

The World Health Organization Framework (ICF): how can it add to the epidemiology of aging?

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Disclaimers

- ICF was embraced by the IOM Committee Report *“Disability in America”*
- Personally...
 - I use the ICF only as background thinking to epidemiology / gerontology
- Discussion more than a map for ICF use
- Minimal sales pitch, no royalties

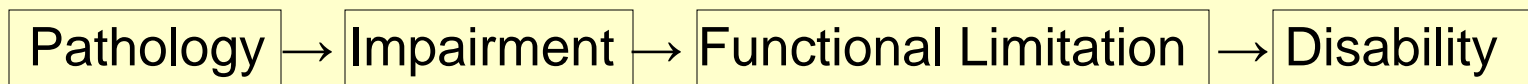
WHO's International Classification of Functioning, Disability & Health (ICF)

Some ICF questions over the years:

- Classification system, model, or conceptual framework?
 - If classification only; research use is limited (classify exposures & outcomes)
 - The ICF is one among a family of classification systems (e.g. ICD)
- What are the alternatives?
 - A respected & useful example is the Nagi model of disability

Nagi-Based Model *

- **Active Pathology**
 - Interruption or interference with normal processes & efforts of the organism to regain normal state
- **Impairment**
 - Anatomical, physiological, mental, or emotional abnormalities or loss
- **Functional Limitation**
 - Limitation in performance at the level of the whole person
- **Disability**
 - Limitation in performance of socially defined role & tasks within a sociocultural & physical environment.



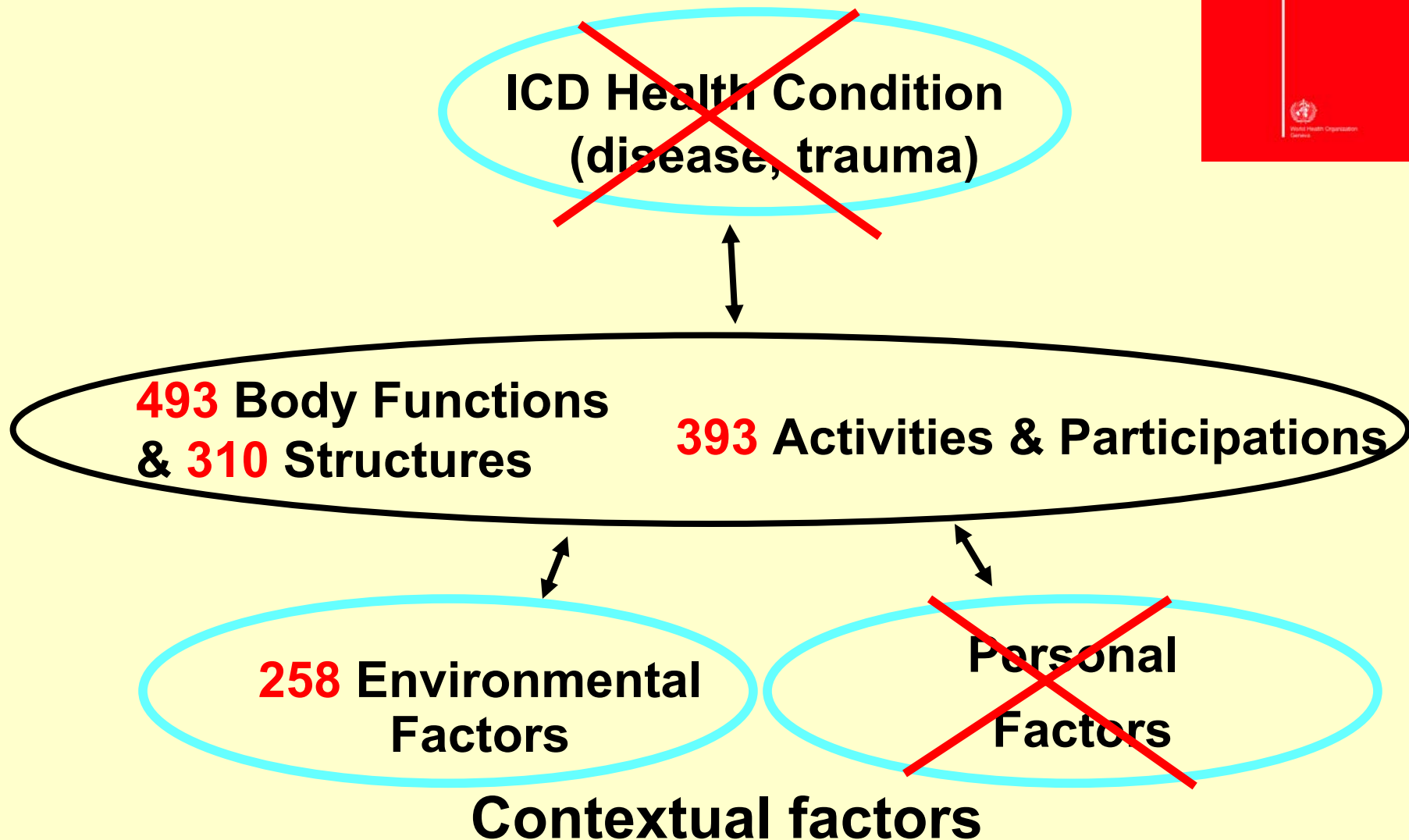
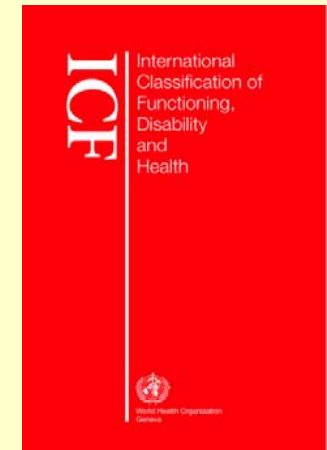
Is this an obligatory directional process?

