Βιοηθική στην κλινική πράξη - Επιδημίες

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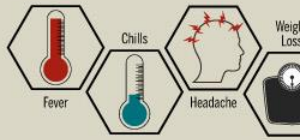
OUTBREAK

Deadliest Pandemics in History

Because a virus doesn't care about state lines or national borders, it can wipe out millions and span multiple continents rapidly. Here is a look at the infectious diseases the world has battled throughout history.

What is a Pandemic?

Derived from the Greek word *pandemos* meaning "pertaining to all people," a pandemic is a widespread disease that affects humans over a wide geographic area.



Key:

PANDEMIC YEAR	DEATH TOLL

MEASLES
7th Century BC - 1963
200 million

HIV / AIDS
1981 - TODAY
25+ million

PLAGUE of JUSTINIAN
541 - 750
25 million

SMALLPOX
10,000 BC - 1979
300+ million

Bigpox?

In terms of an estimated death toll, smallpox is the deadliest pandemic in history. The highly contagious, rash-inducing infection has killed more than 500 million people. Some believe that 90 percent of the native population of the New World was wiped out by the disease.

SPANISH FLU
1918 - 1919
50-100 million

BLACK DEATH
1340 - 1771
75 million

Ring Around the Rosie, a Pocket Full of Plague

Legend says the Black Death plague inspired the children's rhyme "Ring Around The Rosy," which alluded to the rash-like rings and ashes of the deceased victims.

THIRD PANDEMIC 1855 — **12 million**

TYPHUS 430 BC - TODAY — **4 million**

CHOLERA 1817 - TODAY — **3 million**

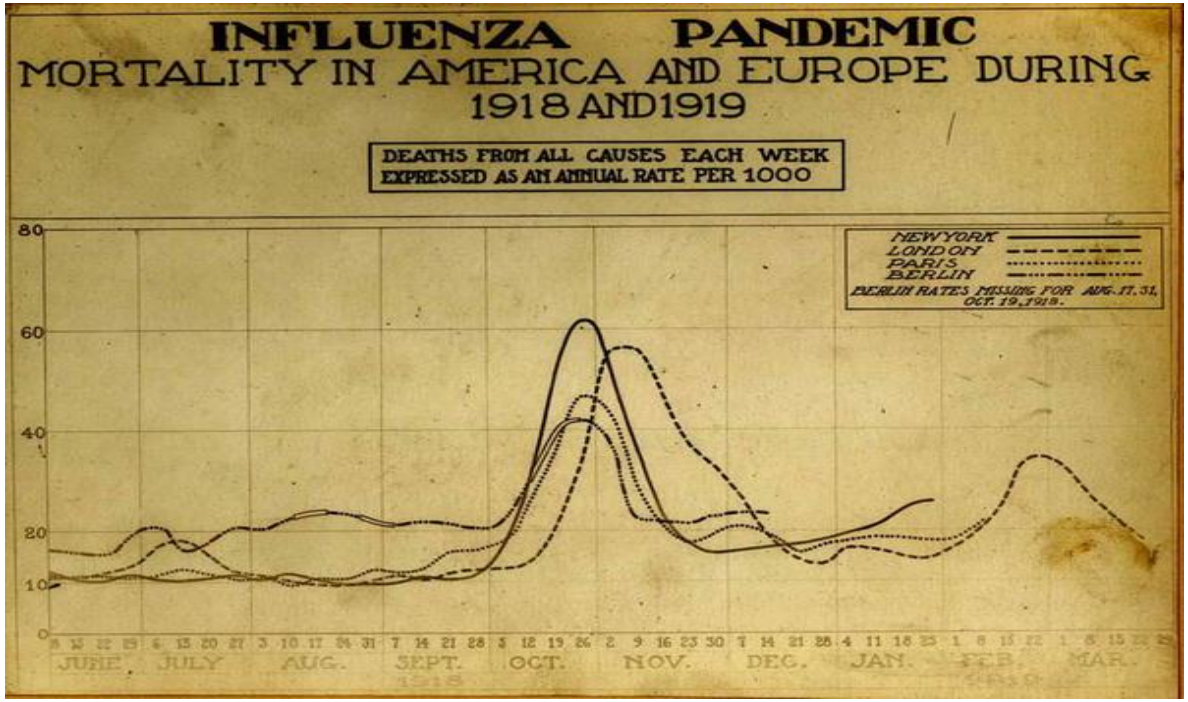
HONG KONG FLU 1968 - 1969 — **1 million**

