, characters, and dialogue. For example, for *Survivor Tales: Aftershocks*, a comic book for emergency preparedness, we used a real-life story from an American survivor of the Kobe earthquake. The comic book was designed to promote community resilience with the key message that people need to look out for one another during disasters. The protagonist’s emotional reactions—as shown through his facial expressions, internal dialogue, and illustrations of the devastation—serve as a model of his concern and care for his neighbors (fig. 1.5).

Comics’ various elements can work together for an emotional appeal, even in a nonnarrative, didactic comic about flu prevention. David Lasky and I created a short educational comic that opens this chapter, *Stay Home with Flu*, during the 2009 H1N1 influenza pandemic. At that time, school districts reported that many sick children were coming to school despite public health messaging that urged caregivers to keep



**Fig. 1.5.** A comic about the aftermath of the Kobe earthquake drew upon the character's emotional reactions to reinforce the need for neighbors to help one another—a key factor in community resilience. Artwork by David Lasky for *Survivor Tales: Aftershocks*. Courtesy of Public Health—Seattle & King County.

kids home to help them recover. We decided to try a different angle, emphasizing staying home to prevent spreading flu to those most vulnerable to hospitalization.

*Stay Home with Flu* shows the kinds of people who are most vulnerable to the most serious illness from flu. The words clarify why they are more vulnerable, and through a combination of words and images, the comic explains that they might not look more susceptible. The drawings of these high-risk people, with their outward gaze and friendly demeanor, help make an empathetic connection with the reader.

Sequence is at play in a variety of ways. In the first panel, we meet the pregnant woman as someone more vulnerable to flu. In the second panel, she enters the space occupied by someone sick with flu, and we can anticipate her exposure as we mentally



The best way to prevent the flu is to get a flu vaccine every year.



Health experts recommend the vaccine for all people 6 months and older.

**Fig. 1.6.** The calm, positive facial expressions shown on both the vaccinators and the patients were designed to promote confidence in vaccination and reduce anxiety. Artwork by David Lasky for “Flu Fact Sheet.” Courtesy of Public Health—Seattle & King County.

message and tap into an appropriate emotion. For example, in comics that include advice to get vaccinated, we were intentional in depicting calm expressions on the patients and reassuring ones on the clinicians (fig. 1.6).

## Comics Can Reflect Lived Experience

Comics’ ability to convey social contexts and interactions are particularly useful in health literacy efforts targeted at specific audiences. In the health department in King County, Washington, we have been using comics in response to input from advocates and partners in immigrant and refugee groups who call for health communications with less text, more pictorial content, and more reflection of their communities. Comics can literally reflect the target audiences by including aspects of specific communities visually. This is not just a demonstration of respect or a mechanism to attract the communities’ attention through representation (though that is part of the intention). Health information is more relevant when the reader sees people, places, and cultural practices that are familiar.

*Stay Safe in the Heat*, one of the comics at the opening of this chapter, was designed as a mini-comic for specific communities of color living in south King County, Washington. Research by the University of Washington’s Occupational and Environmental Health program indicated that proportionally, on hot days, more people from these largely immigrant communities came into emergency rooms suffering from cardiac arrest, kidney failure, and stroke. We worked with this UW program to develop a comic to create more awareness of these health impacts from heat, specific risk factors, and what people can do to prevent heat illness. Focus groups in the affected demographics helped us understand perceptions about health risks from hot weather and what practices

follow the logical flow of her moving through the space in the panel. Because we have already met her and know her vulnerability, we may feel a stronger emotional pull as she is put at risk by ill people.

The examples from *Stay Home with Flu* and *Survivor Tales: Aftershocks* show how the comics genre can also incorporate social dynamics, adding dimension to health communication. Social dynamics can include how characters react to situations or one another, with consideration of facial expressions and gestures that serve the desired mes-



## ĐẢM BẢO AN TOÀN KHI TRỜI NÓNG



**Fig. 1.7.** Comics are well suited for publication in community and multilingual newspapers, such as this version of *Stay Safe in the Heat* printed in a Vietnamese newspaper. Artwork by David Lasky. Courtesy of Public Health—Seattle & King County.

specific communities use to keep cool. Community input and reference photos of people in the target communities also informed the development of the comic. The protective behaviors shown—such as drinking winter melon soup or carrying an umbrella for shade—came from community interviews. Community members also reviewed early drafts to make sure that the comic was appealing and contained clear key messages, accurate depictions, actionable tips, and quality translations.

