

2027-04-19 · 80 minutes

Public health debate

Your goal: Argue whether individual freedom or community protection should take priority during an outbreak response.

One product: One sentence citing outbreak data (incidence or prevalence) to support your liberty or protection position.

Question: Does Alder's proposed fourteen-day restriction justify its burdens, given the supplied outbreak counts and missing effectiveness evidence?

Start the work

Trace each value to its real source, keep the claim within the evidence, and record submission and tracker status truthfully.

1. Read the outbreak scenario and the proposed control measure.
2. Choose a side: individual liberty or collective protection.
3. List two reasons your side better serves public health.
4. Debate in your group, tracking how incidence and prevalence data are used.
5. Reflect on where you would draw the line in a real outbreak.

If the route is unavailable, save the dated original record and mark submission pending. A 150-word draft and reply plan do not establish actual posting or a classmate reply.

Words you will use

outbreak

More disease cases than expected in a defined population, place and time.

case definition

The shared criteria used to decide which illness records count.

case

A person or episode meeting the stated counting criteria.

new case

An illness episode whose onset occurs during the stated observation period.

current case

A case still present at the specified moment, even if it began earlier.

onset

The beginning of the features required by the case definition.

baseline

A stated expected or earlier comparison level, with its source identified.

population

The defined group of people to which a count or proportion refers.

denominator

The group total used as the divisor in a proportion.

numerator

The counted events or people used above the division line.

at risk

Eligible to develop the counted new illness during the defined period.

incidence

Occurrence of new cases during a specified period; state whether using a count, proportion or rate.

incidence proportion

New cases divided by the initially disease-free population at risk for that period.

incidence rate

New cases divided by accumulated person-time at risk.

person-time

The total time contributed by people while they remain at risk.

prevalence

The proportion with the condition at a specified time or period.

point prevalence

Current cases divided by the population at one specified moment.

percentage

A proportion expressed per one hundred.

observation period

The defined start and end of a record's time window.

case finding

The method used to identify and count cases.

recovery

The end of the defined illness episode in this exercise.

trend

A pattern of change across multiple comparable time points or periods.

transmission

Passage of an infectious agent from a source to another person.

exposure

Contact with a possible source; it does not itself establish infection or illness.

symptom

An experienced feature of illness; absence of symptoms does not by itself settle infection status.

isolation

Separation of people who are sick to reduce spread.

quarantine

Separation or movement restriction of exposed people while determining whether they become ill.

contact tracing

Identifying and following people who may have been exposed to a case.

morbidity

Illness or its burden in a population.

mortality

Deaths in a population over a stated time.

severity

How serious an illness or its consequences are.

individual liberty

A person's freedom to make choices and act without imposed restrictions.

collective protection

Actions intended to reduce harm to the community.

mandatory

Required by the proposed rule rather than left to individual choice.

voluntary

Chosen without a compulsory requirement.

restriction

A limit on an action or freedom.

proportionality

Weighing the expected benefit of a restriction against its burdens in this ethical exercise.

equity

Attention to differing needs and unfair distributions of benefits or burdens.

privacy

Protection of personal information and control over its exposure.

jurisdiction

The area or subject over which an authority has legal power.

effectiveness

How well an action produces its intended outcome in practice.

uncertainty

A limit on what the available information establishes.

claim

A statement that can be supported, challenged or limited.

evidence

Information used to support or challenge a claim.

value judgment

A judgment about what matters or should take priority.

counterargument

A substantive reason challenging another position.

causal claim

A statement that one condition or action produced an outcome.

provenance

Where information came from and how it was produced.

infection

Entry and multiplication of an infectious agent in a host.

infectiousness

The capacity to transmit an infectious agent to another host.

confidential

Protected from unauthorized disclosure.

fictional

Invented for instruction, not observed in actual people or events.

H1: the original debate and your starting point

This is an original fictional outbreak exercise. All its numbers are invented. They describe no real person, city, patient record, court order or measured intervention result.

Use the supplied information without sharing personal health experiences. The original practice can be completed alone; actual class discussion, posting and official work have separate status.

Start by naming a proposed outbreak measure, such as a temporary stay-home requirement for exposed people. Its intended benefit is fewer contacts; its actual effect needs evidence.

Answer both warmups briefly: name a freedom this proposed city order would limit, then decide whether a fictional exposed adult should accept fourteen days at home. Give one reason.

An exposed person may have no symptoms. Exposure alone does not establish illness or infectiousness; the proposal is not a disease-specific recommendation.