Sources: Mayo Clinic // Centers for Disease Control and Prevention // World Health Organization // New York Times // National Center for Biotechnology Information

Η κρίση της βιοηθικής στο περιβάλλον μιας επιδημίας

«..Αλλά πουθενά δεν εμνημονεύετο λοιμώδης νόσος τοιαύτης εκτάσεως, ούτε φθορά ανθρώπων τόσον μεγάλη. Διότι ούτε ιατροί, οι οποίοι, αγνοούντες την φύσιν της ασθενείας, επεχείρουν δια πρώτην φοράν να την θεραπεύσουν, αλλ' απέθνησκαν οι ίδιοι μάλλον, καθόσον και περισσότερον ήρχοντο εις επαφήν με αυτήν, ούτε άλλη καμία ανθρώπινη τέχνη ηδύνατο να βοηθήση..»

Θουκυδίδης , Ιστορία Πελοποννησιακού Πολέμου 2.47-55



Ethical Issue 1: Duty to Care

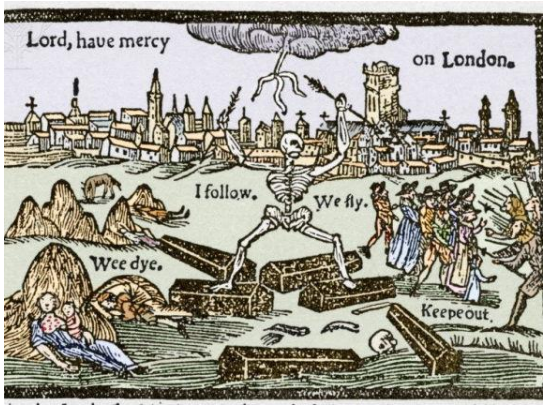
Γιατρός του 17ου αιώνα με ολόσωμη δερμάτινη στολή προς αποφυγήν μολύνσεως από επιδημία

"So the plague defied all medicines; the very physicians were seized with it…men went about prescribing to others and telling them what to do…and they dropped down dead, destroyed by that very enemy they directed others to oppose. This was the case of several of the most skilful surgeons"

(D.Dafoe, A journal of the plague year)

Ethical Issue 1: Duty to Care

- 166 A.D. Galen fled Rome - bubonic plague
- 17th cent. T. Sydenham quit London – great plague
- 18th cent. Yellow fever crisis in Philadelphia
- 20th cent HIV



Br Med J (Clin Res Ed). 1987 May 23; 294(6583): 1332–1333.

Refusal to treat AIDS and HIV positive patients.

R Gillon

''I've got to be selfish,'' says the chief heart surgeon at a Milwaukee hospital. ''I've got to think about myself; I've got to think about my family. That responsibility is greater than to the patient.''