Comics help circumvent barriers to health information that members of non-English language communities frequently encounter. When images carry much of the meaning, health information requires fewer words and allows for simpler syntax. The simpler text in English makes comics easier to read and also results in less expensive and higher-quality translation into other languages. We could afford to translate *Stay Safe in the Heat*, for example, into the ten languages of target communities because the word count was relatively low. Much like traditional comic strips, the comics also adapted well to print media that are widely read within many language communities, such as the Vietnamese-language newspapers that circulate in the Seattle region (fig. 1.7).

Compared to pictograms and icons—other visuals frequently used in health outreach materials—comics provide more context that facilitates understanding. Health information in comics can be drawn more precisely, in a more lifelike manner, making the meaning less ambiguous. In contrast, icons and pictograms are not truly universal; people of different backgrounds interpret them in different ways. Comics are also open to interpretation, but they can more accurately and minutely depict the desired health behavior. And when people see images in comics that reflect their reality, they may find it easier to visualize themselves doing the illustrated health behaviors.

## Comics for Public Health Literacy

The use of comics for health literacy discussed so far relates to individual health decisions and behaviors. Within the public health discipline, we are increasingly looking beyond the role of the individual to focus attention on the populations, systems, and institutions that create the conditions for health. “Public health literacy” takes the notion of health literacy further to address the degree to which people comprehend and appreciate how health issues affect them, their communities, and society as a whole.<sup>3</sup> Public health literacy efforts aim to engage more stakeholders in the mission of public health and address the social and environmental determinants of health.<sup>4</sup>

However, it’s not easy to make complex discussions about the upstream, structural factors in public health inviting and accessible. Public health conversations about systems change and the social determinants of health can feel academic and removed from the very people at the heart of the issues. As a communication tool, comics can help personalize policy issues, center the community in the discussion, and provide a storytelling thread to help readers piece the complexity together (see more discussion in chapter 4, “Comics for Advocacy and Activism”).

Comics can also frame issues as public health concerns. For example, climate change is a pressing public health issue, regarded by many in the field as one of the highest priorities. But members of the general public—and even some of the public health workforce—often don’t view it as a health issue. In the Puget Sound region, where I live, climate change is a top policy issue, but dialogue tends to focus on greenhouse gas emissions, carbon footprints, and energy goals. To center the impact of climate change on *people* and provide incentives to slow climate change, I collaborated with colleagues working at the intersection of climate change and health to make a mini-comic.

This group wanted to reach segments of the public who would have the greatest ability to make personal changes to slow the rate of climate change. The mini-comic, *Climate Changes Health*, targeted parents in higher-income demographic groups who tend to have the largest carbon footprint, in terms of their energy use and consumption patterns, and also have the means to prevent further harm to the environment. In this

respect, the comic aimed to promote consumption choices that minimize impact on the environment and to increase support for clean-energy policies. The comic also defines climate change as an urgent public health issue and makes concrete the impact of climate change on communicable disease transmission, chronic health conditions, environmental health, and mental health.

Artist Mita Mahato, known for her beautiful cut-paper comics on environmental topics, created the visual style that reinforced the health messages in *Climate Changes Health*. The layered textures of inking and semi-translucent paper evoke the scratchiness of dry grass and the oppressiveness of wildfire smoke. The hand-lettering makes the mini-comic feel personal, like thoughts jotted down by a friend. In the final panels, where the comic shows that people can choose to consume less and reuse and repair what they have, her cut-paper and hand-inking reflect the DIY nature of the recommendations. Mahato's illustrations were instrumental to our strategy; knowing that some people in the target demographic have lost interest in climate change, we aimed to draw them in with visuals too lovely to ignore.

