Ethical Infection Prevention and Control (EIPAC) Decision-Making Framework

A partnership between The Association for Professionals in Infection Control and Epidemiology (APIC) and Infection Prevention and Control Canada (IPAC Canada)

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Introduction

Why do we need an infection prevention and control ethical decision-making framework?

Healthcare workers increasingly recognize the benefits of tools to assist in complex decision making. Ethics promotes reflective practice to decide what should be done, and why and how we should do it, with the goal being a thorough deliberation of solutions offering equitable balance of benefits and harms for all affected by the decision. Miller in 2009 noted that the control of infections in hospitals may involve ethical conflicts between collective interventions and individual rights, and that professional bodies may be best placed to lead the development of an ethical framework.[1]

The APIC Code of Ethics published in February 1999 provides foundational guidance statements for professional behavior in general. In addition, Infection Preventionists (IPs)/ Infection Control Professionals (ICPs) come from a variety of healthcare professions, some of which (such as nursing) have nationally recognized codes of ethics and guidance for applying them in selected circumstances (e.g., American Nurses Association,[2] Canadian Nurses Association[3]). However, other IPs/ICPs may not have a licensing body, board/ professional college or registry.

To further support IPs/ICPs, this toolkit presents an ethical framework for infection prevention and control (IPC). Use of an ethical framework can help an individual, team or community to work together through an ethical issue, sharing a systematic process and language to build common understanding of how to approach difficult ethical issues.[4] Ethical frameworks[4-10] can help answer the question of "What should we do and why?" and can be particularly helpful in circumstances where a values conflict or moral tension exists, where you must choose the least bad option, where there is uncertainty in how to proceed, or where options exist that could pose a risk of harm to involved parties, such as patients/residents, families, visitors or staff.

The Ethical Infection Prevention and Control (EIPAC) framework provides an approach to IPC-related decision making that strives to be systematic, fair, and transparent by using specific ethical values and principles germane to IPC. This toolkit supports the use of the EIPAC framework in practice, by illustrating how to identify and apply relevant ethical decision-making principles, develop options for implementation for complex decisions with conflicting demands that uphold fundamental professional ethics, and weigh these options to select the most ethically justifiable one, given unique situational circumstances.

The development of this toolkit provided an opportunity for fresh collaboration between two infection prevention and control professional organizations—IPAC Canada and APIC.

Background and overview of the EIPAC framework

How the EIPAC framework was developed

The EIPAC framework was initially developed by Sunnybrook Health Sciences Centre with healthcare partners in north Toronto, and its development and use in practice has been previously described in detail.[4] It was adapted based on an existing ethical framework developed by the Community Ethics Network[11] and the subsequent work of the University of Toronto Joint Centre for Bioethics and Trillium Health Partners.[12-14]

Using the EIPAC framework

The purpose of the EIPAC framework (see Figure 1) is to provide a step-by-step fair process for IPs/IPCs and/or other involved stakeholders to work through ethical issues that arise in IPC. The framework is designed specifically to address issues that will have substantive impacts on patients/residents, families, visitors, and staff. The framework can be used in both acute care settings and congregate living settings, such as nursing homes/long-term care homes and independent living facilities. This framework is not meant for clinical/medical reasoning around investigation or treatment at the individual patient or resident level, but specifically for ethically complex IPC decisions.

FIGURE 1: The Ethical Infection Prevention and Control (EIPAC) Framework.

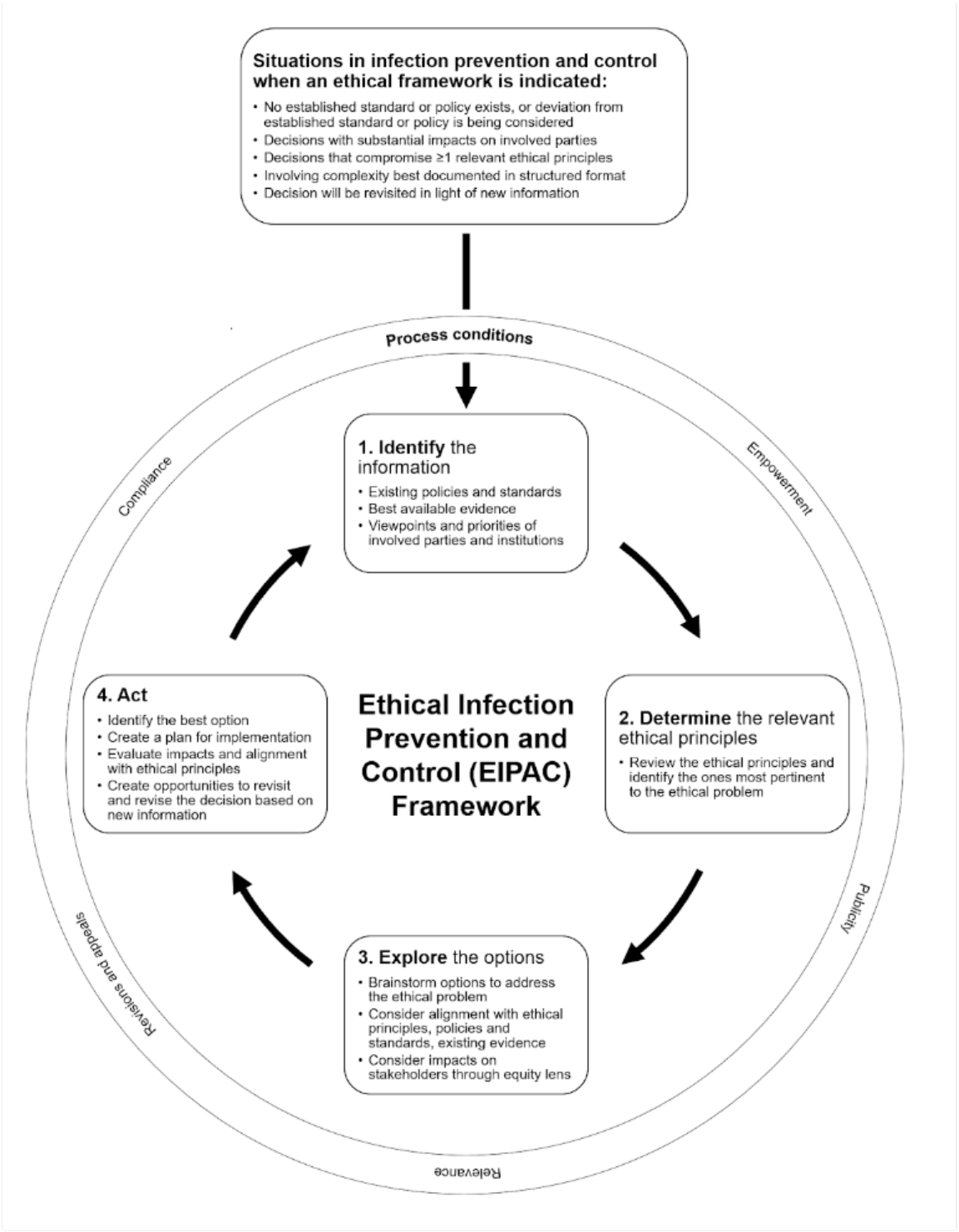


Figure reproduced with permission from Tan, C., Ofner, M., Candon, H. L., Reel, K., Bean, S., Chan, A. K., & Leis, J. A. (2023). An ethical framework adapted for infection prevention and control. Infection Control & Hospital Epidemiology, 10, 1-6.

The EIPAC framework components

The EIPAC framework comprises four elements that guide and support users from start to finish:

1. Common indicators for using the EIPAC framework
2. Four steps of the decision-making tool, giving the acronym 'IDEA'
    - **I**dentify the facts
    - **D**etermine the relevant IPC ethical values and principles
    - **E**xplore the options
    - **A**ct
3. IPC-specific ethical values and principles to consider
4. Five 'process conditions' to help ensure a good process

Common indicators for using the EIPAC framework

The framework is useful in two ways. Firstly, it can function as a mnemonic tool—used informally to recall the elements of a good decision-making process in any situation. The 'IDEA' steps can be internalized and used regularly to help with everyday decisions. Secondly, for more complex decision-making situations, the framework and its components offer a structured way to think collaboratively and clearly, and to document the deliberations for communication and future reference. The framework should be applied in this more formal manner, such as when:

- No standard, policy, or best practices exist, or deviation from existing guidance may be required
- No or insufficient evidence exists to guide decision making
- Decisions will have significant impacts on affected parties
- The weighing of ethical principles is challenging
- Complex situations would benefit from clear documentation of options, decisions, and reasoning; and/or
- Options and decisions may need to be reviewed in the future

Four steps of the IDEA decision-making tool

The four steps ('IDEA') help the user organize, clarify, and process what might be a large amount of information that is relevant and important to remember, and then work through the ethical issue in a systematic and transparent manner. The four steps are described further in the subsequent section.