Ethical Issue 1: Duty to Care

Table 2 Associations of stress factors and likelihood of reporting hesitation and motivation to work

			Among the strong		Likelihood of reporting			
					Hesitation to work		Motivation to work	
	Weak n(%)	Strong n(%)	High Hesitation n (%)	High Motivation n (%)	Bivariate OR (95%CI)	Multivariate[+] OR (95%CI)	Bivariate OR (95%CI)	Multivariate [+]OR (95%CI)
Risk for infection								
Anxiety about being infected	709 (41.9)	981 (57.9)	212 (21.6)	291 (29.7)	5.2 (3.6-7.4)	4.8 (3.3-7.0)	1.2 (0.9-1.4)	1.3 (1.1-1.7)
Anxiety about infecting family	733 (43.3)	950 (56.1)	191 (20.1)	301 (31.7)	3.0 (2.2-4.0)	2.8 (2.1-3.9)	1.5 (1.2-1.8)	1.6 (1.3-2.0)
Anxiety of being infected during commuting	905 (53.5)	781 (46.1)	169 (21.6)	235 (30.1)	2.9 (2.2-3.9)	2.8 (2.1-3.8)	1.2 (0.9-1.4)	1.5 (1.2-1.8)
Knowledge and measurement								
Lack of knowledge about infectiosity and virulence	1017 (60.1)	666 (39.3)	132 (19.8)	214 (32.1)	1.9 (1.5-2.5)	1.8 (1.4-2.4)	1.4 (1.1-1.7)	1.5 (1.2-1.9)
Lack of knowledge about prevention and protection	1337 (79.0)	348 (20.6)	88 (25.3)	107 (30.7)	2.5 (1.9-3.3)	2.3 (1.7-3.1)	1.1 (0.9-1.5)	1.3 (1.0-1.7)
Protection								
Feeling of being protected by country and local government	1593 (94.1)	96 (5.7)	3 (3.1)	56 (58.3)	0.2 (0.1-0.5)	0.2 (0.1-0.6)	3.9 (2.5-5.9)	3.5 (2.2-5.4)
Feeling of being protected by hospital	1349 (79.7)	338 (20.0)	26 (7.7)	168 (49.7)	0.4 (0.3-0.6)	0.5 (0.3-0.7)	3.3 (2.6-4.2)	2.8 (2.2-3.7)
Anxiety about compensation	906 (53.5)	780 (46.1)	183 (23.5)	240 (30.8)	3.9 (2.9-5.3)	3.6 (2.7-4.9)	1.2 (1.0-1.5)	1.4 (1.1-1.8)

Imai et al. BMC Public Health 2010, 10:672

Ethical Issue 1: Duty to Care

Table 2 Associations of stress factors and likelihood of reporting hesitation and motivation to work

			Among the strong		Likelihood of reporting			
					Hesitation to work		Motivation to work	
	Weak n(%)	Strong n(%)	High Hesitation n (%)	High Motivation n (%)	Bivariate OR (95%CI)	Multivariate[+] OR (95%CI)	Bivariate OR (95%CI)	Multivariate [+]OR (95%CI)
Condition								
Burden of increase quantity of work	1098 (64.9)	589 (34.8)	107 (18.2)	192 (32.6)	1.5 (1.1-2.0)	1.6 (1.2-2.1)	1.4 (1.1-1.7)	1.2 (0.9-1.5)
Burden of change of quality of work	1096 (64.7)	592 (35.0)	101 (17.1)	201 (34.0)	1.4 (1.0-1.8)	1.4 (1.0-1.9)	1.5 (1.2-1.9)	1.4 (1.1-1.8)
Physical exhaustion	1151 (68.0)	541 (32.0)	124 (22.9)	187 (34.6)	2.4 (1.9-3.2)	2.5 (1.8-3.3)	1.5 (1.2-1.9)	1.5 (1.2-1.9)
Mental exhaustion	1122 (66.3)	565 (33.4)	134 (23.7)	202 (35.8)	2.7 (2.1-3.6)	2.7 (2.1-3.6)	1.7 (1.4-2.1)	1.8 (1.4-2.3)
Insomnia	1618 (95.6)	73 (4.3)	22 (30.1)	38 (52.1)	2.6 (1.6-4.4)	2.9 (1.7-5.0)	2.9 (1.8-4.6)	2.6 (1.6-4.2)
Elevated mood	1505 (88.9)	185 (10.9)	35 (18.9)	115 (62.2)	1.4 (0.9-2.1)	1.6 (1.0-2.4)	5.1 (3.7-7.1)	4.6 (3.3-6.5)
Isolation								
Feeling of being avoided by others	1495 (88.3)	192 (11.3)	56 (29.2)	44 (22.9)	2.8 (2.0-4.0)	2.4 (1.7-3.4)	0.7 (0.5-1.0)	0.9 (0.6-1.3)
Feeling of being isolated	1588 (93.8)	104 (6.1)	42 (40.4)	38 (36.5)	4.5 (3.0-6.9)	4.7 (3.0-7.2)	1.5 (1.0-2.3)	1.6 (1.0-2.5)
Others								
Feeling of having no choice but to work due to obligation	604 (35.7)	1081 (63.9)	186 (17.2)	330 (30.5)	1.9 (1.4-2.6)	1.7 (1.3-2.4)	1.4 (1.1-1.7)	1.6 (1.2-2.0)
Burden of child care including lack of nursery	380 (22.4)	221 (13.1)	56 (25.3)	74 (33.5)	3.0 (1.9-4.7)	2.7 (1.6-4.5)	1.0 (0.7-1.4)	1.3 (0.9-1.9)

