INTRODUCTION TO GERIATRIC MEDICINE

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AGING

- **Aging can be defined as a progressive and generalised impairment of function resulting in the loss of adaptive response to stress and increased risk of age related diseases.**

- **The overall effect of these alterations is an increase in the probability of declining health and dying and which is also often associated with social, emotional and financial marginalisation in old age**

GERIATRIC MEDICINE:MAIN ISSUES

- Understanding basic concepts
- Approaching the older patient
- Age related physiological & pathological states
- Demographic impact on geriatric health care
- National programmes and services

BASIC CONCEPTS

- Multiple diseases and multiple drugs.
- Diseases often chronic, progressive with adverse consequences. Focus on functional independence
- Prevention is more productive and rewarding
- Disease profile influenced by socioeconomic & emotional status
- Symptoms may be silent: no pain in MI, no fever in infection or may be atypical & unrelated. Weak link organ symptoms: confusion, incontinence, faints, falls, depression, heart failure-Geriatric Syndromes
- Features like reduced jerks, bacteriuria, IGT common

APPROACHING THE OLDER PATIENT

- Do not be an ageist
- Have patience in history taking
- Optimize communication
- Make the patient safe & comfortable
- Get a full medication list
- Assess family’s cooperation & attitude
- Assess care giver’s stress

PHYSIOLOGICAL CHANGES AND THEIR IMPACT

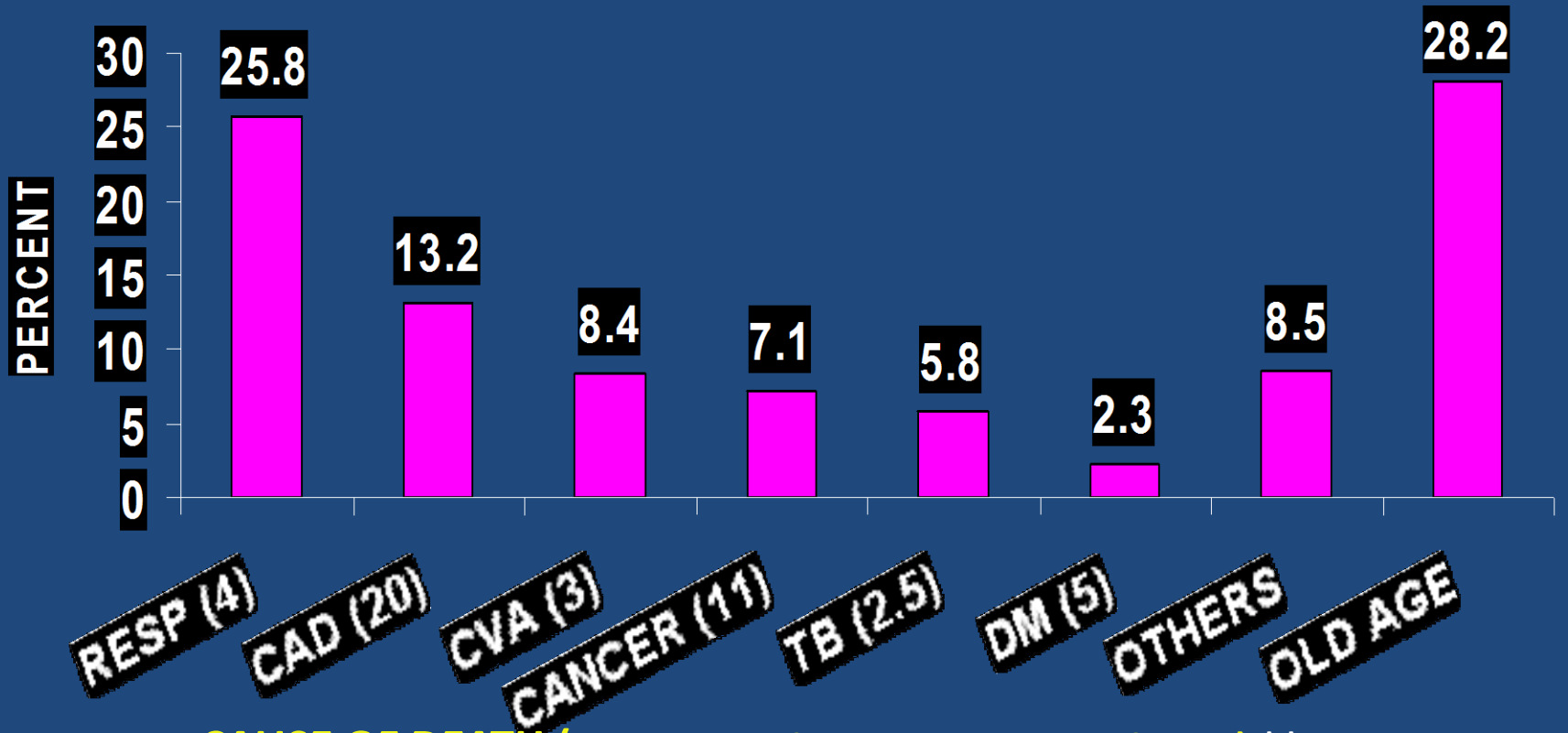
CHANGE: DECREASE IN	IMPACT: DECREASE IN
• Basal metabolic rate	• Calorie needs
• Pulmonary function	• Exercise capacity
• Renal function	• Ability to conc/dilute urine
• Bone mineral	• Fracture resistance
• Gastro-intestinal function	• Bowel motility
• Sight	• Independence
• Dentition	• Eating ability
• Taste	• Appetite