IPC-specific ethical values and principles

This framework is grounded on values we hold as fundamental to ethical IPC practice, and principles that promote those values. By applying ethical principles to our practice and behavior, we then promote these ethical values. IPC values and principles to consider in decision making are defined here and listed again in Appendix A.

Many of the IPC ethical values and principles overlap with more general ethical principles and values. This is evident in their definitions. While IPC-specific values and principles have been embedded in this framework, others can also be applied to the ethical problem as needed. Other values and principles may include those identified by organizations in their 'about us' or 'who we are' or 'mission' statements.

Values and principles are understood to conflict with each other—this conflict is typically the source of the ethical concern. Given that it will not be possible in most circumstances to uphold and apply all the principles equally, it becomes essential for decision makers to deliberate upon them and then be able to explain how the principles were prioritized and differentially weighted, and justify the compromises made. The EIPAC decision-making worksheet (Appendix B) and the elaborated scenarios show how these principles can be applied and how that process can be documented. (***Note:*** *The scenarios are intended only to illustrate how the components of the framework might be applied. They are not meant to be taken as any form of advice for any actual situation.*)

Five process conditions

The five process conditions are adapted from the Accountability for Reasonableness (A4R) framework developed by Daniels and Sabin[13] and adapted by Gibson, Martin, and Singer.[14] By applying these conditions to the way decisions are made, the process can be made more transparent, inclusive, and fair. It is important to apply these conditions as much as possible during the decision-making process.

As with values and principles, some contexts may preclude the possibility of fully applying all the process conditions. For example, in situations where disclosure to some degree is the main ethical question, if the decision lands on non-disclosure, this would preclude much publicity. There would need to be as robust internal deliberation as possible, but further publicity would be inherently impossible. Equally, there may also be an immediacy to the decision making that hinders fuller application of the process conditions. In all cases, those making the decisions must arrive at their best judgment, given the information at hand, about what is and is not possible. Convenience may be attractive, but the ethical demands of good process must not be overlooked. In some cases, it may be possible, and ethically required, to apply the process conditions post-facto as much as possible.

The diagram (Figure 1) aims to show the decision-making steps and the process conditions in one view. Situations in IPC when an ethical framework might be helpful are described, leading into the four steps of the EIPAC framework. The process conditions form a circle that surrounds the four steps, emphasizing their application at all stages of the framework. The arrows are a reminder that the process is dynamic and iterative, with decisions revised and revised again as new information arises.

Detailed overview of the EIPAC framework

IDEA steps

The four steps of the EIPAC decision-making tool:

Identify the facts	Determine the relevant IPC ethical values and principles	Explore the options	Act
Relevant details of the situation, the perspectives of parties involved, policy, procedure, regulations, law, and evidence.	Review those outlined in the toolkit and consider how they apply to the circumstances. A judgment must be made about which are most relevant and of those, which are to be given priority in the decision making and why.	Work to develop a range of ethically defensible options based on your analysis so far. Recall that doing nothing, maintaining the status quo, may be one of them.	From the range of options, consider which addresses the relevant principles in the most appropriate manner. Consider how best to implement it—well-reasoned actions need a well-reasoned plan.

Values and principles

The IPC ethical values and principles are listed here with brief definitions. Refer to Appendix A for full definitions:

Two primary values

1. **Trust:** Trust is the foundation upon which rests all relationships, whether between persons, persons and organizations, or citizens and government. Trust is essential to the response to communicable diseases.
2. **Fairness (which includes equity and justice):** Interrelated to equity and justice, fairness supports a fair, impartial, and just decision-making process that is free of bias and discrimination. Practically, this means that similar cases should be treated similarly, and dissimilar cases should be treated in a way sensitive to the relevant dissimilarities.

Four fundamental principles

1. **Demonstrating respect:** For persons, communities, and their rights and interests. Respect for persons and communities means recognizing the inherent dignity and unconditional worth of all persons. This requires that we recognize the unique capacity of individuals and communities to make autonomous decisions about their own aims and actions, while also respecting others (i.e., autonomy rights are not absolute).
2. **Promoting well-being:** Beginning with the knowledge and evidence base to determine what will be best to promote physical health, IPC professionals must also consider the impact of their behaviors, actions, and decisions on promoting the psychological and social health and well-being of all individuals and communities to the greatest extent possible.
3. **Minimizing harm:** Ensure that the proposed interventions have sound evidence of their effectiveness in situations where such evidence exists. Always consider whether the proposed interventions are proportional to the risk/rewards as they are understood, not only from an IPC perspective, but also by those affected.
4. **Working together:** Ethics is fundamentally concerned with the ways we behave with and toward each other. Effective and ethical IPC practice should aim to work with others in a manner that ensures honest, open, and respectful communication at all times.

Process conditions

The five process conditions for ethical decision making are considerations to address from start to finish and beyond. Applying them can support greater trust in the process followed and its outcomes, even if those outcomes dissatisfy some.

The five process conditions are:

1. **Empowerment:** Include all those affected as much as possible. There should be efforts to minimize power differences in the decision-making context and to optimize effective opportunities for participation.
2. **Publicity:** Ensure the process is transparent and accessible to the relevant public/ stakeholders.
3. **Relevance:** Decisions should be made based on reasons (i.e., evidence, principles, and arguments) that fair-minded people can agree are relevant under the circumstances.
4. **Revisions and appeals:** Rethink a decision when appropriate. There should be opportunities to revisit and revise decisions in light of further evidence or arguments. There should be a mechanism for challenge and dispute resolution.
5. **Compliance/adherence:** Be accountable. Ensure the four other process conditions are met.

One other important part of ethical decision making will be the healthcare facilities' own guideposts—their mission, vision, and values, and patient/resident rights and responsibilities. These should be kept in mind when thinking through the ethics of difficult decisions.

The framework diagram (Figure 1) is a prompt to help you follow the IDEA steps and apply the process conditions as you reason through a decision. For many day-to-day decisions, the diagram alone may be sufficient in helping you reach a decision, which you can document as usual.

The worksheet (Appendix B) is for those situations that are more complex in which you want to document your reasoning and the options very clearly—e.g., if others will need to see it or if you might need to review or rethink it.

Certain indicators (summarized in the top box of the diagram) can suggest when to use the worksheet to document the application of the ethical framework. These include, but are not limited to:

- There is no existing IPC standard or policy, or a deviation from standard/policy is required for the situation, and thus there is a need to document decision making.
- The decision has a significant impact on one or more of the ethical values and/or principles, e.g., trust, fairness, working together, etc.
- There is no or insufficient evidence to make a decision, and hence the precautionary principle would be the driver.
- The decision involves a level of complexity that would best be captured in a structured format.
- The decision-making process generated a number of options that may need to be considered in the future, along with the original reasoning for the option selected.
- The decision is likely to be or will need to be reviewed by others not involved in the original deliberation.
- A completed decision-making worksheet (subsequently anonymized/de-identified) can be a useful teaching/learning tool for others.

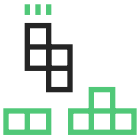
Step-by-step guidance to the IDEA tool and worksheet

For each step in the IDEA tool, there are several guiding questions and/or considerations. This helps decide what to do, why it should be done, and how to do it. In the guidance below, each step of the framework is described, the relevant questions or considerations are suggested, and the corresponding process conditions are presented. Although the five process conditions are important at all steps of the framework, the conditions most germane at each step are presented for consideration. We also present case examples/ scenarios to demonstrate application of the framework.

Identify the facts

Determine the relevant IPC ethical values and principles

Explore the options



Act

STEP 1:
IDENTIFY the facts

DESCRIPTION

Step 1 in the IPC IDEA ethical decision-making process is **identification of the issue and facts**. By identifying the facts, we can flag the ethical tensions. This will help answer the first important question: **"What is the ethical issue that has been identified?"**

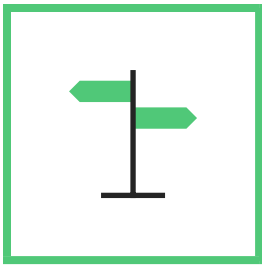
QUESTIONS OR CONSIDERATIONS

- What are the relevant IPC indications?
- What are the preferences of patients/residents, family/visitors, and/or staff?
- What is the evidence?
- What is the ethical issue?