Before debating, explain outbreak in your own words and name a real example. CDC documented measles outbreaks in the United States in 2019; that history is separate from S1.

A usual flu season alone does not show more illness than expected. Use E1 to explain the required comparison.

E1: count the right people over the right time

CDC describes an outbreak as more cases than expected for a defined population, place and time. A shared case definition helps investigators count consistently.

New cases begin during a stated observation period. Current cases are present at the stated moment, including cases that began earlier.

Point prevalence is current cases divided by the population at that moment. Incidence proportion is new cases divided by the initially disease-free population at risk over a stated period.

Multiply either proportion by 100 to express it as a percentage. An incidence rate instead uses person-time at risk; no person-time table is supplied here.

CDC cautions that counts depend on population size. Name the denominator and observation period before comparing populations; consistent case-finding rules also matter.

One period describes occurrence during that period. It does not establish a rising trend or transmission speed. It also does not explain severity or the cause of a difference.

S1: complete invented community record

The fictional town of Alder has neighborhoods A and B. Each has 1,000 adults. This population stays fixed for one seven-day observation week, Days 1 through 7.

The exercise counts illness X. A case is an Alder adult with both newly developed cough and fever during the illness episode; this is a fictional counting rule, not a diagnosis.

For current-case counts, the episode remains active until both symptoms have ended. For new-case counts, the first onset of both symptoms must occur within the observation week.

Both neighborhoods use this same rule. Case finding is complete each day in the exercise. Reporting delays, missed cases, duplicate counts and changes in methods are stipulated absent.

At the start of Day 1, A has 40 active cases and B has 40 active cases. The other 960 adults in each neighborhood are initially disease-free and at risk.

During Days 1–7, A has 5 new cases and B has 30 new cases, all from their own initially disease-free groups. All new cases remain active at the end of Day 7.

During the week, 5 of A's initial 40 cases recover and 30 of B's initial 40 cases recover. No recovered person develops a new episode during the week.

No births, deaths or moves occur during the week. End-of-Day-7 current counts are A: $40 + 5 - 5 = 40$; B: $40 + 30 - 30 = 40$.

For this season, the fictional expected baseline is 0 to 2 new cases per seven days in each population of 1,000 under the same counting method. Both current-week counts exceed it.

This expected band is a stipulated background comparison, not a prior observed weekly series. The record provides no measured trend, transmission chain, hospitalization count or severity comparison.

At the end of Day 7, a separate fictional contact register identifies 200 currently symptom-free exposed adults: 100 in A and 100 in B. They are not among the 80 current cases.

In this register, exposed means having shared an indoor room with a current case during this week. Duration and ventilation are not recorded. This broad rule does not quantify individual risk.

A separate fictional support survey covers all 200 contacts. Sixty report no paid leave; thirty have dependent-care duties. Their overlap is unknown, so do not add these groups as unique people.

D1: the proposed order and missing effectiveness evidence

The fictional council proposes that these 200 exposed adults stay home for Days 8–21, a fourteen-day period. The proposed order has not begun; S1 is entirely before it.

The proposal allows urgent care and essential caregiving exceptions through a confidential request. A review panel would hear eligibility challenges and review continuation on Day 10.

The council proposes meal delivery to all 200 contacts. Replacement income, alternative caregiving and staffing for requests are not funded in the supplied plan.

The intended benefit is reducing contacts involving people who might later become ill. No outcomes have been observed after the order. No transmission estimate or validated forecast shows how many cases it would prevent.

No claim that it would halve cases is supplied. Fourteen days is a debated design choice, not an established effective or medically required duration for illness X.

The proposed alternative is voluntary contact reduction with the same meal offer and confidential daily check-ins. Participation, staffing, income support and effectiveness are also unknown.

Compare the burden and uncertainty of both designs. A less restrictive design is not automatically equally effective, and a mandatory design is not automatically justified or effective.

E2: ethical reasons and the limits of legal authority

WHO's contact-tracing guidance asks that affected people have a voice. It calls for clear explanations, privacy, respectful participation and attention to unequal burdens. It also emphasizes communicating uncertainty and considering alternatives.

Use those ideas as ethical questions for this original debate: who benefits, who carries the burden, whose voice is missing, and what evidence would change the decision?

Our proportionality question asks whether a restriction's expected benefit justifies its burdens. This is a classroom ethical criterion, not a universal legal formula or an effectiveness finding.

CDC distinguishes isolation of people who are sick from quarantine of people who have been exposed. The proposed restriction on symptom-free contacts is a quarantine proposal.

