Recent large-scale public health scares, such as the SARS crisis in 2003 and concerns over the quick spread of the potentially deadly and disruptive H5N1 and H1N1 flu viruses, have focused government and public attention on being prepared for a dangerous pandemic.

Imagine that rumours have reached Toronto of a deadly, virulent, and unstoppable virus that turns its victims into zombies – inhuman monsters that unthinkingly kill any living being in their paths. Scientists do not yet know how the virus is spread, nor is there a cure or a vaccine.

Refer to your own notes from Vincent Lam’s *The Flu Pandemic and You* (Source A) and “Contact Tracing” (Source B). Then, carefully read the additional six sources, including the introductory information for each source. Then synthesize information from at least three of these sources and incorporate it into a coherent, well-developed essay that identifies the key issues associated with preparation for the coming zombie apocalypse, and examines their implications for the survival of you and your loved ones.

Make sure your argument is central; use the sources to illustrate and support your reasoning. Avoid merely summarizing the sources. Indicate clearly which sources you are drawing from, whether through direct quotation, paraphrase, or summary. You may cite the sources as Source A, Source B, etc., or by using the descriptions in parentheses.

**You must use at least one of Vincent Lam’s works as one of your three sources, and then at least two sources by other authors.**

Source A (Lam and Lee, *Flu*)
Source B (Lam, “Contact”)
Source C (Landau)
Source D (Murray)
Source E (Thompson)
Source F (Emergency Info)
Source G (CDC)
Source H (Trust)
This synthesis exercise was created by Jodi Rice, The Bishop Strachan School, Toronto, Canada, based on a concept and materials collected by Marla Delapenha, Lake Gibson High School, Polk County, Florida, and Letitia Hughes, Barren County High School, Glasgow, Kentucky.
(CNN) – A virus is rapidly turning people into zombies. Two-thirds of humanity has been wiped out. Scientists desperately look for a cure, even as their own brains deteriorate and the disease robs them of what we consider life.

Relax, it's only fiction -- at least, for now. This apocalyptic scenario frames the new novel “The Zombie Autopsies” by Dr. Steven Schlozman, a child psychiatrist who holds positions at Harvard Medical School and the Massachusetts General Hospital/McLean Program in Child Psychiatry.

You might not expect someone with those credentials to take zombies seriously, but it turns out the undead are a great way to explore real-world health issues: why certain nasty diseases can destroy the brain, how global pandemics create chaos and fear, and what should be done about people infected with a highly contagious and incurable lethal illness.

"One of the things zombie novels do is they bring up all these existential concerns that happen in medicine all the time: How do you define what's alive?" says Schlozman. "When is it appropriate to say someone's 'as-good-as-dead,' which is an awful, difficult decision?"

The brain's frontal lobes, responsible for problem-solving, are devoured by the virus, so zombies can't make complex decisions. Impairment in the cerebellum means they can't walk well, either. Also, these humanoids have an unexplained predilection for eating human flesh.

"The zombies in this book are stumbling, shambling, hungry as hell," Schlozman said. "Basically they're like drunk crocodiles; they're not smart, they don't know who you are or what you are."

You can't ethically round up fellow survivors to kick some zombie butt unless the undead have technically died. And in Schlozman's book, a group of religious leaders get together and decide that when people reach stage four of the disease, they are basically dead. That, of course, permits zombie "deanimation," or killing.

A zombie-apocalypse disease like the one he describes probably wouldn't evolve on its own in the real world, he said.

But, as we've seen, individual symptoms of zombies do correspond to real ailments. And if they all came together, the disease would be creepily efficient at claiming bodies, Schlozman said.

A mathematician at the University of Ottawa named Robert Smith has calculated that if one zombie were
introduced to a city of 500,000 people, after about seven days, every human would either be dead or a zombie.

"We're in big, big trouble if this ever happens," Smith said. "We can kill the zombies a bit, but we're not very good at killing zombies fundamentally. What tends to happen is: The zombies just win, and the more they win, the more they keep winning" because the disease spreads so rapidly.