PROCESS CONDITIONS

Empowerment: Think about how to make it possible for all those affected to have their concerns heard and understood. From the start, try to create opportunities for participation by patients/residents, family/visitors, and staff, which should continue throughout the process.

Publicity: Engage in regular dialogue with the above stakeholders and discuss the decision-making process in an open and transparent manner; be inviting and accessible to questions and discussion



STEP 2:
DETERMINE the ethical principles (the 'why')

DESCRIPTION

Step 2 looks at the relevant IPC ethical values (trust and fairness) and principles (demonstrating respect, promoting well-being, minimizing harm, working together). Additional relevant ethical values and principles may apply as well. Weighing the potentially conflicting principles helps supply the **'why'** reasoning for our decision.

QUESTIONS OR CONSIDERATIONS

- What are the most relevant IPC ethical values and principles for this issue?
- Have the IPC ethical values and principles been considered from the viewpoint of all relevant parties (e.g., patients/residents, families, staff, visitors, etc.)?
- Do those involved in the decision-making process agree on what is most important?
- Are there any additional factors that should be considered?

PROCESS CONDITIONS

Relevance: Step 2 of the process helps to ensure relevance—decisions should be made based on what is seen by all involved as important, given the current context.

STEP 3:
EXPLORE the options (the 'what')

DESCRIPTION

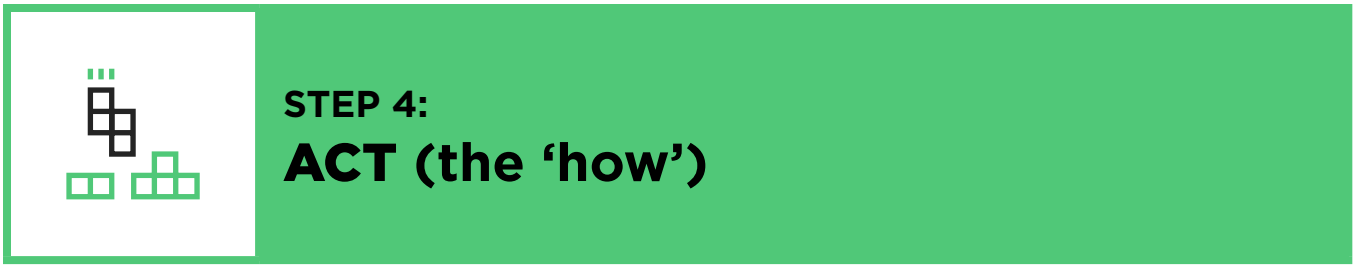
Step 3 requires identification of potential options, with the IPC ethical values and principles in mind from Step 2. Try and identify several options to address the ethical issue. The risks and rewards of the options should be considered, including their potential impacts, as well as their alignment with existing IPC standards. The prioritized values and principles from Step 2 should be reviewed with each option. At the end, the most ethically justifiable option(s) should be identified for implementation—this is **'what'** will be done to address the ethical issue.

QUESTIONS OR CONSIDERATIONS

- What can be done? Think as broadly as possible.
- What is the risk/reward balance in each option?
- How does each option align with the IPC ethical values and principles?
- How will each option affect patients/residents, families, visitors, and staff?
- How does each option align with the evidence?

PROCESS CONDITIONS

Revisions and appeals: There should be a process to revisit and revise decisions made in light of further evidence or additional arguments. This might include unforeseen impacts on patients/residents—and strong ethical reasons to rethink. There may also be new options that arise over time.



STEP 4:
ACT (the 'how')

DESCRIPTION

Lastly, Step 4 focuses on the **action**. The most ethically justifiable option as identified in Step 3 is recommended for implementation. The decision and the process used to arrive at the decision can be documented. A plan is set and implemented. This step outlines the **'how'** of addressing the ethical issue. The action plan should be reviewed and evaluated to confirm it is doing 'what' was decided as best in a manner that is also ethical.

QUESTIONS OR CONSIDERATIONS

- Following a review of the potential options, what is the best option based on the available information?
- How should the decision (the 'what') be shared with involved parties? Remember to apply the principles and be sure to be transparent (explain the 'why') during and after the process and communicate those details.
- How should the decision be implemented?
- How should the impact of the decision be evaluated?

PROCESS CONDITIONS

Compliance/adherence: To satisfy the condition of compliance/adherence, the decision-making process should be reviewed to ensure that all of the conditions have been satisfactorily met. Although this review can be carried out by those directly involved in the decision-making process, having it done by an independent individual or group is likely to be perceived as less biased.

Ethical Framework Scenarios

***Please note**: These simplified scenarios are intended only as illustrations of applying the EIPAC framework. In practice, the options or decisions in each could be different based on any number of small or large differences from one context to the next. What follows should not be taken as advice for any specific event or situation.*

The scenario explored below is not meant to be taken as any form of advice for any actual situation. It is meant only to illustrate how the components of the framework might be applied.

SCENARIO A

Scenario A

A resident in a long-term care home (LTCH)/nursing home (NH) is turning 100 years old and a birthday celebration has been planned at the facility by the resident's family. Residents from the facility, as well as external guests (including people from outside the country) have been invited. The day before the party, a gastroenteritis outbreak is declared on the resident's unit. The resident is not symptomatic at this time. The LTCH/NH and the resident's family are asking for guidance from infection prevention and control (IPC) regarding whether the party can still proceed.

SCENARIO A

STEP 1: IDENTIFY THE FACTS

QUESTIONS OR CONSIDERATIONS

What are the relevant IPC indications?
Guidelines and regional best practice recommendations advise restricting nonessential visitors and events involving congregation during gastroenteritis outbreaks.

What are the preferences of the patients, family and/or staff?
The birthday celebration cannot be rescheduled as guests have flown in from other countries. The risks associated with the outbreak, as well as the recommended restrictions in light of it, were explained to all stakeholders. The resident prioritized proceeding with their 100-year birthday to see their family and friends—for some of the more distant ones it will likely be the last time. Residents invited to the celebration, as well as non-resident community guests, prioritized attending the celebration with the resident.

What is the evidence?
Gastroenteritis outbreaks, especially those caused by norovirus, are typically highly communicable, with a low infectious dose required for transmission. Studies have demonstrated high secondary attack rates during outbreaks in various settings, including congregate living facilities. In vulnerable populations, there is a significant risk of complications including dehydration, delirium, and need for hospitalization.[15,16]

Among effective control measures, gatherings of residents such as communal dining should be avoided to prevent further transmission.

What is the ethical issue?
Should the 100-year birthday party be canceled/postponed due to risk of outbreak, or be allowed to proceed due to the exceptional circumstances of this gathering?

SCENARIO A

STEP 2: DETERMINE THE ETHICAL VALUES AND PRINCIPLES

RELEVANT VALUES AND PRINCIPLES

Demonstrating respect: The meaning of this event is important to the resident and their invited guests.

Minimizing harm: Reduce risk of norovirus transmission among invited guests, especially vulnerable individuals living in the LTCH/NH.

Working together: As IPC measures will present risk and burdens to all stakeholders.

STEP 3: EXPLORE THE OPTIONS

CONSIDERATIONS

Option 1: Cancelling the 100-year birthday party in the setting of a gastroenteritis outbreak. Option 1 is most aligned with best practices in infection control for management of gastroenteritis outbreaks to reduce risk among residents on the unit. However, when viewed through the ethical principle of promoting well-being, option 1 confers substantial burdens to the resident celebrating their 100-year birthday.

Option 2: Proceed with the 100-year birthday party but only with community guests and not with any of the other residents. This option confers fewer burdens to the individual celebrating their birthday by allowing the celebration to proceed and would mitigate the risk of transmission among residents on the unit. However, it confers burdens on both the residents celebrating their 100-year birthday (who would like to see all their friends and family at the celebration) and their invited guests living in the LTCH/NH.

Option 3: Hold the birthday party as scheduled with all invited guests. This option places the greatest priority on the interests of the person celebrating their birthday, and their guests, but with higher associated risk of gastroenteritis transmission throughout the facility. Measures to mitigate the risk will be implemented.