CDC describes different federal, state, local and tribal authorities; state laws vary. S1 gives no jurisdiction-specific authority or ruling, so do not declare its proposal lawful or unlawful.

A moral position can favor liberty or protection, including a reasoned firm boundary. Neither side wins merely by naming a count or claiming that government has unlimited power.

R1: two substantive opposing positions

Protection position, reason 1: B recorded 30 new cases in seven days, compared with 5 in A under the same rules. Give prevention priority while acknowledging unknown transmission links and effectiveness.

Protection position, reason 2: the 200 contacts could include people who later become ill. A targeted rule with review and exceptions could share protective responsibility without restricting all 2,000 residents.

The second reason is a policy argument about a possible benefit, not evidence that any contact will transmit illness. Its serious weakness is the broad exposure rule and missing support.

Liberty position, reason 1: the proposed order restricts 200 symptom-free adults without evidence of their individual infection or of cases prevented. A strong restriction needs more justification.

Liberty position, reason 2: 60 contacts lack paid leave and 30 have care duties. Meal delivery alone does not resolve these burdens; voice, support and fair treatment matter.

The liberty position must still address 35 new town cases in the week and the possibility that voluntary measures leave others exposed. Unknown efficacy is not proof that prevention is unnecessary.

You may adapt these reasons or disagree with them. State your chosen priority, use at least one S1 number with its meaning, and explain the ethical value connecting it to your position.

T1: debate, independent challenge and reflection

Write two reasons before speaking. During the group debate, record two claims, their speaker's side, their numerical evidence and whether they use incidence, prevalence or a value judgment.

If alone, complete both challenge rounds below. Record your own starting claim, the opposing challenge and your response; do not invent a classmate or an actual exchange.

Round 1 if you favor protection: why should 200 symptom-free contacts accept an unproven fourteen-day restriction? If you favor liberty: how will your approach address the 35 new cases?

Round 2 if you favor protection: how will the plan address the 60 contacts without paid leave? If you favor liberty: what would justify stronger protection if your alternative failed?

Use R1's complete opposing reasons in your responses. For each round, label the number and time window, separate the value judgment, and name any unsupported inference.

If discussion is difficult, read your two written reasons and add the strongest opposing point. Restart by rereading S1/D1, choosing a side and returning to the two reasons.

In the debrief or solo comparison, identify the hardest counterargument and explain why. Record whether you retained or revised your claim, with a reason.

Reflect on the boundary you would apply in a real outbreak: name a burden you would weigh, information you would need and evidence that could change your position.

Optional extension: propose a less restrictive design or defend why one is insufficient. Specify comparable future populations, time windows, case-finding methods, outcomes and burdens needed to evaluate it.

A later fall in case counts alone would not prove the design caused it. Changes in contacts, reporting or the underlying outbreak could also matter; no trial is assigned.

Q1: self-check: equal current counts, different new counts

Revisit S1: A and B each have 40 people currently ill at the end of Day 7. A had 5 new cases during Days 1–7; B had 30.

Calculate both point prevalences using 1,000 residents each. Then compare new-case counts and calculate each seven-day incidence proportion using 960 initially disease-free adults.

Both point prevalences are $40/1,000 = 4\%$. A's incidence proportion is $5/960$, about 0.52% ; B's is $30/960 = 3.125\%$, about 3.13% .

B has six times as many new cases and six times the incidence proportion in this stipulated week. Equal denominators and consistent case finding make those bounded comparisons possible.

This is not six times the transmission speed, a measured growth trend or proof that B's illness is more severe. Recoveries explain how current counts can still match.

Which neighborhood deserves faster investigation of new case occurrence? B has the larger new-case burden under these assumptions. Explain that evidence, then name one decision that it does not settle.

The data alone do not determine which mandatory control is justified, which contacts caused illness, or how effective the proposed order would be. Ethical priorities and missing evidence remain relevant.

If you answered that the neighborhoods are identical, distinguish current cases from new cases. If you claimed six times faster spread, replace that claim with the exact measured quantity.

P1: actual work, routes and this week's requirements

The exact in-class product is one sentence citing outbreak incidence or prevalence to support your liberty or protection position. Keep your two reasons, tracker, self-check and reflection with it.

The separate absence task is to post a 150-word stance on a mandatory outbreak control measure, then reply to a classmate arguing the opposite. Keep its actual posting and reply requirements.