### **A Role for Comics to Advance the Public Health Mission**

Comics for public health literacy is one of the most exciting applications of graphic public health. Public health literacy aims to shift public understanding of health issues to consider how social, political, and environmental pressures reverberate in the health of our communities. If we are to succeed in making this shift and engaging people broadly as stakeholders in public health efforts, we need powerful communication tools, ones that can pull people in with strong storytelling, emotional impact, and striking visuals. Comics can be a valuable part of the public health literacy arsenal, as I discuss in greater depth in chapter 5, "Making Comics for Public Health and Public Information." Already there have been great comics that advance public health literacy by cartoonists such as Whit Taylor, Josh Neufeld, and Malaka Gharib, as well as my collaborators in this volume.<sup>5</sup> I'm looking forward to seeing this use of comics grow.

### **Comics to Advance Multiple Levels of Health Literacy**

At the most basic, functional level of health literacy, comics can convey health information and have been shown to make complex information more understandable, increase knowledge of health risks, and influence healthy choices.<sup>6</sup> For example, when David Lasky and I created educational comics presenting information about norovirus, tuberculosis, and other communicable diseases, we conducted formative testing with target audiences of Asian, Latinx, and East African immigrants. Most respondents reported that the comics made the information easier to understand, and they could explain the protective actions described in the comics.

Improving access to health information is an important and practical use of comics. The explanatory power and visual appeal of comics can help meet calls for the public health field to ensure that health information is accessible and comprehensible to people with diverse informational needs. In addition to the comics shown in this chapter, chapter 2, “Comics for Risk Communication,” includes examples of comics designed to convey critical health messages for functional health literacy purposes.

But health literacy involves more than just providing information, and the strength of comics for public health extends well beyond an informative function. More interactive levels of health literacy are possible when there is a dynamic interaction with readers as they actively interpret the communication and apply health messages according to their own unique understandings and circumstances. In a special issue of the journal *Critical Inquiry* devoted to comics and media, Hillary Chute and Patrick Jagoda argue that the interplay between comics and the reader generates robust reader involvement.<sup>7</sup> The specific visual vocabulary of comics—with its panels, gutters, and text bubbles, its juxtapositions of text and images, and its jumps in time and sequence—requires effort on the reader’s part to make sense of what happens from panel to panel. While comics can make aspects of information salient and accessible, as Chute notes, piecing together the meaning from the dynamic elements requires a high degree of engagement.<sup>8</sup> As Scott McCloud puts it, the secret language of comics is economical and dense at the same time.<sup>9</sup>

Comics may support interactive health literacy when they facilitate people’s ability to act on what they know about health, such as increasing motivation or feelings of self-confidence in performing healthy behaviors or making health decisions.<sup>10</sup> Chapter 3, “Comics for Health Promotion,” offers examples of graphic public health used in campaigns that bridge functional health literacy with elements of interactive health literacy.

At a higher level, the activity required by the reader in interpreting comics, particularly narrative comics, may have the potential to activate what Don Nutbeam and Susie Sykes et al. refer to as critical health literacy, in which people become more aware and involved in health issues, participating in critical dialogue and decision making about their personal and community health.<sup>11</sup> For example, Sarah McNicol conducted in-depth interviews with people after they had read educational comics that related to health conditions they or their loved ones were experiencing. They reported that the comics evoked empathy and, on occasion, strong emotional responses of concern and even distress. The situations shown resonated with their own experiences, and some interviewees felt that the comics helped them relate to, respond to, and remember the information better than if it had been offered in a more abstract way. Significantly, the interviewees in McNicol’s study also described how the visual metaphors used in the comics provided avenues for them to understand their own health conditions

from other perspectives, prompting them to reflect on and reexamine their own understandings.<sup>12</sup>

Readers' greater involvement in interpreting the narrative forms of comics suggests that storytelling or journalism using comics, in concert with the emotional pull of the medium, could promote critical health literacy by encouraging reflection and critical perspectives on complex public health issues. Digesting information through narrative comics may stimulate greater insight into health issues than less personal health recommendations or "neutral" health information. Chapter 2 and chapter 4 offer story-driven comics and comics journalism about public health disasters, health care access, and other public issues as examples of how narrative comics can be used to promote critical health literacy.