SCENARIO A

STEP 4: ACT (THE 'HOW')

CONSIDERATIONS

Option 3 is selected as the best option in this instance. This option aligns with the ethical principle of minimizing harm and promoting well-being, as long as appropriate IPC measures are in place. These includes education and screening of guests for gastrointestinal symptoms, exclusion of symptomatic residents from attending unless recovered for at least 48 hours, ensuring hand washing has taken place, making alcohol-based hand rub widely available and encouraging frequent hand hygiene, having food catered in from a reliable external source, serving LTCH/NH-residing guests separately such that they do not participate in family-style dining, and disinfecting the event space with a product active against non-enveloped viruses. Attendees who may have trouble adhering to precautions are paired with another able and willing guest or with a staff member to promote adherence. Heightened surveillance for gastrointestinal illness is implemented afterward among the residents who attend the event, with a low threshold for instituting transmission-based/additional precautions.

Options 1 or 2 *may* be selected in circumstances that are sufficiently different to make Option 3 too much of a risk. For example, a facility might have a large proportion of individuals with cognitive or behavioral traits that would make adhering to the precautions very difficult, the space available for the event might not be considered adequate for the revised catering plan, or there may be too few staff available for robust screening of those attending. Equally, another organism that presents more of a threat would change the threshold for going ahead.

PROCESS CONDITIONS

Empowerment: Engaging stakeholders in the decision-making process and focusing on the meaning of the once-in-a-lifetime situation to them.

Relevance: Decisions should be made based on known understanding of transmission of norovirus and measures to mitigate the transmission.

FURTHER COMMENTS	All individuals are apprised of the risks and agree to follow readily manageable precautions. Advice is also offered regarding monitoring of symptoms in the near future. In other variations of the situation, residents for whom there are significant concerns on following IPC precautions may be considered too high-risk and excluded (e.g., resident who wanders, whose personal hygiene capabilities are compromised, who is unable to follow social conventions about food serving and sharing). Among other variables, past history of outbreaks in the institution/facility and particular challenges containing them might lead local IPC teams to arrive at different decisions.

***Please note**: The scenario explored below is not meant to be taken as any form of advice for any actual situation. It is meant only to illustrate how the components of the framework might be applied.*

SCENARIO B

Scenario B

A long-term care home (LTCH)/nursing home (NH) implements a vaccination policy prior to the respiratory virus season, recommending vaccination against influenza, COVID-19, and respiratory syncytial virus for all residents. The LTCH/NH has a palliative care unit (PCU)/hospice for residents who have life expectancy of less than 90 days. There are regional supply and distribution issues with the influenza vaccine, and the first shipment is insufficient to vaccinate all eligible residents. Additional shipments are anticipated, though it is not known when the next delivery will be. The home's Director of Care has approached infection prevention and control (IPC) regarding the best strategy to provide the influenza vaccine to residents due to limited availability.

SCENARIO B

STEP 1: IDENTIFY THE FACTS

QUESTIONS OR CONSIDERATIONS

What are the relevant IPC indications?

A robust influenza vaccine campaign is a critical component of fall respiratory preparedness, and all eligible residents should receive the vaccine before the start of the respiratory season.[17,18]

What are the preferences of the patients, family and/or staff?

All residents, including PCU/hospice residents, and their families prefer receiving the influenza vaccine as soon as possible. In particular, PCU/hospice residents prioritize spending time with their loved ones and are concerned that visitation may be limited if they become infected or the PCU/hospice has an outbreak. However, given the goals of care of palliative/hospice residents (i.e., to prioritize comfort rather than life-prolonging measures), certain non-PCU residents believe the vaccine should be prioritized for themselves. Non-PCU residents also tend to be more ambulatory and spend time in the community, placing them at higher risk of infection. The home's staff prioritize allocating vaccines for the most vulnerable residents and limiting outbreaks.

What is the evidence?

Studies have demonstrated that the influenza vaccine reduces risk and severity of influenza infection, as well as transmission to other individuals.[19-21] Immunization is an important strategy to limit outbreaks of influenza in healthcare settings.

What is the ethical issue?

Given that initial supply of influenza vaccine is insufficient to meet the needs of the LTCH/NH, should residents of the PCU/hospice be offered the vaccine as part of the first vaccine delivery?

SCENARIO B

STEP 2: DETERMINE THE ETHICAL VALUES AND PRINCIPLES

RELEVANT VALUES AND PRINCIPLES

Fairness: Distributing vaccines in an equitable manner free of bias and discrimination, and recognizing existing health vulnerabilities.

Demonstrating respect: For all residents, to have autonomy in decisions that affect their health.

Promoting well-being: Influenza vaccine will promote well-being of all eligible residents by reducing the risk and impacts of influenza infection.

Working together: Vaccine allocation process must be transparent and ideally involve collaboration with affected parties.

STEP 3: EXPLORE THE OPTIONS

CONSIDERATIONS

Option 1: Create prioritizing criteria for vaccine allocation, excluding PCU/hospice residents. This option presents an equitable criteria-based process for vaccine allocation, considering an ethically defensible set of resident characteristics and vulnerabilities of each resident. In this set of criteria, those with a life-limiting condition are explicitly excluded—using an interpretation of 'vulnerability' that emphasizes potential life years lost in a context where many other factors are relatively similar. Within this approach, there may still be more lowest priority residents than remaining vaccine doses after all the criteria have been applied. In this instance, a lottery will be used to make the final allocation decision. By excluding PCU/hospice residents from consideration, the approach prioritizes the well-being of those residents who do not have a life-limiting condition and whose goals of care include life-prolonging measures. However, PCU/hospice residents are negatively affected, with potential adverse impacts on their well-being and autonomy while awaiting the next vaccine shipment. If this option is selected, the decision-making process will need to be clearly explained to PCU residents and their families. A review and appeal process would need to be considered.

Option 2: Create prioritizing criteria for vaccine allocation, including PCU residents. This option follows the same equitable criteria-based process in Option 1 but is extended to PCU/hospice residents. This option prioritizes fairness to PCU/hospice residents and promotes their autonomy and well-being. However, the well-being of medically vulnerable non-PCU/hospice residents may be negatively impacted if they are not selected for the vaccine, and this option may increase the risk of outbreaks on non-PCU/hospice units.

Option 3: Allocate all vaccines via a lottery system, with all eligible residents included for consideration. This option prioritizes equality, treating everyone the same, with all residents having the same chance of being allocated the influenza vaccine, regardless of whether they reside in the PCU. However, it de-emphasizes equity since uniform treatment of all does not consider existing vulnerabilities that may place residents at differential risk of influenza infection and adverse outcomes.

SCENARIO B

STEP 4: ACT (THE 'HOW')

CONSIDERATIONS

Option 1 is selected as the best, albeit evidently imperfect, option given all the information available at the time. From a fairness and well-being lens, it prioritizes the first vaccine shipment for the most vulnerable non-PCU/hospice residents.

Although Option 1 excludes PCU/hospice residents (as opposed to Option 2), it is felt that effective mitigation measures could be implemented in the physically separate PCU/hospice to prevent influenza transmission and protect PCU/hospice residents while awaiting the next vaccine shipment. These include universal masking for staff, cohorting staff to the PCU/hospice, and active surveillance for visitors before entry to the unit.

Option 2 might be selected in some contexts where certain factors alter the deliberations, e.g., a setting where the residents of the entire facility spend most of their time within the facility and the PCU/hospice is more integrated, or where the staffing situation does not allow for cohorting, or where the use of agency staff (also working elsewhere) remains high.

Option 3 is not selected since it does not account for existing health disparities between residents. A lottery approach might be considered only after other agreed prioritizing criteria are applied, and there remain too few vaccine doses for those eligible. Lottery would be preferable to a 'first come, first served' approach given the context of a clearly identifiable group of residents.

PROCESS CONDITIONS	**Relevance:** Throughout the decision-making process, the conflicting values are weighed, recognizing that there are insufficient vaccine doses for all and that some residents will need to be excluded. Learning from recent allocation debates (local, regional, jurisdictional, national) must also inform the decision making. **Publicity:** This includes explaining the process to all affected stakeholders in an open and transparent manner and allowing for their participation as much as possible. The decision is documented for future reference, and opportunities are created to reconsider the vaccine allocation process when additional vaccine shipments are received. **Empowerment:** Stakeholder engagement confirms the anticipated wish of all residents to be vaccinated. Publicity of the mitigation strategies is emphasized as a response to the discomfort felt by those left unvaccinated until the next shipment of vaccine doses. **Revisions and appeals:** Further comments, complaints, and appeals are welcomed and considered. Compassionate responses to appeals are offered in all cases; appeals that produce new insights into any unforeseen effects of this decision would prompt a review of it.
FURTHER COMMENTS	Specific jurisdictions may have a history of congregate care outbreaks and vaccine allocation debates that may have led to legislative duties and/or restrictions with respect to the use of the criteria-based allocation approaches mentioned above. Equally, in the absence of any statutory or regulatory duties or restrictions, there may be a local context in which trust and fairness have been highlighted by specific communities as something typically denied and still owed to them. In such situations, the process condition should be applied with as much careful attention to the context as possible.