How do we incorporate the external influences on disability?

* S Nagi, (taxonomy) 1991 in: *Disability in America*; Natl Academies Press

ICF Categories (4):

constructed with major classifications in “chapters”



Chapter Level Examples

Activities & Participation Environmental Factors

- Learning / applying knowledge
- General tasks & demands
- Communication
- Mobility
- Self Care
- Domestic life
- Interpersonal
- Community, civic, social

- Products/technology
- Natural/human changes
- Support/relationships
- Attitudes
- Services, systems, policy

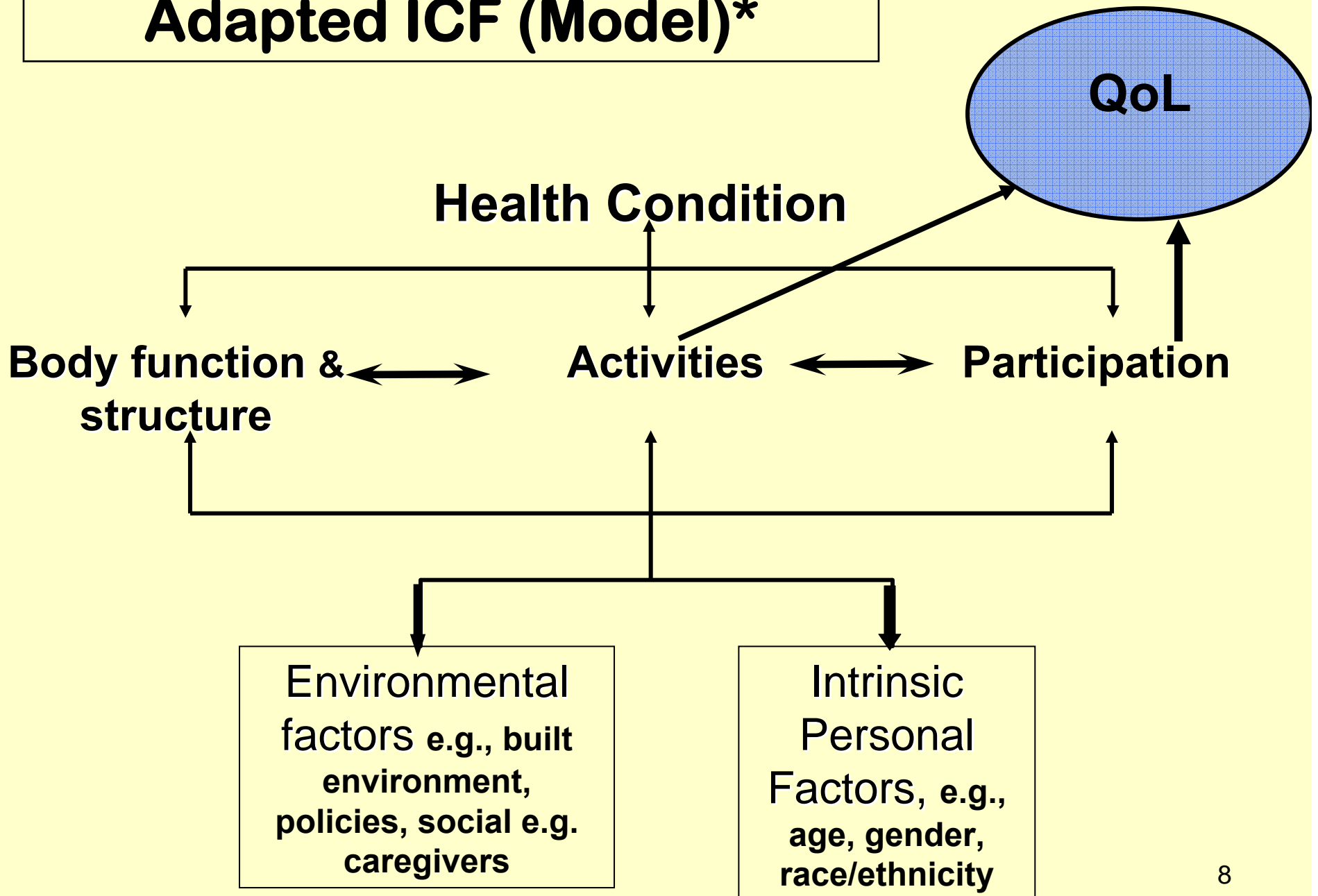
(here an important aspect is that factors can be barriers or facilitators)