Imai et al. BMC Public Health 2010, 10:672

Ethical Issue 1: Duty to Care

"When pestilence prevails, it is their [physicians] duty to face the danger and to continue their labours for the alleviation of the suffering even at the jeopardy of their own lives…"

BUT ALSO

"...the supply of physicians is not an unlimited resource… doctors need to balance immediate benefits to individual patients with ability to care for patients in the future."

Two things awe me most,
the starry sky above me
and the moral law within
me.

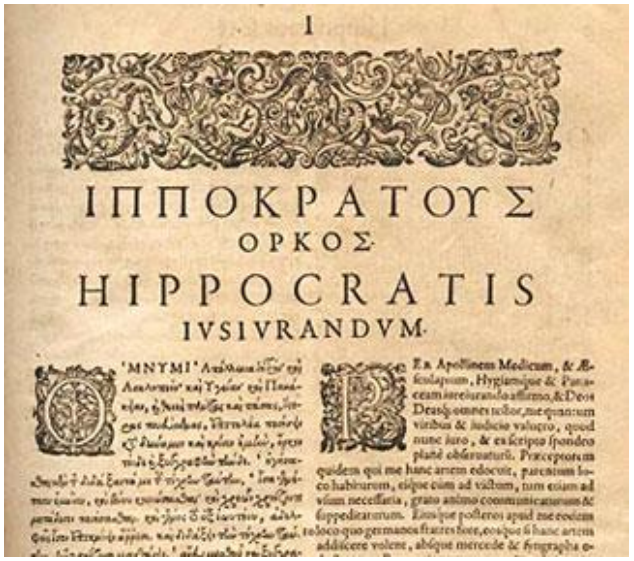
- Immanuel Kant

AMA Ethics Code

Ethical Issue 2: Patient's rights & Restrictive Measures

Fundamental principles of medical ethics

- Beneficence
- Non maleficence
- Justice
- Autonomy



Who is the patient ????

In the event of a pandemic: Needs for

- Surveillance
- Intervention
- Specimen collection
- Separation/Isolation/Social Distancing
- Control of international borders

Ethical Issue 2: Patient's rights & Restrictive Measures

- **Loss of privacy / confidentiality**
- **Stigmatization**
- **Rights violation**

Ethical Issue 2: Patient's rights & Restrictive Measures

SIRACUSA
PRINCIPLES

on the
Limitation and
Derogation Provisions
in the
International Covenant
on Civil and Political
Rights

Justification for state limits on human rights

1. Law
2. Public order
3. **Public Health**
4. Public Morals
5. National Security
6. Public Safety
7. Rights and Freedoms of others