***Please note**: The scenario explored below is not meant to be taken as any form of advice for any actual situation. It is meant only to illustrate how the components of the framework might be applied.*

SCENARIO C

Scenario C

An acute care hospital has a carbapenemase-producing *Enterobacteriaceae/ Enterobacterales* (CPE) outbreak on one of its medicine units. As part of outbreak control measures, new patient admissions to the unit have been paused for the duration of the outbreak. Concomitantly, the emergency department has been over capacity for several days, with all rooms/assessment areas occupied and several patients needing to be placed in hallway beds while awaiting an inpatient bed. There are four empty beds on the CPE outbreak unit (all located in different shared rooms that were blocked due to being occupied by a patient with CPE). The hospital leadership has asked Infection Prevention and Control (IPC) whether admitted patients in the emergency department can be transferred to these four beds.

SCENARIO C

STEP 1: IDENTIFY THE FACTS

QUESTIONS OR CONSIDERATIONS

What are the relevant IPC indications?
Guidelines for CPE outbreaks recommend limiting new admissions to the outbreak unit for the duration of the outbreak.[22,23] This is to prevent admitted patients from acquiring CPE.

What are the preferences of the patients, family and/or staff?
Patients awaiting admission from the emergency department prioritize being transferred to an inpatient hospital bed on a ward as soon as possible, though want to reduce their individual risks of acquiring antibiotic-resistant organisms such as CPE. Staff working on the outbreak unit prioritize limiting new admissions, with concerns that this will negatively impact their ability to control the outbreak. The hospital leadership prioritizes the best possible patient care for all by, in part, maintaining patient flow and relieving pressure on the overburdened emergency department, while recognizing the need to adequately control the CPE outbreak.

What is the evidence?
Studies have demonstrated that admission to a unit in a CPE outbreak, and in particular sharing a room with a CPE-colonized patient, increases a patient's risk for acquiring CPE.[24,25] Becoming infected with CPE poses a significant risk of morbidity and mortality due to limited antibiotic options.[26]

What is the ethical issue?
Should patients in the emergency department be admitted to open beds on a unit in a CPE outbreak in order to improve patient flow, resulting in potential exposure to CPE?

SCENARIO C

STEP 2: DETERMINE THE ETHICAL VALUES AND PRINCIPLES

RELEVANT VALUES AND PRINCIPLES

Trust: Establishing and maintaining trust in relationships with patients to promote cooperation in managing potentially conflicting demands of patient flow and patient safety.

Fairness: Making use of scarce resources in a way that benefits those who need it without placing undue burdens on others.

Promoting well-being: Expediting transfer of patients from emergency department such that they can receive necessary inpatient care, and at systems-level, relieving pressures on emergency department and promoting patient flow.

Minimizing harm: Protecting patients from hospital-acquired infections, such as CPE colonization.

Working together: Teams from affected units are required to consider the benefits and burdens imposed on each other by the status quo and alternative options.

STEP 3: EXPLORE THE OPTIONS

CONSIDERATIONS

Option 1: Allowing admissions to open beds on CPE outbreak unit without restriction. This option allows for immediate admission of patients from the emergency department to the open beds on the outbreak unit, and therefore improves patient flow and relieves pressures on the emergency department. Patient well-being is also enhanced, as admission allows for dedicated inpatient care. However, from the perspective of minimizing (risk of) harm, this option places newly admitted patients at risk of CPE colonization and potential infection. Trusting relationships with patients may be eroded if patients are admitted to the CPE outbreak unit unless the decision and associated process are explained to patients openly and thoroughly.

Option 2: Not allowing admissions to the CPE outbreak unit. This option eliminates the risk of newly admitted patients being exposed to CPE, minimizing harm, and also maintains trust with them. However, it prevents these patients from receiving inpatient care, and leaves the pressures on the emergency department team and the patients there unrelieved.

Option 3: Creating dedicated rooms on the CPE outbreak unit for cohorting of new admissions. This option allows admissions to the outbreak unit, but new admissions are cohorted together separate from patients already on the unit. It promotes well-being by allowing newly admitted patients to receive inpatient care and also relieves occupancy pressures in the emergency department. Newly admitted patients will be at risk of CPE colonization, but this risk is mitigated by being admitted to a room without outbreak-exposed patients. As with Option 1, the decision and associated process will need to be shared with patients to promote a trusting relationship.

SCENARIO C

STEP 4: ACT (THE 'HOW')

CONSIDERATIONS

Option 3 is selected as the best option. It promotes well-being at both patient and systems levels. Although patients are being admitted to a CPE outbreak unit, risk is mitigated by cohorting new admissions together. Additional strategies can be taken to further mitigate the risk of CPE transmission, such as screening newly admitted patients at regular intervals, dedicating staff to work with non-colonized residents, dedicating equipment, and performing a terminal clean of the room designated for cohorting before allowing admissions. Trust with patients is preserved by explaining the situation before admission from the emergency department and allowing opportunities for discussion.

Option 1 is administratively simpler and would likely relieve pressure on the emergency department most quickly, but the risks are considered unacceptable despite the strain on emergency department patients and staff while waiting for mitigation strategies to be implemented.

Option 2 is a status quo option and simplest for the unit on outbreak where staff and patients are already managing additional stress and anxiety. However, the continuing burdens on the emergency department patients and staff are considered greater. The duty to responsibly steward resources adds further weight to the plan to make use of the available beds while also applying the measures outlined in Option 3.

PROCESS CONDITIONS	**Relevance:** The decision is reviewed internally by IPC and with outbreak unit staff, emergency department staff, and hospital leadership to ensure all relevant concerns have been addressed. **Publicity:** The decision, reasons and associated mitigation strategies are shared with relevant unit teams and with patients being admitted from the emergency department in an open and transparent manner. **Revisions and Appeals:** The decision is reassessed as pressures on the emergency department change and based on whether the CPE outbreak is being adequately controlled. **Compliance/Adherence:** The nature of this situation involves numerous hospital decision-making mechanisms, which inherently address compliance and adherence.

***Please note**: The scenario explored below is not meant to be taken as any form of advice for any actual situation. It is meant only to illustrate how the components of the framework might be applied.*

SCENARIO D

Scenario D

A neonatal intensive care unit (NICU) has a strong family-centered care philosophy and a longstanding open visitation policy for families and caregivers provided they are asymptomatic for respiratory and other potentially transmissible diseases.

However, the parents of two patients have asked about the possibility of restricting visitation amidst an unprecedented level of respiratory virus circulating in the community. The Infection Prevention and Control (IPC) team is also concerned about this risk of introduction of infection into the NICU population, which can be associated with increased mortality.

Some peer facilities have considered restricting family members and visitors under 5 years of age given the increased risk posed by this age group and the challenges of accurately screening them, but the NICU team feel the screening is adequate and are concerned about detrimental effects on families whose lives are already profoundly complicated by NICU admission.

NICU Leadership is seeking guidance from IPC on the optimal approach, balancing patient (neonate) and family needs with the increased risk of viral respiratory transmission.

SCENARIO D

STEP 1: IDENTIFY THE FACTS

QUESTIONS OR CONSIDERATIONS

What are the relevant IPC indications?
NICUs follow a family-centered care model; best practice is for family members and visitors to be screened for viral respiratory infection and educated about their role in infection prevention.[27-29]

What are the preferences of the patients, family and/or staff?
Patients' families and NICU staff express a preference for symptom-based screening as a protective measure for vulnerable neonates. There is a shared understanding among families, visitors, and staff about the significant harm that respiratory viruses can pose to neonates. While acknowledging the crucial roles that family members and visitors play in the care and well-being of hospitalized children, it is also recognized that they can inadvertently expose neonates to viruses. There is concern around the appropriateness of permitting children under the age of 5 years to visit, as they may be more prone to transmitting infection given some are not able to reliably symptom screen. Striking a balance between maintaining open visitation where possible and safeguarding against potential virus transmission remains a key consideration for families and staff alike.

What is the evidence?
Evidence suggests that symptom screening in NICUs is an important measure to reduce transmission of viral infections in the setting; however, the best approach to visitor screening, specifically as it relates to age restrictions, is not established.[27-29]

What is the ethical issue?
Should an age restriction to visitation be implemented in the NICU limiting children under the age of 5 years during a period of unpreceded viral respiratory activity, in order to protect neonates from exposure to viral respiratory illnesses?

