Who Will Live & Who Will Die: Moral Decision-Making in an Influenza Pandemic

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What I Plan To Cover Today

• Historical background and examples
• The moral challenges facing society
• The moral challenges facing hospitals and healthcare personnel
• Some things we shouldn’t do (and why)
• Some things we should do (and why): proposed approaches and solutions
Introduction
2008 vs. 1918

• Most of the moral dilemmas facing medicine in 2008 did not exist in 1918.

• These dilemmas are a product of technology and the increasing effectiveness of scientific medicine:
  – In 1918 the leading cause of death of children in the US was by far infectious disease (today it is congenital defects, accidents and cancer).
  – In 1918 if you contracted pneumonia (the “old man’s friend”), you either got better or died.
  – At the turn of the 20th Century, average life expectancy was 49.2 years and at the turn of the 21st, it was 77.6 years.*

“Life expectancy in the United States” (2005) CRS report for Congress; http://ncseonline.org/nle/crsreports/05mar/RL32792.pdf#search=%22us%20life%20expectancy%201906%22
Advances in Medical Technology Breed Ethical Dilemmas

• In the pre-scientific medicine and pre-medical technology era, we didn’t have to worry about:
  – End-of-life decision-making in ICUs
  – Whether to dialyze someone or not
  – Whether to treat leukemia in the mentally retarded*
  – How do deal with too many influenza patients and not enough vaccine or too few ventilators.

What Were Some Of The Moral Challenges in 1918 That Remain Today?*

- Discrimination in care
- Equality of (medical) concern
  - Justice and fairness
- Palliative care for all who need it

*This is not to imply that we are all that much better at dealing with these problems than our predecessors.
If a pandemic occurs, there will be a number of areas of health care planning involving ethical dilemmas associated with the allocation of scarce resources where there are more patients than resources:

- Who gets vaccine and why
- Who gets oseltamivir and why
- Quarantine and isolation
- Border security
- Who gets ventilators and why
- Who gets palliative care and why

\[ \text{Public Health} \]

\[ \text{“Private” Health} \]

- DISCRIMINATION: ARE ALL PATIENTS WITH INFLUENZA THE SAME?
  - Are “some animals more equal than others”?\(^1\)

\(^1\)Orwell G. *Animal Farm*. New York: Signet Classics; 1996.
Public and private healthcare decisions should not be confused or conflated

- Public health decisions affect the many to benefit the public good.
  - Individual concerns should not necessarily be part of the decision-making process.
  - This approach is almost always utilitarian in approach.

- Private health decisions affect individuals and affect the few.
  - Here, the individual patient’s good (best interests) are paramount, irrespective of how the public good might be affected.
  - EXCEPT, when the private good conflicts with the public good, in which case the latter may take precedence over the former
    - like in quarantine for public health emergencies in which the constitutional right of free assembly is temporarily suspended.
SOME HISTORY:

How have we dealt with the distribution of scarce resources or overwhelming health problems in the past?
History Lesson #1: The 1918 Influenza Pandemic

- Occurred during World War I
- Occurred in the “pre-scientific” medicine era (before antibiotics and life-support machines)
- As many as 50 million people died worldwide (some have estimated it may have been as high as 100 million)
- Affected the healthy young as well as the infirm old
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QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.
The 1918 Pandemic, cont’d.

- “Influenza killed more people in a year than the Black Death of the Middle Ages killed in a century; it killed more people in twenty-four weeks than AIDS has killed in twenty-four years.”

- In Philadelphia, horse-drawn carts made the rounds while their drivers cried out, "Bring out your dead!" And after the coffin supply quickly dried up, bodies had to be rolled unceremoniously into mass graves dug by steam shovels.

John Barry The Great Influenza: The Epic Story of the Deadliest Plague in History (Viking 2004)
2008 versus 1918

- Why did society not fall apart when faced with such apparently overwhelming mortality statistics?
  - On the first day of the Battle of the Somme on July 1, 1916, almost 20,000 British soldiers were killed; by the end of the battle in November, 1916, more than 350,000 soldiers from both sides lay dead on the fields of Northern France.

- Yet, the war would go for two more years with more similarly appalling casualty figures that we cannot even conceive of today.
What else is different about the (developed) world of today compared with that of 100 years ago?