For independent preparation, draft exactly 150 words using S1/D1 and plan a respectful reply using R1's opposing reasons. A draft and reply plan do not count as a posted discussion.

An actual reply must address the real classmate's argument once available. No classmate text, forum access or enrolled direct assignment is supplied; mark those steps pending when absent.

Nothing new in myPLTW today; catch up on unfinished Problem 4 work. Ask your teacher whether a Problem 5 ethics discussion milestone is assigned.

Project 5.1.1 Disease Detectives has versions A and B, each with separate conclusions; confirm with your teacher which version and portion you are assigned.

Version A's introduction describes diagnostic/source evidence, epidemiological study design and analysis, and prevention/control work.

Actual evidence reports, study-design materials, later sections, version B and mission files remain unavailable here. This original debate does not complete those official deliverables.

Your actual April 16 environmental claim graph and Project 4.1.4 work remain pending if unfinished. This fictional outbreak debate cannot complete that prior work.

This week, April 19–23, calls for a line-list lab, spreadsheet outbreak dataset, intervention model and Public health intervention plan, with Problem 5 intervention evidence by Friday.

The actual line list, spreadsheet, model and plan are separate inputs and products. This invented S1 record is not their authentic replacement and does not establish completion.

April 20 is catch-up; April 21 begins the line list. April 22 lists 25-minute Intervention model preparation in Lab Notebooks. Keep that preparation separate from today's 80 minutes.

April 23 is health messaging, followed by Activity 5.1.2 messaging/privacy work on later dates. No homework is due before this class.

Save the dated original record as one PDF. Use the linked dated BI assignment and confirm access in your enrolled section before submitting.

Exit Tickets is the dated folder. If the assignment or access is missing, save the work. Mark submission pending. Record actual participation and official status honestly.

M1: a different fictional event-policy argument

Model M is a different invented setting: a residential program of 500 adults faces a proposal to pause optional indoor events for three days. This is not Alder.

At the start of its one-week record, 20 cases are active and 480 adults are disease-free and at risk. Twelve new cases develop; eight initial cases recover.

No one moves or dies, no new case recovers, and no repeat episode occurs in that week. Current cases at its end are $20 + 12 - 8 = 24$. Model M uses S1's symptom and recovery rules with complete daily case finding.

Point prevalence is $24/500 = 4.8\%$; one-week incidence proportion is $12/480 = 2.5\%$. The fictional expected band is 0 to 3 new cases per week under the same method.

The event pause would affect 100 booked participants, including 10 paid facilitators. Income replacement and actual cases prevented are unknown. The policy has not been tested.

Protection reason: twelve new cases above the stipulated baseline justify considering fewer contacts. Liberty challenge: cancellation burdens participants and workers without a measured benefit.

Worked one-sentence exit: I favor a reviewed three-day event pause because Model M had 12 new cases among 480 initially disease-free adults in one week, while acknowledging uncertain benefit and worker burdens.

The sentence identifies a priority, an incidence quantity and its denominator/time, then limits the claim. It does not say the pause worked or that the ethical choice follows automatically.

A defensible opposing exit could use the same data while giving greater weight to unproven benefit and lost income. Use Alder's own evidence and your reasons for your final sentence.

Try the decision

Which use of Alder's figures is supported before choosing a policy?

- B has more new cases during the same week and the higher stipulated incidence proportion; the counts alone do not settle whether the order is justified.
- B's illness transmits six times faster, so the fourteen-day order is proven necessary and effective.
- The two neighborhoods have 40 current cases each, so their new-case occurrence and all policy needs are identical.

Explain your choice using the reading. Discuss it or say it to yourself. This practice does not add another submission.

Your 80-minute flow

0–5 minutes	Use H1 for both brief warmups and the outbreak example.
5–20 minutes	Read S1/D1 with E1/E2; choose a side and write two reasons.
20–40 minutes	Debate with a group or complete both supplied solo challenge rounds.
40–55 minutes	Name the hardest counterargument and complete Q1's corrected comparison.
55–70 minutes	Reflect on your boundary and needed evidence; use the extension if ready.
70–80 minutes	Write the one-sentence exit; check the record and mark actual-course/route status.

Your response record

Use these labels on paper or in your document. The space below also works when this page is printed.

Prepare the debate

Answer both H1 warmups; define outbreak and name the supplied real example. Read S1/D1 and identify the population, week, proposed restriction and missing benefit evidence.

