"Age-Friendly Safety and Welfare in Transportation"

Impacts of urban planning & transportation on healthy ageing

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Outline

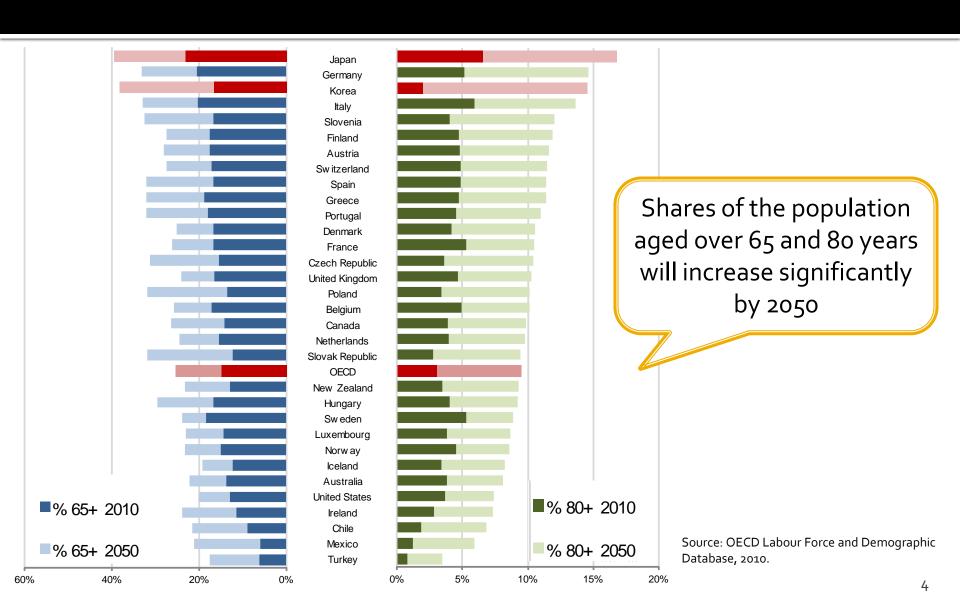
- 1. Ageing & health promotion
- 2. The built environment & health
- 3. Needs of elderly people

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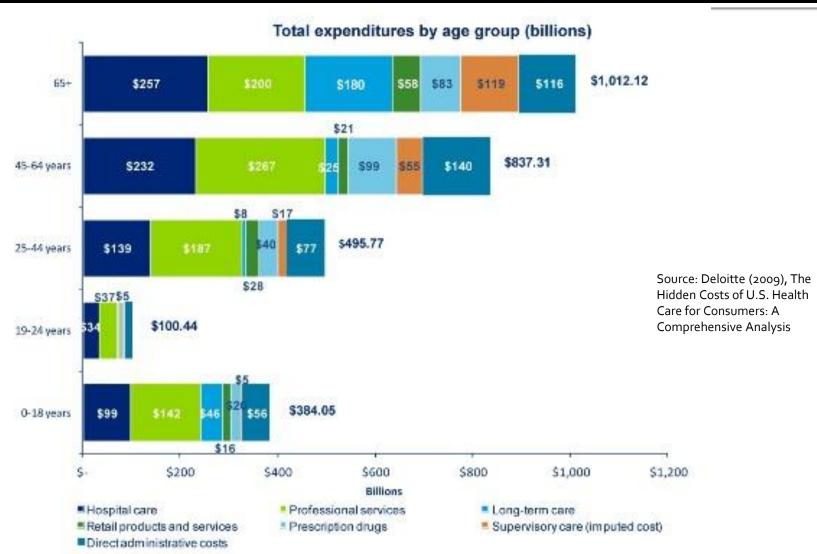
Ageing & Health Promotion



Population Ageing (2010-2050)

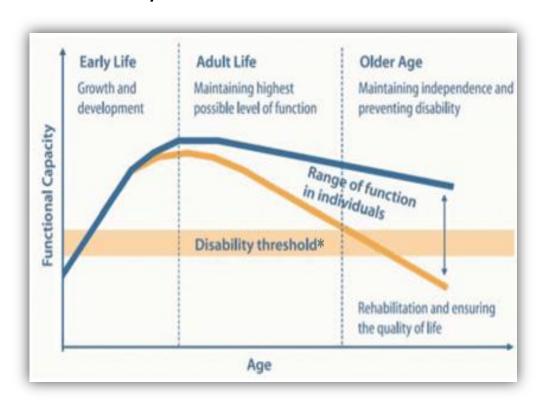


Ageing & Healthcare Costs



Healthy Ageing

- As people age, they become more susceptible to disease and disability. But much can be prevented, delayed or treated by adopting healthier lifestyles
- Healthy Ageing
 - Extend healthy life years
 - Live independently
 - Reduce risk of falling
- Lifestyle behaviors
 - Nutrition
 - Substance use/misuse
 - Physical activity

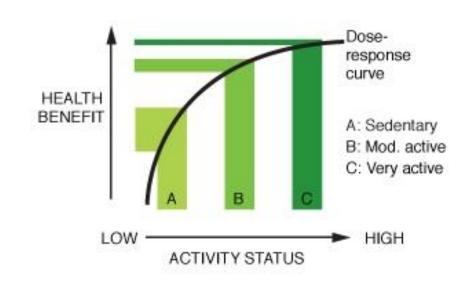


Promotion of Physical Activity

- Lower risk of
 - Early death
 - Heart disease
 - Stroke
 - High blood pressure
 - Diabetes
 - Colon & breast cancer
- Prevent obesity
- Reduce risk of falls
- Reduce depression

