

Vaccination in Acute Emergencies: A Framework for Decision-Making

SAGE Working Group on Vaccination In Humanitarian Emergencies

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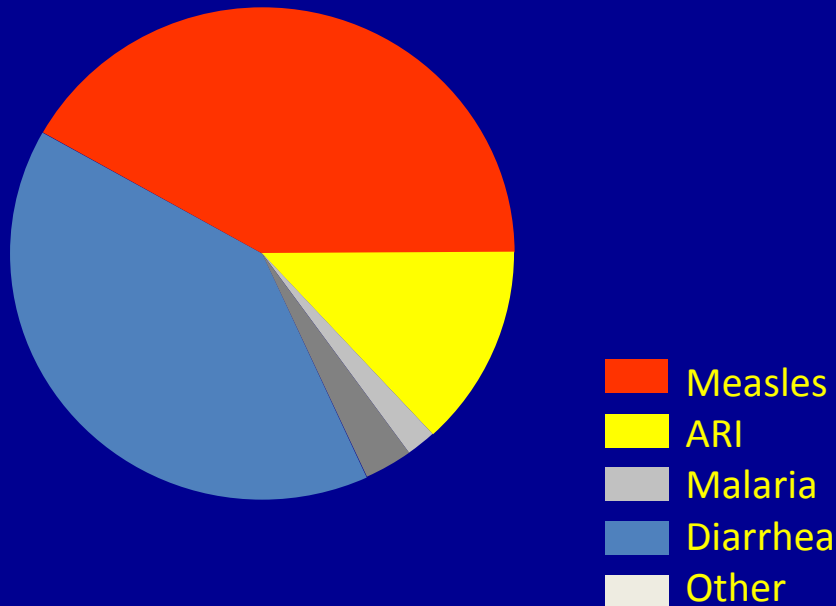
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Overriding Communications Objectives

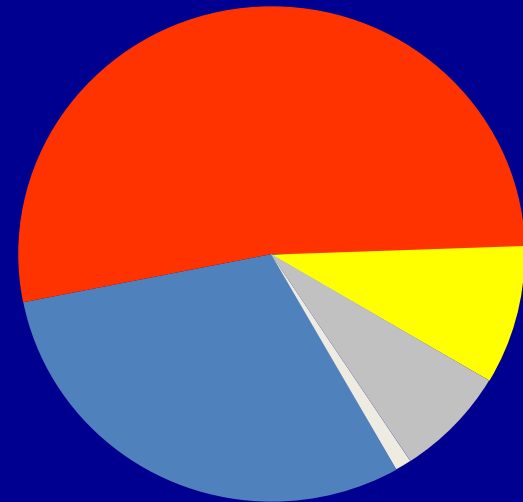
- The Framework addresses an exceptionally thorny problem, one that requires a multifactorial approach
- The Framework attempts to fill an existing gap in vaccination policy and it should be endorsed and promoted by SAGE; however, it needs a reality check
- The target audience is not frontline health workers, but rather expert analysts at the coordination/policy level

Major Causes of Death in Refugee Populations

**Somalia: Gedo Region, 7 Camps
January, 1980**



**Sudan: Wad Kowli Camp
February, 1985**



Source: Centers for Disease Control and Prevention, Famine-Affected, Refugee, and Displaced Populations: Recommendations for Public Health Issues. MMWR, 1992;41(No. RR-13):8.

Overriding Communications Objectives

- Advances in vaccine development and associated technologies allow us, indeed obligate us, to think far beyond mass measles vaccination as being of major benefit to emergency-affected populations

Summary of Communications Objectives

The objective of this framework is to provide guidance to expert analysts during their multi-factorial decision-making processes to ensure the fullest, most effective use of all vaccines that have the potential to limit excess mortality in emergency settings.