State shall not be unreasonable or arbitrary

Ethical Issue 3: Priority Setting & Allocation of resources

- **Save most lives!!!** (emergencies)
- **Women and children first ??** (Titanic)
- **First come, first served ??** (ICU)
- **Save the most quality life years ??** (cost-effective)
- **Save the worst-off??** (organ – transplantation)
- **Reciprocity??** (blood transfusion)
- **Save those most likely to fully recover ??** (WWII)
- **Save those instrumental in making society flourish??** (productivity)

Ethical Issue 3: Priority Setting & Allocation of resources

Priorities for Distribution of Influenza Vaccine

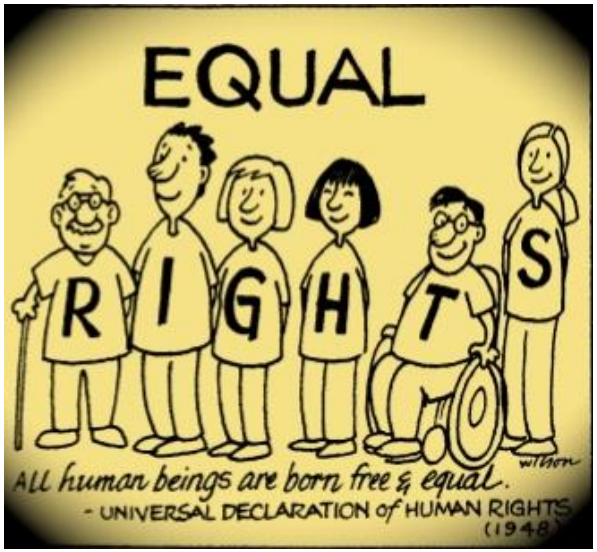
Tier*	NVAC and ACIP recommendations (subtier)†	Life-cycle principle (LCP)	Investment refinement of LCP including public order
1	Vaccine production and distribution workers Frontline health-care workers People 6 months to 64 years old with ≥2 high-risk conditions or history of hospitalization for pneumonia or influenza Pregnant women Household contacts of severely immunocompromised People Household contacts of children ≤6 months of age Public health and emergency response workers Key government leaders	Vaccine production and distribution workers Frontline health-care workers	Vaccine production and distribution workers Frontline health-care workers
2	Healthy people ≥65 years old People 6 months to 64 years old with 1 or more high-risk conditions Healthy children 6 months to 23 months old Other public health workers, emergency responders, public safety workers (police and fire), utility workers, transportation workers, telecommunications and IT workers	Healthy 6-month-olds Healthy 1-year-olds Healthy 2-year-olds Healthy 3-year-olds etc.	People 13 to 40 years old with <2 high-risk conditions, with priority to key government leaders; public health, military, police, and fire workers; utility and transportation workers; telecommunications and IT workers; funeral directors People 7 to 12 years old and 41 to 50 years old with <2 high-risk conditions with priority as above People 6 months to 6 years old and 51 to 64 years old with <2 high-risk conditions, with priority as above‡ People ≥65 years old with <2 high-risk conditions
3	Other health decision-makers in government Funeral directors	People with life-limiting morbidities or disabilities, prioritized according to expected life years	People 6 months to 64 years old with ≥2 high-risk conditions
4	Healthy people 2 to 64 years old		People ≥65 years old with ≥2 high-risk conditions

** Tiers determine priority ranking for the distribution of vaccine if limited in supply. †Subtiers in purple text establish who gets priority within the tier (starting from the top of the tier) if limited vaccine cannot cover everyone in the tier; prioritization may occur within subtiers as well. ‡ Children 6 months to <13 years would not receive vaccine if they can be effectively confined to home or otherwise isolated.*

Science 2006 312 (5775) : 854-5

Ethical Issue 4: Public Health & Global Governance

- **Burden of disease to developing world / lower income classes**
- **Unequal access to interventions**
- **Inter country allocation of resources**
- **Research during infectious diseases outbreaks -Emergency use of unproven interventions outside research**