SCENARIO D

STEP 2: DETERMINE THE ETHICAL VALUES AND PRINCIPLES

RELEVANT VALUES AND PRINCIPLES

Fairness (equity): Striving for equitable implementation of visitor restrictions, taking into account the vulnerability of neonates to respiratory viruses while considering the needs and concerns of families with children under the age of 5 years.

Demonstrating respect: Acknowledging the autonomy of families to participate in the care of their hospitalized child, while balancing it with the responsibility to minimize the risk of virus transmission.

Promoting well-being: Striking a just balance between facilitating family involvement in neonatal care and safeguarding neonates from potential harm due to viral exposure, especially during respiratory seasons.

Minimizing harm: Implementing visitor restrictions, specifically targeting children under age 5 years, in proportion to the potential risk of neonate viral infection.

STEP 3: EXPLORE THE OPTIONS

SCENARIO D

CONSIDERATIONS

Option 1: Open visitation—no restrictions by age. Maintain the current policy of open visitation without any age restrictions, consistent with the status quo during non-respiratory seasons. This approach upholds principles of equality by treating all visitors equally. The assumption is that subclinical cases among young children pose minimal harm, and the burden of restricting visitation does not outweigh the benefits.

Option 2: Restricting children under age 5 years, with no exceptions. Implement a strict age-based restriction, prohibiting visitors under the age of 5 years, with no exceptions. The rationale behind this option is to reduce the perceived risk for children under 5 years, acknowledging that they may be unable to self-screen for signs and symptoms of infection. To minimize harm, the potential burden imposed on families with young children (minimizing harm) is weighed against the perceived benefit of minimizing infection risk within the NICU (promoting well-being).

Option 3: Restricting children under age 5 years, with an appeals process and certain exceptions. Enforce an age restriction of under 5 years but introduce an appeals process and consider specific exceptions. This option provides a mechanism for families to appeal restrictions, especially in cases where children are homeschooled (limited exposure), neonates have long-stay admissions, or adherence to masking, additional ventilation, private space, or other mitigating measures can be implemented.

STEP 4: ACT (THE 'HOW')

CONSIDERATIONS

Option 3 is selected as the preferred approach for the NICU visitation policy, embodying the value of fairness through balancing the ethical principles of demonstrating respect, minimizing harm, and promoting well-being.

This strategy acknowledges the potential vulnerability of neonates to viral respiratory infection while providing a mechanism for families to present their unique circumstances, such as homeschooling or siblings at specific developmental stages who would be unable to bond with a new sibling for an extended period. The inclusion of an appeals mechanism contributes to compliance with process conditions. The decision prioritizes the well-being of both neonates and families, maintaining a delicate balance by regularly assessing proportionality and implementing additional measures, e.g., masking, additional ventilation, private space, etc.

This dynamic and responsive approach underscores a commitment to promoting familial involvement while safeguarding the health of vulnerable neonates, fostering trust through transparent communication with families.

Option 2 would be more straightforward to implement and require fewer ongoing resources during the months ahead. However, the inclusion of an appeals mechanism in Option 3 contributes to compliance with process conditions and regard for fairness.

Option 1 does emphasize the fundamental philosophy of family-centered care, but it gives little weight to the well-being of all neonates and families. The NICU team must weigh all principles, and consider all parties affected. Families of patients may not be as able or open to understanding the principle of fairness, seeing only an unwelcome limitation on their usual visitation, making the 'publicity' process condition critical.

PROCESS CONDITIONS	**Publicity:** The process is communicated openly to all stakeholders, including families, NICU staff, and hospital leadership, allowing for their active participation. The decision to restrict visitation for children under 5 years is thoroughly documented for future reference, fostering accountability and transparency. **Revisions and appeals:** An explicit appeals mechanism allows for specific circumstances of individual families to be evaluated for adapted restrictions. When new data or information becomes available about the transmission levels in the community, the restrictions within the NICU are reviewed and potentially revised. **Compliance/Adherence:** The IPC team makes it a practice to communicate their recommendations and decisions using the structure of the EIPAC tool. This ensures compliance with the steps and conditions. In evolving situations like this, the fact of appeals is a daily reminder of the ongoing need to review the decisions and options to minimize the restrictions temporarily imposed on families.

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SCENARIO E

Scenario E

A lapse of sterility has been identified in nerve block procedures at your hospital. New nerve block kits, specifically designed for regional anesthesia for shoulder surgeries, were introduced without proper adherence to sterility guidelines.

These kits, received from the supplier, contain sterile items inside, but the clinical team was unaware that the outer packaging of the kit is non-sterile. The non-sterile outer packages were therefore unknowingly placed in the sterile field during nerve blocks. Anesthesiologists, dressed in sterile gowns and gloves, have been in contact with the unsterile packaging during insertion of nerve block catheters for shoulder surgeries.

This practice may have compromised the sterility of nerve blocks and has gone unrecognized for one month—affecting approximately 500 patients. The lapse in sterility prompts consideration of whether patient disclosure is necessary.

SCENARIO E

STEP 1: IDENTIFY THE FACTS

QUESTIONS OR CONSIDERATIONS

What are the relevant IPC indications?
There are no legal or procedural standards in IPC speaking directly to thresholds relating to the risk of infections in similar situations. Best practices for maintaining a sterile field include adhering to strict aseptic technique to prevent contamination during procedures, with no non-sterile items or staff entering the sterile field.

What are the preferences of the patients, family and/or staff?
Preferences for patients should balance possible duress from unnecessary disclosure versus duty to inform regardless of risk.

For staff, significant healthcare resources will be required to trace all patients who were exposed, provide disclosure, and conduct ongoing surveillance. The hospital's Risk Management team is also involved in the process.

What is the evidence?
For this scenario, the specific risk of infection is not known. Non-sterile packaging was introduced into a sterile field and handled by anesthesiologists donned in sterile gowns and gloves. However, the specific equipment for the nerve blocks within the packaging was sterile. Therefore, the overall risk of infection is expected to be extremely low. Furthermore, the nerve block equipment was not used between patients; therefore, there is no risk of bloodborne transmission, but rather environmental organisms found on the outer packaging.[30,31]

What is the ethical issue?
Should a potential, yet likely minimal, risk of infection during nerve blocks introduced through non-sterile packaging be disclosed to affected patients? While the scenario does not meet legal or procedural thresholds for disclosure, does it meet an ethical threshold?

SCENARIO E

STEP 2: DETERMINE THE ETHICAL VALUES AND PRINCIPLES

RELEVANT VALUES AND PRINCIPLES

Trust: Not disclosing the lapse in sterile technique and resultant infection risk may erode trust with affected patients.

Working together: Engaging all involved stakeholders, including patients, anesthesiologists, operating room nursing staff, and reprocessing department in honest and respectful communication on what has happened and possible solutions.

Minimizing harm: Unintentional harm can be caused by unnecessary disclosure when risk of infection is minimal, as patients may feel emotional duress. This needs to be balanced against the possible risk of infection resulting from the non-sterile packaging.

STEP 3: EXPLORE THE OPTIONS

CONSIDERATIONS

Option 1: Non-disclosure with passive surveillance. This option involves monitoring affected patients passively for nerve block-related infections. Since the overall risk of infection is minimal, this option prioritizes minimizing duress to patients through minimal exposure. Choosing not to follow affected patients actively also conserves healthcare resources. However, this option has the highest risk of eroding trust with patients. Any infections that do result from the lapse in sterile practice are also more likely to be missed through passive surveillance.

Option 2: Non-disclosure with active surveillance. This option involves more active case-finding for possible infection related to the lapse in sterile practice. This includes retrospective surveillance of all affected patients by reviewing their medical records for any possible signs of nerve block-related infection. This also includes prospective surveillance of all affected patients for 2 months after their surgeries. They are reviewed for infection during scheduled outpatient appointments, and IPC is notified regarding any emergency department visits or hospital admissions. Although patients are not informed in this option, it involves a more robust surveillance mechanism and increases the likelihood that infections will be captured.

Option 3: Disclosure to affected patients. Each affected patient is contacted to notify them of the lapse in sterility during nerve block insertion. A pre-written and standardized script is used to address anxieties and ensure consistency in disclosure practice. Affected patients are provided a direct line to contact a hospital representative with any concerns. Active surveillance is also performed, as in Option 2. This option prioritizes minimizing harm with respect to risk of infection and trust with patients. However, it may cause patients unnecessary duress due to the minimal risk of infection, and also involves a large burden on hospital resources.