Guiding Principles

- Framework does not supersede existing WHO guidelines for vaccine use
- Applies only when routine services are disrupted
- Objective is to reduce risk of mortality during a relatively short period of extreme vulnerability
- Decisions should be based on “duty of care” to protect those in need

Key Ethical Considerations

- Beneficence
- Non-maleficence
- Distributive justice (fair allocation)
- Procedural justice (transparent and accountable decision-making)

Definition of Acute Emergency

- Sudden, unplanned displacement
- New or exacerbated conflict
- Rapid deterioration of nutritional status
- Natural or industrial disaster
- Acute breakdown of critical administrative and management functions

Beneficiary Populations

- All populations directly affected by emergency conditions – there may be several and they may change over time
- Populations indirectly exposed to higher risk of disease due to proximity to emergency-affected population

Vaccine-Preventable Diseases

- WHO pre-qualified vaccine exists
- Burden may be increased in emergency

Vaccine-Preventable Diseases

- Measles
- Poliomyelitis
- Pneumococcal disease
- H. influenzae, type b
- Diphtheria
- Pertussis
- Tetanus
- Rotavirus
- Yellow fever
- Tuberculosis
- Mumps
- Rubella
- Influenza
- Meningococcal disease (polysaccharide and conjugate vaccine)
- Hepatitis A
- Typhoid fever
- Hepatitis B
- Cholera
- HPV
- Varicella
- Japanese encephalitis

The Framework: Three Steps

- An assessment of the epidemiological risk posed by each potentially important vaccine-preventable disease
- Consideration of the properties of each vaccine to be considered for intervention and the feasibility of a mass vaccination campaign
- Prioritization of the importance of vaccination in relation to other urgent public health and non-health sector interventions

Epidemiological Risk Assessment

- Assess risk from general risk factors
- Assess risk from specific risk factors
- Decide go/no go for further consideration

1. Epidemiological Risk Assessment

General Risk Factors

- Prevalence of malnutrition
- Demographic characteristics of population
- HIV/AIDS burden
- Access to curative health services
- Population density
- Water, sanitation, hygiene

1. Epidemiological Risk Assessment

Specific Risk Factors

- Population immunity
- Burden of disease
- Geography, climate, season
- Sexual violence
- Injuries

Epidemiological Risk Assessment

Assess Overall Risk

Level of Risk Due to General Risk Factors

Level of Risk Due to Disease-Specific Factors

		High	Medium	Low
High	High	Definitely Consider		
	Medium		Possibly Consider	
	Low			Do not Consider

1. Epidemiological Risk Assessment

Further Considerations

- Type of threat: epidemic vs. exacerbated endemic
- Timing: how soon might excess deaths occur
- Age profile

2. Vaccine-Specific Factors

Vaccine Characteristics

- Efficacy at full schedule
- Efficacy at less than full schedule
- Administration course
- Presentation (single dose or multiple dose)
- Formulation
- Storage and cold chain requirements
- Contraindications and safety
- Pre-qualification status
- Cost

2. Vaccine-Specific Factors

Mass Campaign Considerations

- Target population (size and age composition)
- Determination and prioritization of high risk groups or areas
- Implementation: site planning, logistics, communications, security, injection safety, monitoring, informed consent