• Our *expectations* of what modern, scientific medicine can deliver with respect to prevention, care and cure are totally different today than they were in 1918.
  – Today, we expect “miracles” every day and are vastly disappointed and even shocked when medicine doesn’t deliver.
  – Death then was a *natural* part of life.

• In the modern United States (and the developed world), with only a couple of exceptions, we do not know the meaning of, nor do we have experience with, the rationing of healthcare resources.
History Lesson #2: Polio

• In 1947-1957, the National Foundation for Infantile Paralysis made a “promise” to the American people emanating from a polio outbreak in Hickory, NC (USA).

• They would buy and ship a mechanical ventilator (“iron lung”) to anyone and everyone in the US who needed one.
**BIG Questions**

- **Basic Assumption:** No matter how much money is spent, we will never have enough for everyone who could possibly benefit (broadly construed). So…

  ✓ What happens when you have limited resources and, at the same time, you want to try and ensure that people have as much as you can afford or as many people as possible get at least something?

  ✓ How does one equitably distribute limited resources to as many as could benefit from them?

  ✓ Are there any precedents to which we can look for guidance about how this could be done and how it might look?
Moral Challenges

• Who gets what and why?

• Who decides who gets what and why?

• How is agreement or consensus reached?

• What are the consequences of these decisions, both immediately and in the future?
Some Specific Moral Challenges

• Too many patients needing care and not enough resources to provide it.
  – Who will live and who will die?

• Are there people who are more important than others and who can be *a priori* designated as having a first claim on resources?

• Are there some groups of people who should be *a priori* excluded from care because of who they are?

• Is the response to pandemic flu exclusively private sector or public sector or a combination? If the latter, how will this work? Who runs things?

• “Essential” personnel like healthcare worker or police and firefighters with competing obligations: family and profession.
  – Is there a duty to care or to serve by virtue of what you have chosen to do with your life?
Choices

• Every day of our lives we make choices, most of them trivial and some of them important:
  – Trivial choices: what color socks to wear or what to have for breakfast
    • The outcomes of these almost always affect no one other than ourselves or, if they do, they affect others in trivial ways.
  – Important choices: whether to have children or not, who to vote for, etc.
    • The outcomes of these can affect others, sometimes many, sometime just a few.

• Most of these choices are elective, but occasionally we **must** make a choice, sometimes between the lesser of two evils.
Facts

• Duke Hospital owns fewer than 150 mechanical ventilators (including Bi-PAP machines) of which about 90% are in use or in repair at any one time. We have about 900 beds, if which > 112 are ICU beds (not including ICN & post-op)
  – About 20-30% are suitable only for infants and young children.

• The US Strategic National Stockpile has about 4900 ventilators.

• “Right now, there are 105,000 ventilators, and even during a regular influenza season, about 100,000 are in use. In a worst-case human pandemic.....the country would need as many as 742,500.”*


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Let’s Consider Some Hypothetical Clinical Scenarios
## Who Will Live And Who Will Die?
Which Patient “Wins” & Gets the Opportunity to Live?

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How Will **You** Choose Who Will Live And Who Will Die?  
(And You Can’t Avoid Making The Decision)

- What criteria will you use for mechanical ventilation?  
  - Medical?  
  - Social?  
  - “Gut” feelings?

- To which “code of behavior”, moral principle or published paper will you turn for guidance?
Workable Planning: 3 Potential Approaches

1. We can make plans involving decisions that are morally acceptable, if not laudatory, but which may ignore the practical realities of what is publicly acceptable.

2. We can make plans involving decisions that are publicly acceptable, but which may ignore the moral principles which we use as guides in medicine and life.

3. *Or, we can craft plans that adhere to moral principles and which are publicly acceptable, realizing that compromises on both may have to be made.*
A Substantive Moral Principle Should Serve to Guide our Choices

• Equality of care for all based upon our fundamental commitment to the equal moral worth of all individuals.

• This means that, other things being equal, we treat people not on the basis of who they are, but what they are (members of the community of moral beings):
  – For medicine, we qualify the commitment to this moral principle by further stating that we allocate treatments based upon objective criteria of physiological benefit whenever possible.