SCENARIO E

STEP 4: ACT (THE 'HOW')

CONSIDERATIONS

Option 2 is selected as the preferred option. This would prevent the unnecessary disclosure to patients with a low quantifiable risk of infection and the associated use of healthcare resources. Close monitoring for any signal of increased infection, including longer term (2-month) review for any infections that could be missed, is a more justifiable burden of follow-up to ensure patient well-being and organizational accountability. The decision is reviewed with the hospital's Risk Management team to ensure it is reasonable and abides by considerations deemed relevant by involved stakeholders.

Option 1 is simpler, and might be selected in some contexts where, for example, resources are so limited as to make Option 2 burdensome (consider the complications of limited staffing for any reason). However, Option 1 also brings with it concerns about potential harm that might go missed, as well as the burden of moral distress for staff who shoulder this anxiety.

Option 3 may offer a more robust oversight of potential harms, but it is rejected for the reasons listed above—an especially high resource burden for arguably little added value, and the distress potentially caused to patients by disclosing a very low risk that is possible to manage by other means. It should be easy to imagine small differences in the details of this scenario that would make Option 3 a more appropriate selection.

PROCESS CONDITIONS

Publicity: By its very nature, this situation's decision will limit the possible publicity and transparency. There must be a fulsome discussion and review by IPC, anesthesiology and hospital leadership to ensure that all considerations of risk are reviewed. However, further publicity would be contrary to the decision taken in favor of non-disclosure.

Relevance: The decision to disclose or not disclose needs to be based on all risks, including risk for transmission and risk of emotional distress resulting from disclosure in a case with minimal risk. It must also balance the relevant principles, weighing them differentially. While this decision may feel like an affront to trust and transparency, the reasoning behind the decision should indicate why this is the best judgment given the details known at the time.

Revisions and appeals: The decision should be reassessed if any new information suggests it, such as any infections identified in any of those patients who were exposed.

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SCENARIO F

Scenario F

The allogeneic stem cell transplant (SCT) unit consists of 14 beds and provides specialized care for patients undergoing allogeneic stem cell transplantation to treat hematologic conditions. Admissions to the unit are typically restricted to patients undergoing planned allogeneic SCT.

Currently, there are three empty private rooms with dedicated toileting facilities and showers on the unit. The emergency department has been over capacity for several days, with all rooms/assessment areas occupied and several patients needing to be placed in hallway stretchers while awaiting an inpatient bed.

Given the occupancy pressures, hospital leadership has requested Infection Prevention and Control (IPC) provide consideration to admit three patients from the emergency department to empty rooms on the SCT unit. A protected environment is essential for the allogeneic SCT population since they are at heightened risk of infection due to their compromised immune systems. Infections could compromise the success of the transplant and place their overall health at risk.

SCENARIO F

STEP 1: IDENTIFY THE FACTS

QUESTIONS OR CONSIDERATIONS

What are the relevant IPC indications?
Facility guidelines advise limiting admissions to SCT units exclusively to patients who have undergone SCTs. This restriction is necessary because the post-transplant period, especially the first 100 days, leaves patients in an extremely immunocompromised state, necessitating a protected environment.

What are the preferences of the patients, family and/or staff?
Patients awaiting admission from the emergency department prioritize swift transfer to an inpatient hospital ward to receive timely care. However, placing them on the SCT unit, despite available beds, presents concerns to patients admitted to the unit post-allogeneic SCT, as they prioritize the protected environment and reducing their risk of infection. Staff on the SCT unit are focused on limiting admissions to maintain the unit's specialized environment, and hospital leadership aims to balance patient flow while prioritizing appropriate care settings for each patient population.

What is the evidence?
Studies have demonstrated that a protected environment with specialized design and ventilation in SCT units is recommended for the severely immunocompromised post-SCT patients, which makes them highly vulnerable to infections.[32,33] Exposing them to pathogens heightens the risk of serious complications and threatens the success of the transplant. Thus, maintaining a protected environment is vital to minimize infection risk and ensure patient safety for this vulnerable population.

What is the ethical issue?
Should patients in the emergency department be admitted to open beds on a SCT unit in order to improve patient flow, which could introduce a risk of patients harboring infectious illnesses being placed on the unit?

SCENARIO F

STEP 2: DETERMINE THE ETHICAL VALUES AND PRINCIPLES

RELEVANT VALUES AND PRINCIPLES

Trust: Establishing and maintaining trust in relationships with patients to promote cooperation in managing potentially conflicting demands of patient flow and patient safety.

Fairness: Making use of scarce resources in a way that benefits those who need it (i.e., patients awaiting admission from the emergency department) without placing undue burdens on others, particularly those with existing health disparities (i.e., patients post-SCT).

Promoting well-being: Promoting the well-being of SCT patients involves prioritizing their protection in a dedicated environment following SCT, balanced against providing inpatient care to those awaiting admission in the emergency department.

Minimizing harm: Protecting vulnerable patients post-SCT from hospital-acquired infections and consequent risk of morbidity, including potential for failed transplant.

Working together: Team members from both the emergency department and SCT unit involved in the decision-making process are required to consider the benefits and burdens imposed on each other by the current status quo and alternative options.

STEP 3: EXPLORE THE OPTIONS

CONSIDERATIONS

Option 1: Allowing admissions to open beds on SCT unit without restriction. Allowing admissions to open beds on the SCT unit without restriction facilitates immediate transfer of emergency department patients, improving patient flow and relieving emergency department pressures. This also enhances the well-being of patients in the emergency department by providing dedicated inpatient care. However, this approach increases the risk of harm to new allogeneic SCT recipients; it exposes them to non-SCT patients with various and often undifferentiated medical conditions posing possible risk of infection. Trusting relationships with patients already admitted to the SCT unit may be eroded if non-SCT patients are admitted from the emergency department unless the decision and associated process are explained to all parties openly and thoroughly.

Option 2: Not allowing admissions to SCT unit. This option eliminates the possible risk of allogeneic SCT recipients being exposed to various infections and maintains the protected environment. This minimizes harm for this vulnerable population and also maintains trust. However, it prevents patients in the emergency department from receiving inpatient care and does not address the overall pressures on the emergency department.

Option 3: Allowing admissions to open beds on SCT unit to patients who are screened and considered low risk for any infectious disease at the time of admission. This option allows admissions to the SCT unit for non-SCT patients in the emergency department, but new admissions are screened for any symptomatic infections or colonizing antimicrobial resistant organisms that could present a risk to the protected environment needed for this population. This option relieves pressures on the emergency department and expedites inpatient care for those awaiting transfer to an inpatient unit. As with Option 1, it does pose increased risk of infection to the allogeneic SCT recipients, though with more mitigation measures in place. The decision and associated process will need to be shared with patients to promote a trusting relationship.

STEP 4: ACT (THE 'HOW')

CONSIDERATIONS

Option 2 is chosen as the preferred approach, aligning with evidence-based best practices and institutional guidelines by not admitting patients directly from the emergency department to the SCT unit, regardless of active screening for infectious illnesses and antimicrobial resistant organisms. This decision prioritizes the well-being of SCT patients who are highly vulnerable given their extremely immunocompromised state. Transparent communication with patients and stakeholders ensures trust is maintained throughout the process. The decision undergoes thorough review by the emergency department, SCT unit and hospital leadership, addressing the unique circumstances and ensuring it complies with hospital protocols and best practices.

Option 1 is administratively attractive and the most straightforward, and would have relieved limited pressure on the emergency department most quickly. However, the risks to an especially vulnerable patient group are considered unacceptable despite the continuing strain on emergency department patients and staff waiting for available beds on units.

Option 3 may be more attractive than Option 1, given it offers some limited relief for the emergency department patients and staff while also involving measures to reduce risk to the SCT patients. However, the risk to all SCT patients is felt to be too great when compared to the benefit of being able to settle three emergency department patients onto an inpatient unit.

PROCESS CONDITIONS	**Relevance:** The decision is reviewed internally by IPC and with hospital leadership to ensure full appreciation of the principled reasoning behind it. It is then also shared with those in the emergency department and SCT unit who were aware of the proposal. Further contextual information and ethical responses are collected and considered. In this instance, this did not change the decision taken. **Publicity:** The decision and rationale are shared with relevant parties already aware of the initial proposal. This includes some leadership and staff, but no patients as there is no benefit in disclosing this single element of a larger strategy for maximizing flow during a period of high emergency department activity. IPC and hospital leadership are available to speak further with any emergency department or SCT team members who request additional detail on the decision-making process. **Compliance/Adherence:** The nature of this situation involves numerous hospital decision-making mechanisms, which inherently address compliance and adherence. At every step in the decision-making process, it is ensured that the relevant hospital policies and procedures are addressed and followed.