The best solution is a strategic attack, rather than an "every man for himself" defense scenario, he said. It would take knowledge and intelligence, neither of which zombies have, to prevail.
George Romero’s series of zombie films, *Night of the Living Dead* (1968), *Dawn of the Dead* (1978), *Day of the Dead* (1985), and *Land of the Dead* (2005), engages in one of the fundamental questions of the last two centuries in American political philosophy: which is the superior position, individualism or communitarianism?

Individualism is the idea that the success of a society depends on self-reliance – individual hard work, ingenuity, and entrepreneurship. The individualist’s America is a place where individuals can reach their full potential unfettered by over-reaching government or the constraints of traditional societal norms and hierarchies: in essence, a place where the individual shapes society, not vice versa. Individualists tend to reject communism, for example, because it limits individual freedom, especially by placing too much emphasis on the needs of other people.

Communitarianism is the idea that societies prosper most and best when citizens cooperate. The Civil Rights Movement in American succeeded, on this account, because many citizens worked together to put the needs of the society above their own individual desires. Communitarians embrace neighborhood connectedness and group activities. They believe that a good society results from a sense of community and self-sacrifice, according to John F. Kennedy’s famous dictum: “Ask not what your country can do for you, but what you can do for your country.”

I argue that Romero’s Dead films evoke the problem of what should be at the heart of an American social contract, and that they implicitly advocate communitarianism over individualism.

According to Thomas Hobbes’ theory of the social contract, people are brought together because they are terrified. The characters inside the besieged farmhouse in *Night of the Living Dead* demonstrate how a community can be formed simply out of fear. Most of the characters have never met before the terrifying events of that evening bring them together. They quickly form a governing apparatus in which two male antagonists, Ben and Cooper, vie for a position of power while a horde of zombies advances outside.

Ben is the hero of the communitarian position, working from the very start to save as many people as possible. He tries to make the farmhouse as safe as possible for himself and the traumatized, useless Barbara, even when she does nothing to help him. He exemplifies the social contract by drawing all parts of his community into the protective equation. On the other hand, Cooper, who is soon found hiding in the basement with his wife, child, and two other persons, embodies the individualist position of “every man for himself.” He admits openly that even though he heard screaming upstairs, he refused to risk his own life by coming up to help. He also advocates not going to the central community location prescribed by emergency broadcasts, in favor of maintaining the relative safety of their basement fortress (Ben argues that if they must remain in the house, it is safer upstairs).
Three general justifications for zombie termination appear to be as follows: a) they are (or are very close to being) brain-dead; b) because of their radically altered life goals, what personality is left lacks the same personal identity as the original individual, releasing us from prior obligations; and c) after zombification they are usually homicidal cannibalistic killers.

Each one of these justifications, however, poses a philosophical conundrum to our desire for absolute and sharp distinctions. If zombies are only partly brain-dead, how much is left and does this matter? Is what remains of the personality of zombies after zombification an altered personal identity? If we remove the homicidal tendencies by training the individuals, as in Day of the Dead, or chaining the individuals up, as in 28 Days Later and Shaun of the Dead, presumably the justification for termination on the grounds of self-defense is removed. However, we are still left with questions as to how we should treat these individuals.

Should we use them in the service industry jobs or as entertainment on game shows, as depicted in Shaun of the Dead? Do we have an obligation to terminate them out of a respect for their past identity? If your spouse is zombified, should you divorce him or her? Even if we grant the status of “dead” to the zombie, issues arise concerning our perceived obligations to the body alone.

Obligations to the body are instrumental to the Marine’s absolute commitment to “leave no man behind” (meaning by “man” a dead body), even at the potential expense of other living persons. This apparent obligation is apparent in the massive investment humans have in rituals of burial and cremation. If one takes literally a hoped-for resurrection of the body, the initial mutilation required in “finishing off” the body often leaves little of the original. Nobody usually stays behind to bury a decapitated zombie.