DOSE-RESPONSE CURVE FOR PHYSICAL ACTIVITY AND HEALTH

(Pate et al., 1995)

















Physical Activity Guidelines

Source: American College of Sports Medicine & American Heart Association (2007)

- Minimum recommendations (elderly)
 - 5x per week 30 min. moderate-intensity physical activity
 - noticeably accelerated heart rate (5 or 6 on a scale o-10)
 - e.g., brisk walking



- 3x per week 20 min. vigorous-intensity physical activity
 - rapid breathing and substantial increase in heart rate (7 or 8)
 - e.g., jogging



PLUS

exercise for muscular strengthening, flexibility, balance & coordination, and cognitive tasks

Promotion of Walking

- Natural activity
- Outdoors



Walking for transportation



Walking for recreation

Values of Walking vs. Driving

Health benefits



Reduced congestion

Low environmental impact

Social interaction

Recreational value

2

The Built Environment & Health

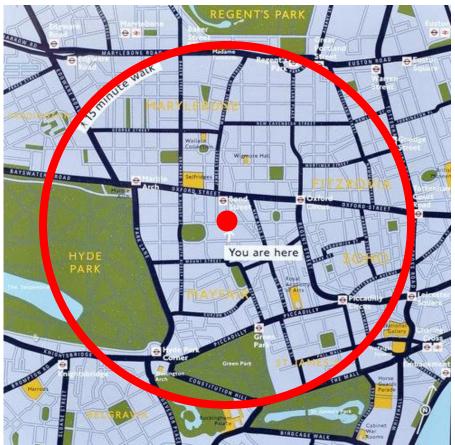


Focus of Research

- "The neighborhood"
 - People's homes
 - Social community







Measurement

Walkability

- Measure of the walking-friendliness of an area
- Safety, comfort and convenience

Levels of Physical Activity

- Sufficient
- Insufficient
- Sedentary (inactive)

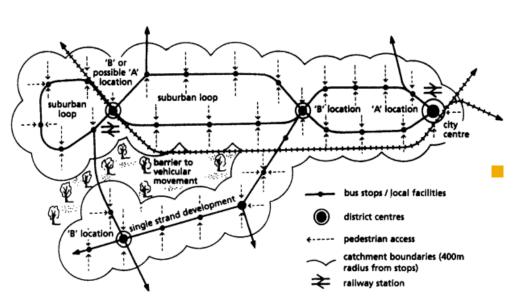
FINDING 1 Mixed Land-Use

- People need destinations within a <u>walkable distance</u> from their homes
- Diversity of destinations
 - Shops
 - Services
 - Parks & open public spaces
 - Public transport stops
 - Schools & workplaces



FINDING 2 Residential Density

 Local businesses need enough potential customers in their "trade area"

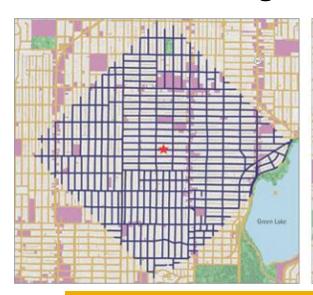




Higher densities allow better public transport service

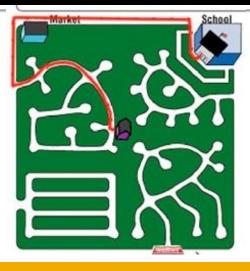
FINDING 3 Street Connectivity

- Directness of travel
- Route options
- Linkage with public transport
- Safe crossings at intersections





Places to be reached within 15 minute walking



Distance home – school



FINDING 4 Walking Infrastructure

- Availability
- Comfort
- Safety
- Attractiveness













FINDING 5 Urban Green Space

- Health benefits
 - Stress relief by exposure to nature
 - Opportunities for physical activity and social interaction





FINDING 6

Safe & Clean Environment

- Perceived safety
 - Social safety
 - Traffic safety
- Cleanliness









IN SUM

The Built Environment...

- Influences choice behavior
 - Transportation
 - Leisure activities



- Needs to provide opportunities to be active
 - Meaningful nearby destinations
 - Attractive routes (safe, comfortable & clean)
 - Access to well-serviced public transport

3

Needs of Elderly People



Elderly People in Traffic

- Age-related factors
 - Decline in vision acuity
 - Slower reaction time
 - Slower walking speed
 - Fear of falling
 - More vulnerable in crashes



- Unsupportive environments
 - Hamper independent living (ageing-in-place)
 - Increase risk of social isolation

Perceived Barriers to Walking

- Walking distance to destinations
- Physical strain of walking
- Poor sidewalk conditions
- Lack of resting places along routes
- Dangerous intersections (crossings)









Streetscape Improvement

Priorities

- Improve conditions for walking (+cycling + public transport)
- Create 'quality places' that are inviting and safe

Elements

- Road cross-sections
- Traffic management
- Sidewalk conditions
- Landscaping
- Street furniture
- Building fronts



Safer Environments

- Sidewalks & footpaths
 - Quality & maintenance of pavement
 - Surveillance ('eyes on the street')
- Crosswalks
 - Shorter crossing distances
 - Longer pedestrian intervals
- Law enforcement
 - No parking on sidewalks
 - No parking around crosswalks







Closing Notes

- It is not age alone but also a person's health status that affects transportation mode use, transportation problems, or personal mobility
- Environments that enable elderly people to stay more active and healthy can contribute to better health of the whole population

Thank you 감사합니다