2. Vaccine-Specific Factors Additional Considerations

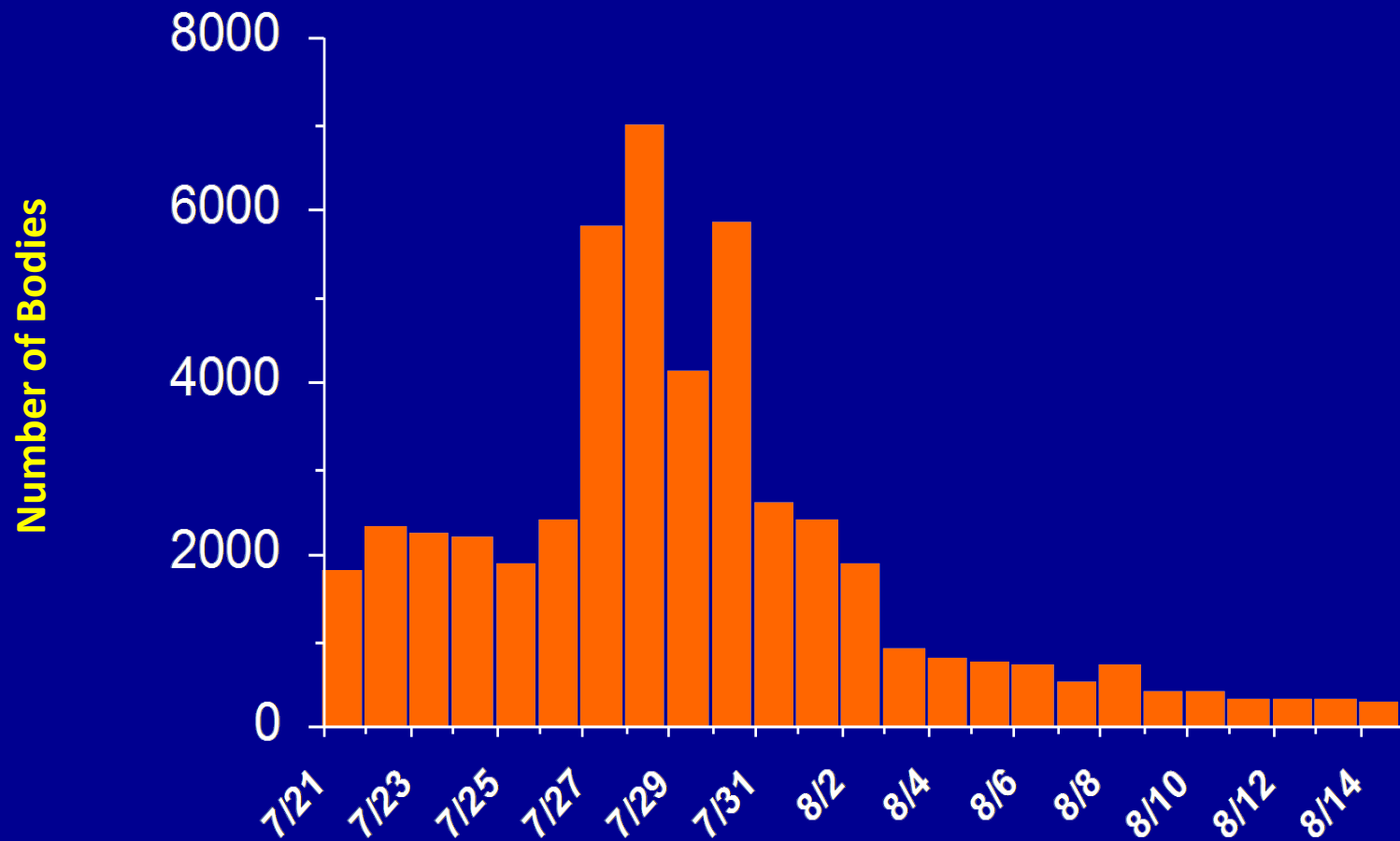
- Included in national routine EPI?
- Availability
- Shelf life

3. Contextual Factors

- Politics
- Security
- Human resources
- Finances
- Alternative interventions
- Add-ons
- Research

Body Collection by Day

Rwandan Refugee Crisis, North Kivu, Zaire, 1994



Source: U.S. Centers for Disease Control and Prevention

Mortality in the Democratic Republic of Congo: A nation-wide survey, 2005

	Crude mortality rate	Under-5 mortality rate
Health zones reporting violence	3.0 (2.6-3.4)	6.4 (5.7-7.2)
Health zones not reporting violence	1.7 (1.5-1.9)	3.1 (2.7-3.5)

deaths/1000/month

“...reductions in crude mortality [and child mortality] are closely associated with reductions in violence and, by extension, improvements in security...”

“...these trends...provide compelling evidence that improvements in security represent perhaps the most effective means to reduce excess mortality...”

(Coghlan B, Brennan RJ, Ngoy P et al.)