The sharpest moral challenge often arises when a character is faced with the realization of the altered state of a loved one and the choice of either terminating the loved one, who is thus transformed, or being transformed oneself. In Invasion of the Body Snatchers, the girlfriend’s personal identity is substituted when her psyche is replaced by an alien psyche in a physically identical body. The father of the girl in 28 Days Later gets “the disease” as an infected droplet of blood falls into his eye. In Shaun of the Dead, Shaun is confronted with the required termination of his mother, whose zombie transformation is hardly great given her somewhat mindless previous state.
The following is taken from a simulated blog portraying a fictionalized story line on the disaster-preparedness website for the Province of British Columbia, Canada.

**Day One: Outbreak**

7:00 a.m: Exposure

Just got up and flicked on the TV. Every channel is reporting the outbreak of an aggressive flu.

Early symptoms of exposure are a cough, fever and disorientation.

People are being asked to call in sick and shelter-in-place to help stop the virus from spreading. I feel great, but hey, a day off works for me!

Noon: Infection

Okay, this sounds a titch worse than the flu. Hospitals are bursting with people who've been infected and there are strange, but still unconfirmed, reports of violent outbreaks.

Emergency officials are urging people to stay home and await further instructions. No argument here. Will continue monitoring broadcast media reports and the Emergency Info BC Twitter feed and blog.

3:00 p.m.: Epidemic

Unbelievable. Media have confirmed the infected are attacking healthy people. The final symptom of infection? Overwhelming need to eat brains. Typical human behaviour is now completely absent.

5:00 p.m.: Power & Phone Lines Cut

No power, no land line.

So I guess that's it. I'm officially on my own. But I'm not going to panic. I'm going to stay cool, calm and collected. I'm prepared, and will live to tell the tale.

I've pulled a battery-operated radio out of my emergency kit, so I can keep monitoring instructions from local government and emergency officials. So far, word is to stay put.

Cell phones are still operational, but digital traffic is heavy. Thankfully text messaging is getting around the network disruption and I'm able to communicate with my mom, sister and friends across town. If necessary, I have extra batteries and a solar-powered/hand-crank charger for my lap-top and smart phone. These may be my only sources of communication for awhile.

Signing off for the night, but doubt I'll get much sleep.

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This synthesis exercise was created by Jodi Rice, The Bishop Strachan School, Toronto, Canada, based on a concept and materials collected by Marla Delapenha, Lake Gibson High School, Polk County, Florida, and Letitia Hughes, Barren County High School, Glasgow, Kentucky.
Day Four: Evacuation Order

I'm alive.

Two zombies made it into the house yesterday, but I managed to wallop them with my fire extinguisher, drag them outside and board up the broken window.

The evacuation alert has now been raised to an evacuation order.

At first, I was "Say what? I'm not leaving my home!" But I know the people in charge - government officials, local emergency and transportation representatives - have the best intelligence. They know what to do and my safety depends on listening to their instructions.

I'm supposed to go to the high school gym where a reception centre has been set up. Once I've registered there, I'll be able to access food, shelter, clothing and emotional support, which is good because I could really use a hug right now.

Before I leave, I'm going to bring my:

- emergency kit;
- emergency plan;
- mobile phone; and
- cat. I was told that there is a separate area in the emergency shelter for Cranky Pants and other pets, but some shelters won't allow them.

I was also told to:

- lock the doors;
- call or e-mail my out-of-province contact (this would be my Uncle Bruce in Whitehorse. No zombies there, too cold!); and
- leave a note telling others when I left and where I am going (good thing zombies can't read).

My car always has a half-tank of gas, so getting to the shelter won't be a problem.

Wish me luck.
The following chart is excerpted from a U.S. government agency's policy guide outlining ways to identify and plan for the care of senior citizens and other vulnerable members of the community during times of public health crisis and disaster.