Classification: (hip) arthritis

- **Body Function** b7100 range & ease one joint;
b280 pain
- **Body structures** s7401 pelvic joints
- **Activities** d6301 preparing complex meals;
d640 housework; d5402 putting on footwear
- **Participation** d9201 sports

- **Environment** e1150 general products for daily living
(microwave); e1151 assistive (grab bar); e165 assets;
e310 (married)

Adapted ICF (Model)*



*Adapted from Whiteneck in: Fields et al., 2005

Key Concepts of the ICF

- Disability is the umbrella term, & is composed of functions, activities & participation
- Contextual factors (personal & environmental) important to understanding disability, especially the activities & participation
- Social (vs. medical) model of disability
 - Disability is a socially created problem & the goal is maximal participation.
 - Medical model suggests a problem of individuals with medical intervention as the key.

Problematic Concepts of the ICF

- Is the (model) dynamic or stable?
 - Not well articulated
 - Tends to be used descriptively (static)
 - But aspect of interrelationships, time, & directionality should make it amenable to dynamic interpretation
- Criticisms include
 - No inclusion of quality of life
 - No measurement of personal factors

ICF Environment

applied to existing research areas

What are the contributions of family caregiving (**social environment**) & transportation availability (**systems environment**) to rehabilitation outcomes (**walking, communication, self care**) among stroke patients?

ICF Environment applied to Stroke

- Caregiving does matter
 - Research might focus on quality of caregiving relationship;
 - Support of caregivers to encourage or participate in therapies for speech recovery, ambulation;
 - Train caregivers in basic issues like transfer to avoid injury, etc.
- For some stroke patients, transportation availability may be a major component of
 - attending rehabilitation, or
 - social participation that encourages & promotes improvements in communication

Example: ICF Environment

Question: How does the local (built) environment contribute to older adult participation?

Example: ICF & Participation

- Sidewalks (& width, quality of sidewalks)
- Lighting
- Curb cuts & benches
- Delay/timing of walk signals
- Visitability of homes
- Land use, maintenance, & quality of structures

- Traffic, traffic speed, available transportation
- Social interactions & crime in neighborhood

Example: ICF Environment

Question: Is the availability of affordable & accessible technology responsible for decreasing (measured) disability in older adults?

Example: ADL /IADL trends*

- Notable trend in decreasing (cross sectional) disability measured by ADLs / but particularly in IADLs
 - Understanding the complex determinants is important because small changes have large impacts for an aging population.
- What do we know about overall secular changes in tasks & adaptations of daily life due to technology?
 - Assistive technology helps (but there may be disparities in access)
 - What role do conveniences have, e.g., electronic banking, grocery store scooters, cheap microwaves & food preparation, cell phones, etc.
 - Are there additional benefits or deteriorations from social environments, basic social courtesies, etc?
 - Are any of these captured or “rolled into” the (measured) answers about ADLs/IADLs?

*Vicki Freedman: *IOM Workshop on Disability in America* (2005)
NHIS data

Selected Issues in Applying the ICF

- Mapping existing measures to the ICF
 - e.g., activities & participation have some overlap with ADLs & IADLs
- Environment is not easily measured as needed to understand barriers & facilitators linked to ADA
 - ramp presence, vs. ramp steepness

Research Opportunities

- Consider environment
 - E.g., policies, assistive & common technology roles in the outcomes (disability) of aging
- Consider new measurement strategies
 - E.g., Whiteneck's CHIEF (environment)
 - But do you need new measures to apply the ICF?
- More emphasis on understanding recovery from “disability” or restrictions
- Improve research on determinants of participation as an outcome vs. risk factor
- Don't shy away from personal characteristics in understanding aging outcomes/disability