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Appendix A: Key Values and Principles for EIPAC Decision-Making Ethical Framework

The ethical framework includes two key values and four key principles.

The two key values are:

TRUST: Trust is the foundation upon which rests all relationships, whether between persons, persons and organizations, or citizens and government. Trust is essential to the response to communicable diseases. The effectiveness of many IPC measures depends on the active cooperation of affected parties, and such cooperation is more likely if parties trust the advice of IPs/ICPs. Evidence that IPC measures are achieving their intended outcomes, or alternatively, timely and transparent explanations of why they have not, also help to maintain and promote trust. Without this trust, individual choices could impair measures to mitigate communicable disease transmission. In contexts of uncertainty, being open, truthful, and transparent in decision making and communication is essential to establishing and promoting trust.

FAIRNESS (equity and justice): Interrelated to equity and justice, fairness supports a fair, impartial, and just decision-making process that is free of bias and discrimination. Practically, this means that similar cases should be treated similarly, and dissimilar cases should be treated in a way sensitive to the relevant dissimilarities. The ethical principles of equity and justice demand that attention is paid to treating everyone as equal members of society, though we all may have differing needs. To be true to the principle of fairness, we must also work consistently to remove structural inequities, many of which are often invisible to those advantaged by them.

The four key principles are:

DEMONSTRATING RESPECT: Respect for persons and communities means recognizing the inherent dignity and unconditional worth of all persons. This requires that we recognize the unique capacity of individuals and communities to make autonomous decisions about their own aims and actions, and that we respect the rights and freedoms that form the foundation of our society. The right to autonomy is not absolute, however. In the context of IPC, respecting autonomy may be reasonably restricted given specific circumstances to protect susceptible persons and/or communities. Whenever any restriction to autonomy is considered, it must be legally and ethically justifiable. Respect for communities requires considering the potential impact of decisions on all communities and groups that may be affected, in particular, respecting the specific rights of, and responsibilities toward, groups that have been historically and systemically marginalized.

PROMOTING WELL-BEING: Beginning with the knowledge and evidence base to determine what will be best to promote physical health, IPs/ICPs must also consider the impact of their behaviors, actions, and decisions on promoting the psychological and social health and well-being of all individuals and communities to the greatest extent possible. They should consider the specific needs of, and duties towards, those who are marginalized, disadvantaged, or disproportionately affected by response measures. In many situations, specific attention should be given to understanding the risk/reward analysis from the perspectives of those affected.

MINIMIZING HARM: Ensure that the proposed interventions have sound evidence of their effectiveness in situations where such evidence exists. Always consider whether the proposed interventions are proportional to the risk/rewards as they are understood, not only from an IPC perspective, but also by those affected. Where little is known and decisions include uncertainties, be transparent about these. If there is uncertainty or insufficient data/evidence, consider if and how the 'precautionary principle' should be applied. How will this affect different people, groups, or communities? How can inequalities be removed? [The 'precautionary principle' provides guidance for situations of uncertainty. When evidence is uncertain (i.e., it is insufficient to demonstrate a cause-and-effect relationship between an action and the resultant outcome), proceed slowly or incrementally until additional evidence exists to guide more decisive action.] Where proposed interventions might involve unusual demands or restrictions, consider how reciprocity might be introduced to recognize and balance these added burdens.

WORKING TOGETHER: Ethics is fundamentally concerned with the ways we behave with and toward each other. Effective and ethical IPC practice should aim to work with others in a manner that ensures honest, open, and respectful communication at all times. This also means that our decision-making process (the 'how' and the 'why' of 'what' we decide) should be as transparent and collaborative as possible. In working together, we must provide all the information needed to make an informed decision, including information about potential harms. Examples relevant to day-to-day IPC practice include providing accessible information and guidance for patients/residents, staff, and families that is easy to understand. In more involved decision making around higher impact issues, following the processes in this framework can help ensure we work together with other interested parties as well as possible.

Appendix B: EIPAC IDEA decision-making worksheet

DATE **NAME**

STEP 1: IDENTIFY THE FACTS

The first step in the IPC IDEA ethical decision-making tool is **identification of the issue and facts**. By identifying the facts, we can flag the ethical tensions. This will help answer the first important question: **"What is the ethical issue that has been identified?"**

What is the IPC evidence?

What are the relevant infection prevention and control indications?

What are the patient/resident/staff/visitor/family preferences?

What is the presenting ethical issue?

STEP 2: DETERMINE THE ETHICAL PRINCIPLES (THE 'WHY')

Of the IPC ethical values and principles below, which are the most relevant ones for this situation (see Appendix A for definitions)? Remember to consider:

- Who is affected by this issue (relevant parties)?
- Have the IPC ethical values and principles been considered from the viewpoint of all relevant parties?
- Do those involved in the decision-making process agree on what is most important?

Value/principle	Relevance/application in this situation
IPC ethical values: *Trust, Fairness (equity and justice)* ***IPC ethical principles:*** *Demonstrating respect, Promoting well-being, Minimizing harm, Working together*	

Also identify additional relevant ethical values and principles and their application to this situation, if any

Are there any other factors that need to be considered?

STEP 3: EXPLORE THE OPTIONS (THE 'WHAT')

Try to identify several options to address the ethical issue. The risks and rewards of the options should be considered, including their potential impacts. Remember to ask:

- What can be done? Think as broadly as possible.
- How will each option affect patients/residents, families, visitors, and staff?
- How does each option align with the evidence?

At the end, the most ethically justifiable option(s) is identified for implementation—this is 'what' will be done to address the ethical issue.

Option 1	Option 2	Option 3
☐ Consistent with IPC ethical values and principles identified ☐ Consistent with IPC standards	☐ Consistent with IPC ethical values and principles identified ☐ Consistent with IPC standards	☐ Consistent with IPC ethical values and principles identified ☐ Consistent with IPC standards
Weighing pros and cons	***Weighing pros and cons***	***Weighing pros and cons***
Additional resources used	***Additional resources used***	***Additional resources used***

What is the most ethically justifiable option?

STEP 4: ACT (THE 'HOW')

Having selected the best option based on the available information, plan 'how' to implement it. Remember to apply the principles and be sure to be transparent (explain the 'why') during and after the process and communicate those details to stakeholders. Implement the decision and evaluate its impacts.

Documentation of decision

Implementation plan

Evaluation plan

REVIEWED BY **DATE** **TIME**

Appendix C: Glossary of Terms

APIC: Association for Professionals in Infection Control and Epidemiology: The American association for infection prevention and control professionals.

Carbapenemase-Producing *Enterobacteriaceae/Enterobacterales* (CPE): Bacteria (e.g., *Escherichia coli* (E. coli) and *Klebsiella pneumoniae*) that produce a beta-lactamase which hydrolyzes antibiotics in the carbapenem class (broad-spectrum antimicrobials typically reserved for treating multidrug-resistant pathogens).

EIPAC: Ethical Infection Prevention and Control: Application of relevant ethical principles in infection prevention and control practice.

Hospice: A type of healthcare that focuses on quality of life when cure is no longer possible, or the burden of treatment outweighs the benefit. Criteria may include less than 6 months life expectancy.

ICP: Infection Control Professional: IPAC Canada term for professionals working in the field of infection prevention and control.

IP: Infection Preventionist: APIC term for professionals working in the field of infection prevention and control.

IP/ICP: Professionals working in the field of infection prevention and control in the USA and Canada.

IPAC Canada: Infection Prevention and Control Canada: The Canadian association for infection prevention and control professionals.

IPC: Infection Prevention and Control.

Lapse: A deviation from IPC best practices resulting in risk of infectious disease.

Long-term care home (LTCH): A residence for individuals over the age of 18 years whose healthcare needs (e.g., supervision, personal care) cannot be met with caregiving in the home or community. Also known as nursing home (NH).

Palliative care: Healthcare focusing on relief of pain and symptoms, reducing stress, and supporting quality of life, provided in a hospital unit (less than 90-day life expectancy) or in the person's home.

Publicity: The activity of making certain that the interest or attention of people/the public is attracted to an event or issue. In public relations, publicity builds trust, credibility, and positive relationships with stakeholders through ethical behavior including transparency and honesty in communications and actions.

Reciprocity: The practice of exchanging things with others for mutual benefit.