<table>
<thead>
<tr>
<th>Emergency Action</th>
<th>Definition of Action</th>
<th>Planning Concerns</th>
</tr>
</thead>
</table>
| Sheltering in place | Occurs when people are warned to remain indoors and to make a shelter out of the place where they are located. Sheltering in place may be necessary during an event such as a chemical spill or radiation emergency. | • Promoting personal preparedness.  
• Communicating risk to older adults.  
• Educating the public about safety issues. |
| Social distancing | Refers to infection control measures that limit the spread of pandemic influenza or other infectious agents by reducing the opportunity for people to come in contact with infected persons. | • Planning for disruptions in access to routine medical care.  
• Managing obstacles for in-home service providers to make health visits, deliver meals, or perform other home-based services.  
• Managing limitations in the continuity of operations plans of home health care agencies. |
| Isolation due to circumstances | Occurs when people are isolated at home because of weather or other environmental events, such as an ice storm or flooding, that interrupt normal daily activities. | • Planning for disruptions in access to routine medical care.  
• Managing obstacles for in-home service providers to make health visits, deliver meals, or perform other home-based services.  
• Managing limitations in the continuity of operations plans of home health care agencies. |

The following is excerpted from an annual report by a non-profit, non-partisan organization, which ranks American states’ readiness to respond to a public health emergency according to their ability to meet 10 preparedness indicators.

Ready or Not? provides a series of recommendations that address the ongoing major gaps in emergency health preparedness, including:

- **Gaps in Funding and Infrastructure**: The resources required to truly modernize public health systems must be made available to bring public health into 21st century and improve preparedness;
- **A Surveillance Gap**: The United States lacks an integrated, national approach to biosurveillance, and there are major variations in how quickly states collect and report data which hamper bioterrorism and disease outbreak response capabilities;
- **A Workforce Gap**: The United States has 50,000 fewer public health workers than it did 20 years ago - and one-third of current workers are eligible to retire within five years. Policies must be supported that ensure there are a sufficient number of adequately trained public health experts - including epidemiologists, physicians, nurses, and other workers - to respond to all threats to the public's health;
- **Gaps in Vaccine and Pharmaceutical Research, Development, and Manufacturing**: The United States must improve the research and development of vaccines and medications;
- **A Surge Capacity Gap**: In the event of a major disease outbreak or attack, the public health and health care systems would be severely overstretched. Policymakers must address the ability of the health care system to quickly expand beyond normal services during a major emergency;
- **Gaps in Community Resiliency Support**: The United States must close the existing day-to-day gaps in public health departments which make it difficult to identify and service the most vulnerable Americans, who often need the most help during emergencies.
These sample essays were selected because they illustrated some strategies that are particularly conducive to successful synthesis writing – not just in the context of the exam, but also in the context of writing a researched argument paper – as well as some opportunities for comment on some things to watch out for when revising.

In typing them up, I have eliminated some errors (such as spelling and the occasional syntactical error), but have mostly kept the essays’ wording.

Sample A

In our current age, health care systems are comprehensive and our array of knowledge is more than any other time in history. We are confident that when we fall ill, there will be a cure and fortunately, we are moving closer and closer to this becoming a reality. However, every so often we are exposed to a new threat, one that has no known cure or vaccine. Now is one of those times, as Toronto is being hit with a zombie epidemic for which there is no remedy. It is important to examine the key issues associated with the preparation for this pandemic and their implications for survival. Government instruction, responsibility to the infected, and controlling fear are important factors to prepare for because people need to listen and be realistic and smart as well as respectful without jeopardizing themselves.

Ultimately, the government needs to be in control of its citizens at all times and especially during a pandemic. People want someone to listen to and want to rely on a perceived knowledgeable figure. All levels of government should be in communication about pre-established and changing protocols. People need one source of reliable information so they should be “monitoring instruction from local government and emergency officials” (Source F).