  – Thus, not all people with the same illness get the same treatment. A 90 year old patient with colon cancer and severe dementia may not receive the same treatment as a 58 year old with the same disease.

THIS IS THE ESSENCE OF MEDICAL JUSTICE*

Several Allocation Systems Have Been Proposed
(for example):

- Some have proposed using minor adaptations of standard ED triage systems for assigning ventilators.
  - This is an example of a private health care allocation system.
  - This seems to miss nuance and subtlety between persons about benefits.

- Emanuel & Wertheimer have proposed using a “life cycle principle” for rationing vaccine (“the idea that each person should have an opportunity to live through all the stages of life”).
  - This is an example of a public health care allocation system
  - This seems to privilege the young over the old and thus abandons the equal value of (sentient) life.
  - This also suggests that when there are no ventilators for a sick 30 year old, we should remove the 75 year old from the ventilator to give it to the younger person.
Things We *Shouldn’t* Do

- If we truly believe in the principle of moral equality of *ALL* persons, then we **shouldn’t** do the following things:
  
  - We *should not* ration care based upon morally arbitrary and irrelevant features about people, such as skin color, ethnicity, religion, age, gender, etc. (i.e., things people can’t do anything about and about which they have or had no choice).
  
  - We *should not* engage in bedside, individual rationing as this is a situation open for extensive abuse.
Things We Should Do

- If we truly believe in the principle or moral equality, then we *should* do the following things:
  - We *should* apportion care based upon substantiated and justified evidence of its efficacy.

  - We *should* restrict, as much as possible solitary, individualized decision-making, thus limiting the temptation to engage in individualized moral decision-making.
    - This means that we *should not arbitrarily* say that anyone over 75 should not be put on a ventilator; we *can* say that anyone with respiratory failure who has little chance of benefit from mechanical ventilation should not be put on a ventilator.

  - We *should* take the positive, affirmative aspects of the organ allocation system, which adheres to what Rosamond Rhodes has called “clinical justice”, and apply them to some areas of resource allocation planning.
Things We Can Do

- We can also make *societal* decisions that anyone over a certain age, or anyone with certain types of disabilities, or people who are not in the country legally, etc. will not be eligible for curative care, but this has to be a consensus decision.

  • This is politically and socially justifiable but not necessarily morally justifiable

  • But, to be minimally justifiable, this must be a public health decision

  • However, just because something is acceptable to the majority and is legal, does not make it morally acceptable. Remember that it was legal to euthanize homosexuals and Gypsies in Nazi Germany.
Who Will Look Out For The Most Vulnerable In Our Society To Ensure They Are Treated Fairly (or Treated at all)?

- The aged
- The physically disabled
- The mentally disabled
- The poor
- Undocumented immigrants
- Prisoners
- The very young
There are troubling implications if we are **REALLY** committed to this principle of equal moral worth

- We must include people like incarcerated prisoners within our circle of equal concern, even though they may be assumed to have at least partially rejected the society that is to serve them.

- We must include illegal immigrants within our circle of equal concern, even though they also may be assumed to have at least partially rejected the society (by breaking the law) that is to serve them.

The problem with this is a practical one: is there any way the majority of the American (or any other country, for that matter) public (not to mention healthcare providers) will accept this?
But What Will We Do With All The Other Sick People?

- People will still get cancer, heart attacks, acute appendicitis and have premature babies and thus need hospitalization: what happens to them if we have a pandemic?

- Do we send the 65 year old cancer patient home so we have a bed for the 35 year old with influenza?

- Do we take the ventilator being used for a 70 year old after a stroke and give it to the 35 year old with influenza and respiratory failure?
What Do We Do With Those Who Aren’t Eligible Or Who “Lose” The Lottery? Do We “Owe” Them Anything?

• By our dedication to our moral principles, we must ensure that we have adequate resources to care when we can’t cure.

• Thus, palliative care should be available to all who need it.

• This means that we need to:
  – Devote resources to training people in palliative care
  – Ensure we have adequate supplies of drugs used in palliative care where respiratory compromise may be a big component of end-of-life care (opiates, anxiolytics, etc.)
  – Ensure that we have adequate personnel trained and available for grief counseling and PTSD
  – Ensure that we have adequate resources available to deal with the dead.
The Bottom Line

• We must reaffirm our moral commitments to serve as a guide for our actions.