*"the greatest moral challenge posed by a pandemic is **how to respect commitments to social justice in the face of the overwhelming and entrenched inequalities**."*

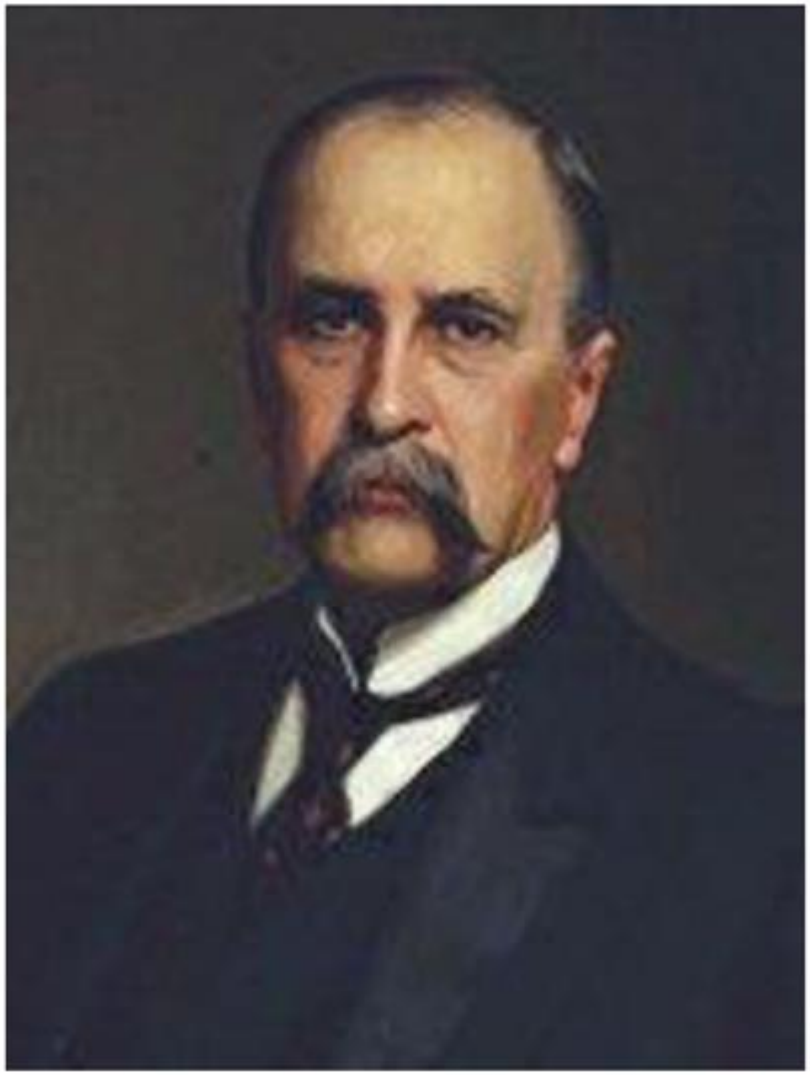
THE BELLAGIO MEETING
ON SOCIAL JUSTICE AND INFLUENZA

Ethical Issue 4: Public Health & Global Governance

- **International trade**
- **Public engagement (inclusiveness, openness, transparency, accountability)**
- **Cultural and Religious norms**

*‘ Whether dealing with violent deaths in major disasters or in armed conflict… **The inability to perform rituals condemns a family to a second death**: the symbolic death of their loved one for the lack of a tomb that perpetuates his or her name and confers social worth to the deceased and his or her inclusion in the generational continuity of a family’*

1.Management of Dead Bodies in Disaster Situations, Disaster Manuals and Guidelines Series, Nº 5 Chapter 4, Socio-cultural aspects by Pan American Health Organization and WHO (2004) Washington, D.C



‘ The best preparation for tomorrow is to do today’s work superbly well’

Sir William Osler

Ethical Issue 1: Duty to Care

Recommendations

1. Professional colleges and associations should provide, by way of their **codes of ethics**, clear guidance to members in advance of a major communicable disease outbreak, such as pandemic flu. Existing mechanisms should be identified, or means should be developed, to inform college members as to expectations and obligations regarding the duty to provide care during a communicable disease outbreak.