Governments must therefore be prepared to issue orders because according to Source F, they “have the best intelligence. They know what to do and [your] safety depends on listening to their instructions.” However, they also need to be honest and not withhold information because “this kind of honesty is necessary in order to maintain the trust of society and counter the ill effects of a pandemic” (Source A). Accurate and effective information needs to be issued by the government in order to save the population and the protocols for how the information will be communicated as well as what will be communicated must be laid out ahead of time.
The second issue to be prepared for is how to establish and maintain a level of responsibility to the sick. We as a society need to understand that we value life, but we need to decide at what point we no longer want to put more lives at risk to save one. Sacrifices need to be made whether they are familial or in the context of health care workers. “Society has obligations to people who are isolated or quarantined” (Source A), but each individual also has a responsibility to themselves and their family. Source E further expands on this point of our responsibility to the sick by describing different protocols based on the values of society. In some cases, the sick were exploited and used as entertainment or in the service industry. And then comes the moral obligation of deciding what qualifies as being dead (Source C). We need to plan to combat the financial troubles of the families with an infected loved one because of their inability to work and we need to make sure that everyone is treated as fairly as possible. Triage systems need to be anticipated and supplies need to be strategically rationed. We have a responsibility to treat everyone as humanely as possible in life and in death so we need to plan now so that people are respected and not exploited. Society must decide its level of responsibility and how it plans on implementing humane strategies to the sick so that as many lives as possible are saved without risking more, while respecting those who have died.

Finally, it is essential to control the amount of fear in order to focus attention on finding a solution and saving lives. Source C asserts that “global pandemics create chaos and fear” and this is true because we become overwhelmed by how much we don’t know. We seem to have a “prevailing culture of fear” (Source A) and when Dr Lam spoke to us, he commented on the “disproportionate amount of panic associated with pandemics.” This idea of fear links back to the importance of government control because if the information is accurate, then it will limit the amount of speculation and uncertainty. Controlling fear connects to the media because the media is very prevalent in our society. We need to have reliable media coverage readily available. Source F illustrates how widespread the media is by giving the example that “every channel is reporting the outbreak of an aggressive flu.” Just hearing that phrase raises one’s heart rate and rapid breathing begins. Preparations for media regulation must therefore be made so that the information is
not overwhelming and so that it is accurate. These measures will ensure that the level of fear does not spike and that people are calm and realistic while also responsible for their own well-being. When people remain calm, they have rational though and their energy can be directed towards finding a cure to save lives. Society must therefore prepare strategies for combatting fear.

According to Dr Lam in Source A, some believe that “disasters look like human failure in retrospect” while “others resign themselves to human disasters as unavoidable.” Through preparing government authority, planning our level of responsibility to the infected, and controlling fear, we can ensure that this pandemic will not be a human failure and that a disaster will be avoidable because people will listen and be realistic and smart as well as respectful to save themselves and their loved ones.

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Sample B

Our city of Toronto is cosmopolitan, always bustling with life and it is almost impossible to imagine it any other way. But what if the most multicultural city in the world suddenly faced an enemy that no one saw coming – a deadly, virulent, and unstoppable virus that turns humans into zombies. How would you prepare? What would you do to protect the lives of you and your loved ones? Should you listen to what media headlines tell you or ignore them altogether? What happens when medical supplies run out? How do you decide when to help others or when to help yourself? These questions are the ones that should be at the forefront of your mind during preparation for a zombie apocalypse because your decisions could either propagate or halt the spread of infection across our beloved city and be the deciding factor in whether or not you and your loved ones survive.

In our modern world, technology allows the media to deliver news straight to our front door, which is extremely convenient. The problem is, as Dr Lam – one of the brave individuals who worked on the front lines during the SARS crisis – points out, “Media reports alternately frightened and reassured people” (Source A). With fear
spreading amongst the population, it becomes easy to lose your head – especially during a zombie infection. However, we must remember that the media allows us access to information we may not have readily available. Drs Lam and Lee affirm the benefits and disadvantages of the media in their pandemic survival guide when they weigh the pros and cons of the media’s influence since “[the media allows] us to rapidly share information around the globe, [making it] vital to a meaningful response to an influenza pandemic” (Source A). As this quotation suggests, the media allows society to form a stronger emergency plan because it helps us transmit ideas from places all around the globe. The more minds we have coming together, the more multi-faceted and the less vulnerable the plan becomes.