• We must be prepared and have thought through many of these issues ahead of time.

• Hard choices must be public, acceptable and justifiable.

• Having extensive guides available ahead of time that meet the above criteria will maximize the chances that we will emerge from a pandemic with our moral dignity both intact and strengthened.

• Limiting or restricting the number of occasions in which moral choices will have to be made and increasing the percentage of medical choices, will maximize the chances of having morally justifiable outcomes.
A Draft Proposal From North Carolina

✓ Realizing that life-saving resources will be is short supply should a pandemic occur, and understanding the temptation to bend the rules, make exceptions and for physicians to engage in bedside, arbitrary rationing, the goal is to craft clinical guidelines which are evidence-based and as objective as possible, leaving as little room as possible for healthcare providers to use subjective criteria for the allocation of scarce equipment and supplies. The guidelines should also be used and applied in the same way in different institutions.
First Things First

• Cancel all elective surgery and elective admissions
• Discharge anyone who can be (safely) discharged
• Minimize clinic visits to only those that are absolutely necessary.
Vaccines

• No private stock: a central supply (in the US)
• Allocation according to clinical criteria:
  – For H1N1, US Government triage is in order of importance:
    ✓ Pregnant women
    ✓ Caregivers of children < 6 months of age
    ✓ Healthcare providers (those with direct patient contact
    ✓ Children & young adults 6 months to 24 years old
    ✓ Adults 25 years old to < 64 years or those with
      underlying conditions

• Interestingly, a group that was previously on the
  list as a high priority group was “first responders”: police, firefighters, etc. I do not
  know why they disappeared.
## Ventilator Allocation:
A combination of the SOFA* score, patient age and “first come, first-served”

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<th>Specification</th>
<th>Point System*</th>
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<tr>
<td>Save the most lives</td>
<td>Prognosis for short-term survival (SOFA score)</td>
<td>SOFA score &lt; 6</td>
</tr>
<tr>
<td>Save the most life-years</td>
<td>Prognosis for long-term survival (medical assessment of comorbid conditions)</td>
<td>No comorbid conditions that limit long-term survival</td>
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<td>Life-cycle principle†</td>
<td>Prioritize those who have had the least chance to live through life’s stages (age in years)</td>
<td>Age 12–40 y</td>
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SOFA = Sequential Organ Failure Assessment.
* Persons with the lowest cumulative score would be given the highest priority to receive mechanical ventilation and critical care services.
† Pediatric patients may need to be considered separately, because their small size may require the use of different mechanical ventilators and personnel.


*Sequential Organ Failure Score*
Pre-Existing Conditions Exclusions

• Pre-existing conditions that would lead to a much lower expectation of survival or which would lead to a lower prioritization, like age, would be used to exclude patients from life-preserving care. For example:
  – < 1 year to live
  – New York Heart Association Class IV heart disease
  – Irreversible or declining, severe cognitive impairment
  – Severe chronic lung disease with $O_2$ requirement at rest of > 2L $O_2$/minute
Reviews & Appeals

• All triage decisions will be reviewed daily and adjustments made (if necessary) to the application of the allocation plan.

• Patients placed on life-preserving care would be reviewed at 48 and every 24 hours thereafter: clinical progression on optimal, maximal therapy would lead to withdrawal of care.

• Surrogate decision-makers and healthcare staff would be able to appeal allocation and care withdrawal decisions to an independent Appeals Officer who could overturn clinical decisions if the guidelines were not followed.
Some Important Remaining Questions

• Should healthcare workers who get influenza have a priority for resources?
  – No; once they get sick, they are patients just like everyone else
  – If they have priority, it may appear as if those who made the rules made them favorable to themselves (an issue of fairness or justness)

• Should VIPs (“Very Important People”) have a priority?
  – No; once they get sick, they are patients just like everyone else

• Should healthcare workers receive incentives to come to work, to encourage them to obey their “duty to care”?
  – We do not want to have a situation similar to the SARS epidemic
Now that you have heard all this stuff about moral decision-making, equality, justice, etc., let’s ask the “who should live and who should die” question again:
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Additional References

- Emanuel EJ, Wertheimer A. Public health. Who should get influenza vaccine when not all can? Science 2006;312(5775):854-5.