Use the fictional adult, not your personal health. E1 supplies the counting rules.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

Choose a priority and give two reasons

State liberty or protection as your priority. Write two reasons, citing at least one S1 number with its meaning and connecting evidence to an ethical value.

Use R1 to begin, then explain your position. A numerical count is not itself a moral conclusion.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

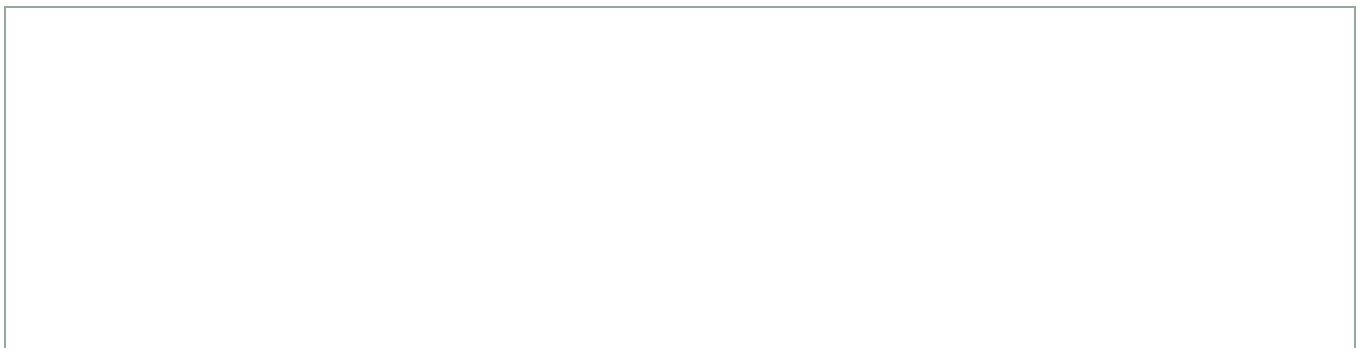


Track two challenge rounds

Use the actual group debate or both T1 solo challenges. Record two claims, opposing points, numerical evidence, incidence/prevalence/value labels and your responses.

Identify the hardest counterargument and any revision or justified retention. Label solo work accurately.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.



Compare current and new cases

Complete Q1's prevalence and incidence comparisons. Explain why B warrants faster investigation of new cases and why this does not establish faster transmission or settle the proposed order.

Keep 40/40 and 5/30 attached to their dates and denominators; use S1 recoveries to reconcile the counts.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

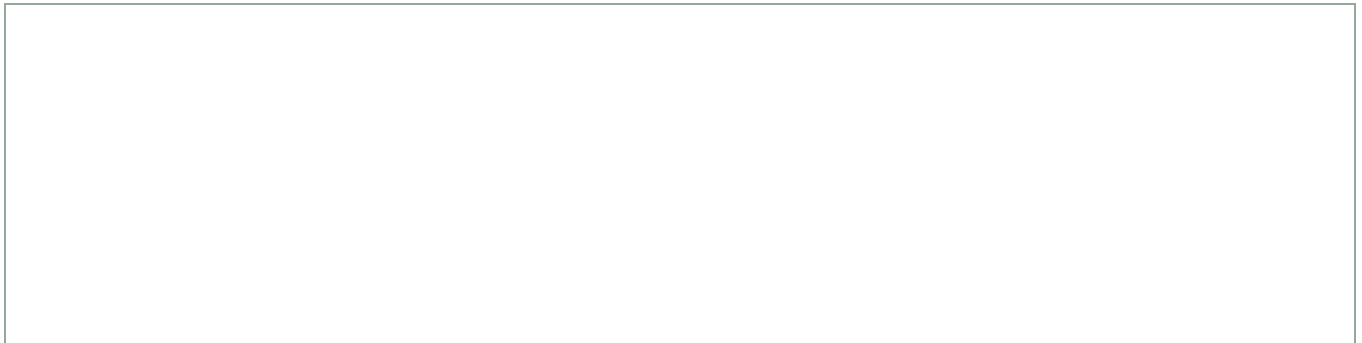


State your boundary

Explain a burden you would weigh in a real outbreak, information you would need and evidence that could change your position. Use the optional T1 extension when ready.

A reasoned firm ethical boundary is acceptable. An alternative's effectiveness still needs evidence.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.



Write the exact one-sentence product

Write one sentence citing outbreak incidence or prevalence to support your liberty or protection position. Check your two reasons, tracker, self-check and reflection; record actual work and submission status.

Use Alder's data with a period or point in time. M1 uses a different setting. P1 preserves actual course and platform requirements.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.