2. Governments and the health care sector should ensure that:

    a. **care providers' safety** is protected at all times, and providers are able to discharge duties and receive sufficient support throughout a period of extraordinary demands; and
    b. **disability insurance and death benefits** are available to staff and their families adversely affected while performing their duties.

3. Governments and the health care sector should develop **human resource strategies** for communicable disease outbreaks that cover the diverse occupational roles, that are transparent in how individuals are assigned to roles in the management of an outbreak, and that are equitable with respect to the distribution of risk among individuals and occupational categories.

Ethical considerations in developing a public health response to pandemic influenza, World Health Organization, 2007

Ethical Issue 2: Patient's rights & Restrictive Measures

Recommendations

1. Governments and the health care sector should ensure that pandemic influenza response plans include a comprehensive and **transparent protocol** for the implementation of restrictive measures. The protocol should be founded upon the principles of proportionality and least restrictive means, should balance individual liberties with protection of public from harm, and should build in safeguards such as the right of appeal.

2. Governments and the health care sector should ensure that the **public is aware** of:
    i. the rationale for restrictive measures;
    ii. the benefits of compliance; and
    iii. the consequences of non-compliance.

3. Governments and the health care sector should include measures in their pandemic influenza preparedness plans to **protect against stigmatization** and to safeguard the privacy of individuals and/or communities affected by quarantine or other restrictive measures.

4. Governments and the health care sector should institute measures and processes to **guarantee provisions and support services** to individuals and/or communities affected by restrictive measures, such as quarantine orders, implemented during a pandemic influenza emergency. Plans should state in advance what backup support will be available to help those who are quarantined (e.g., who will do their shopping, pay the bills, and provide financial support in lieu of lost income). Governments should have public discussions of appropriate levels of compensation in advance, including who is responsible for compensation.

Ethical considerations in developing a public health response to pandemic influenza, World Health Organization, 2007

Ethical Issue 3: Priority Setting & Allocation of resources

Recommendations

1. Governments and the health care sector should **publicize a clear rationale for giving priority** access to health care services, including antivirals and vaccines, to particular groups, such as front line health workers and those in emergency services. The decision makers should initiate and facilitate constructive public discussion about these choices.

2. Governments and the health care sector should **engage stakeholders** (including staff, the public, and other partners) in determining what criteria should be used to make resource allocation decisions (e.g., access to ventilators during the crisis, and access to health services for other illnesses), should ensure that clear rationales for allocation decisions are publicly accessible and should provide a justification for any deviation from the pre-determined criteria.

3. Governments and the health care sector should ensure that there are **formal mechanisms** in place for stakeholders to bring forward new information, **to appeal** or raise concerns about particular allocation decisions, and to resolve disputes.

Ethical considerations in developing a public health response to pandemic influenza, World Health Organization, 2007

Ethical Issue 4: Public Health & Global Governance

Recommendations

1. The World Health Organization should remain aware of the impact of travel recommendations on affected countries, and should make every effort to be as **transparent and equitable as possible when issuing such recommendations.**

2. Federal countries should utilize whatever mechanisms are available within their system of government to ensure that relationships within the country are adequate to **ensure compliance with the new International Health Regulations**.

3. The developed world should continue **to invest in the surveillance capacity of developing countries**, and should also make investments to further improve the overall public health infrastructure of developing countries.

Ethical considerations in developing a public health response to pandemic influenza, World Health Organization, 2007

PREDICT - PLAN - PREPARE