Unfortunately, Drs Lee and Lam are also quick to point out that “the remarkable volume of information regarding the threat of influenza pandemic that is available in the world news media can almost overwhelm us” (Source A). With the never-ending flood of information shooting out at consumers 24/7, how are we able to separate the truth from the over-dramatized? Do we keep our media outlets on during such an emergency so that we can stay updated? Or do we decide to shut off that stream of information to keep the panic and fear from growing? Maybe we decide to do what a fictional blogger decided to do on Emergency Info B.C, and limit our exposure to the media without cutting ourselves off completely (Source F).

Whatever the decision is, it is important to consider the implications of mass media during a pandemic. Since the effects of mass media are so far reaching due to its ability to spread so quickly, whether or not we should stay connected is most definitely a key issue to consider during preparation for a deadly zombie infectant.

While the media affects people on a global level, it is also important to consider the importance of making decisions on a regional and personal level. On a regional level, there are not always enough supplies to support entire populations of panic-stricken and disease-infected citizens. How do we decide who gets priority? In the case of a zombie apocalypse, how do we decide who deserves to die? Or as Dr Steven Schlozman, a child psychiatrist at Harvard Medical School, pondered “How do you define what’s alive? When it is appropriate to say someone’s ‘as-good-as-dead,’ which is an awful, difficult decision?” (Source C) This situation is similar to the real-
life one faced by health-care workers during the SARS crisis in 2003. According to Dr Lam, there were not enough ventilators to support all the patients who required one to stay alive (Source A). Suddenly it becomes important to consider who needs it most. Do we choose the people who are closest to death or do we give the life support to the patients who have a higher chance of living before they get worse?

Even if you are able to choose between the two scenarios, it becomes a question of deciding who has the “greater chance of living?” Dr Schlozman may be discussing a fictional scenario, but his point is still valid. During times of pandemic (zombie or not) who can we describe as being on the veil of death? What criteria have to be fulfilled before someone is no longer alive? Does a beating heart without a functioning brain constitute a patient? This ethical question is one of the key issues to consider during preparation because deciding to save someone instead of another will directly affect the survival rate of a population.

Finally, on a personal level the situation is similar to that of the regional level. During the spread of an infectious disease, when do we decide to help others at the risk of our own health? In George Romero’s zombie film Night of the Living Dead (1986), two characters have very different approaches. Leah A. Murray, a professor of philosophy and English, breaks down these characters when she describes Ben as “the hero of the communitarian position, working from the very start to save as many people as possible. On the other hand, Cooper embodies the individualist position of ‘every man for himself.’ He admits openly that even though he heard screaming upstairs, he refused to risk his own life by coming up to help” (Source D).

At first glance, Ben is the proverbial good guy while Cooper is the “selfish prick.” It is easy to say that we would follow Ben’s footsteps as the good Samaritan if we were in that situation. Yet what if we throw in another factor into the equation, how does that change the situation? Robert Smith, a mathematician at the University of Ottawa calculated that it would only take about seven days for a city of 500,000 people to become infected by one zombie (Source C). Suddenly the whole scenario changes. Being “Ben” might not be so appealing anymore because the greater the number of people you are in contact with, the greater your chance of becoming infected. As a result, the choice between saving yourself and saving others is one
that we should consider carefully. Both choices have their own consequences in that saving others could put you at risk while saving yourself questions your morality. In preparing for what kind of shelter you will live under during the zombie apocalypse, this choice has great significance in how it can affect you.

A zombie apocalypse seems unfathomable to our minds today – it’s the stuff scifi novels are made of, but it doesn’t mean that such an occurrence is impossible. It might not be a zombie virus, but with 1 billion people living in the same world, the possibility of a pandemic outbreak is always lurking. We must carefully and meticulously weigh the pros and cons of our choices concerning the key issues of the influence of mass media, prioritizing patients during a shortage of medical supplies, and putting your health at risk to save others.