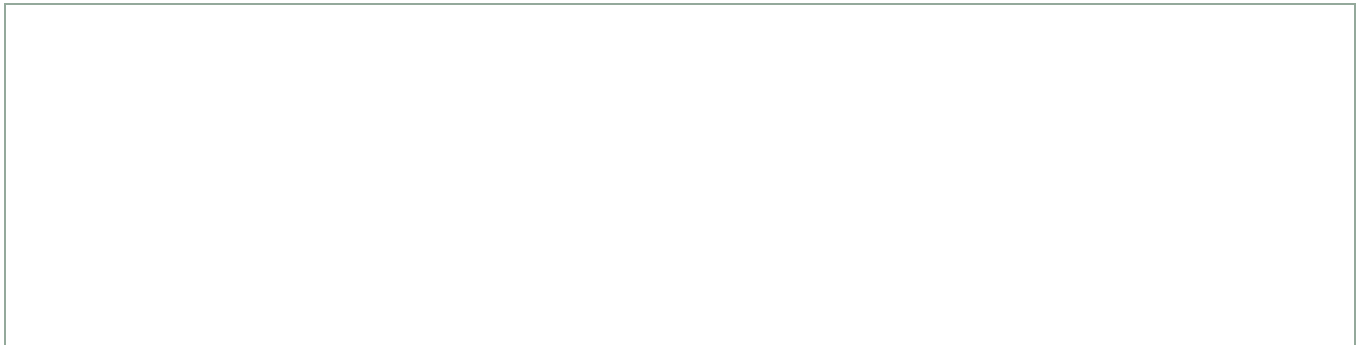


Separate asynchronous draft and actual exchange

If using the assigned absence route, draft exactly 150 words on the mandatory measure and prepare a reply to R1's opposing position. Post and reply to a real opposing classmate only through the assigned route.

A saved draft and reply plan are independent preparation. Actual forum access, the classmate argument, posting and reply remain pending until performed; this is separate from the in-class exit.

Use this space or the same labeled section in your existing document. Add paper when your table, graph or drawing needs more room.



Check your product

- Defend a liberty or protection position using correctly identified outbreak data.
- Give two reasons, respond to two challenges and reflect on the strongest opposition.
- Distinguish counts, proportions and values; do not infer transmission speed or proven effectiveness.
- Preserve the exact one-sentence exit with evidence of participation and official work actually performed, or a specific missing input and next action. Check Schoology after uploading.

Keep the limit: Original invented case counts support bounded frequency comparisons and ethical arguments; they cannot establish real infection, transmission speed, intervention effectiveness, legal validity or actual course participation/completion.

Turn in your work

Save the one-sentence exit and supporting record as one PDF. Use the confirmed enrolled Public health debate assignment in Exit Tickets; a direct assignment has not been supplied.

If the route is unavailable, save the dated original record and mark submission pending. A 150-word draft and reply plan do not establish actual posting or a classmate reply.

[Open this assignment in Schoology.](#)

Carry forward

Outbreak counts describe occurrence within a population and time; an ethical policy choice also needs a reasoned judgment about benefits, burdens and uncertainty.

Keep today's evidence limits and actual-work status ready for the dated line-list and intervention-plan work. Which dates and case rules will you need to construct the line list?

Sources and resources

[Open today's page](#)

CDC-CASE · Outbreak and Case Definitions

CDC

<https://www.cdc.gov/urdo/php/surveillance/outbreak-case-definitions.html>

CDC-EPI · Describing Epidemiologic Data

CDC Field Epidemiology Manual

<https://www.cdc.gov/field-epi-manual/php/chapters/describing-epi-data.html>

CDC-FREQ · Lesson 3, Section 2: Morbidity Frequency Measures

CDC archived Principles of Epidemiology

https://archive.cdc.gov/www_cdc_gov/csels/dsepd/ss1978/lesson3/section2.html

WHO-ETHICS · Box 3: Ethical considerations in contact tracing

World Health Organization, 2024 guideline

<https://www.ncbi.nlm.nih.gov/books/NBK611576/box/ch3.box3/?report=objectonly>

CDC-LAW · Legal Authorities for Isolation and Quarantine

CDC

<https://www.cdc.gov/port-health/legal-authorities/isolation-quarantine.html>

CDC-EXAMPLE · National Update on Measles Cases and Outbreaks, January 1–October 1, 2019

CDC MMWR

<https://www.cdc.gov/mmwr/volumes/68/wr/mm6840e2.htm>