COMMON GERIATRIC DISORDERS

- CVS: hypertension, IHD, heart failure, PVD, syncope
- Resp: pneumonia, tuberculosis, asthma, COPD
- CNS: stroke, dementia, meningitis, encephalopathy
- Endo: diabetes, thyroid, sexual, metabolic diseases
- Musculoskeletal: osteoporosis, OA, RA, falls, fractur
- GIT: dyspepsia, constipation, NSAID gastrop, GERD
- Urogenital: UTI, BPH, menopause, incontin, prolaps
- Cancers: breast, lung, prostate, cervical, haematol
- Spl senses & iatrogenic: eye, ear, taste, skin, ADRs

MORTALITY DISTRIBUTION IN OLDER PERSONS

(Govt. Of India Statistics)*



CAUSE OF DEATH (Times Prevalance in Gen. Population) **

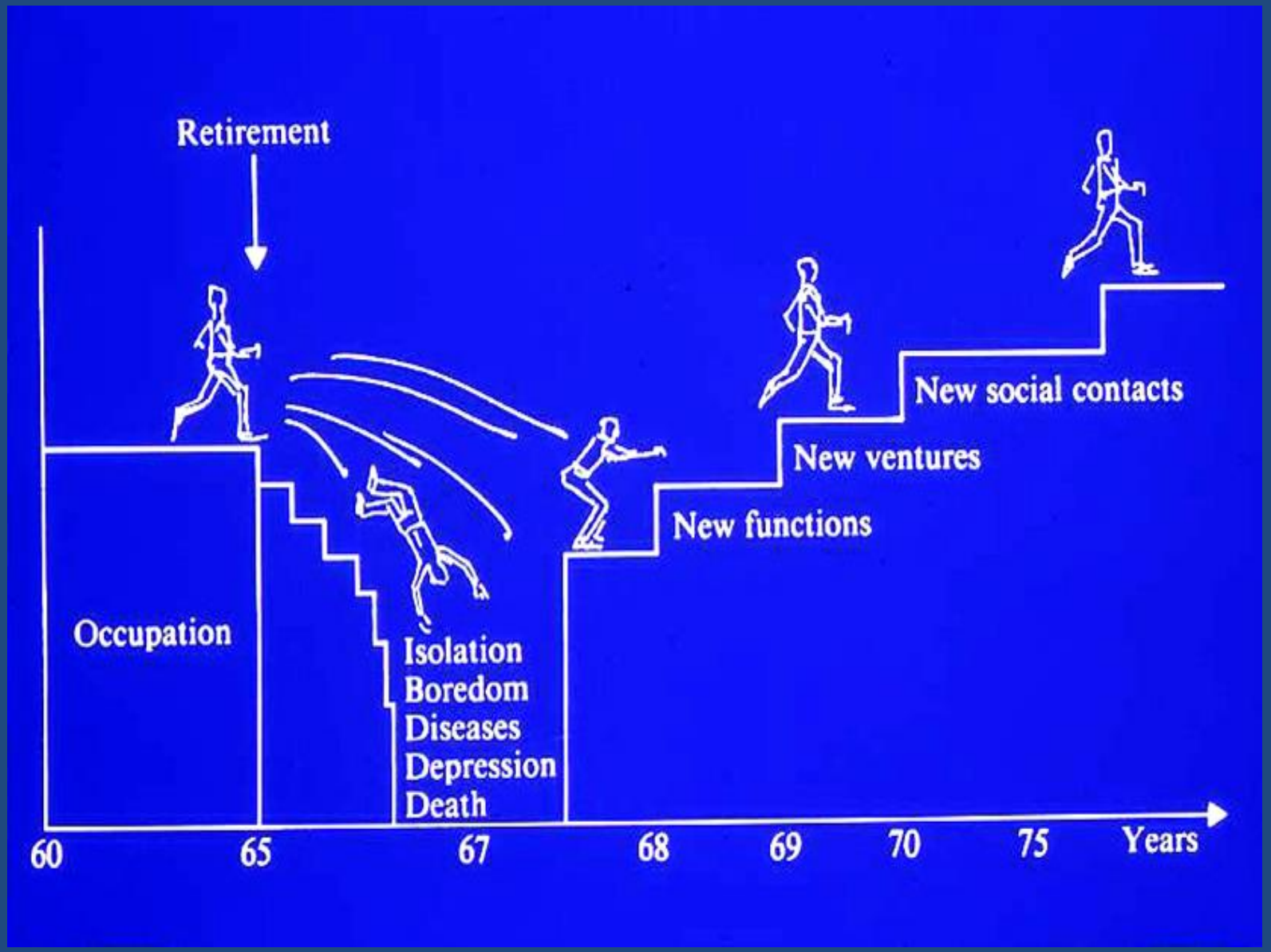
Source * Govt. of India, Min of Health(1995) ** Ageing in India.IJMR Vol 106,1997 ; Bansal: Stroke In OP Sharma-Geriatric Book p339,2003; Khilnani, V. Kumar. TB in elderly in SK Sharma's TB Book p434,2003

UNCLASSIFIED SYMPTOMS IN OLD AGE

- Weakness
- Fatigue
- Anorexia
- Constipation
- Altered taste
- Breathlessness

- Low muscle strength
- Body aches
- Confusion
- Insomnia
- Impotence
- Faints/ Falls

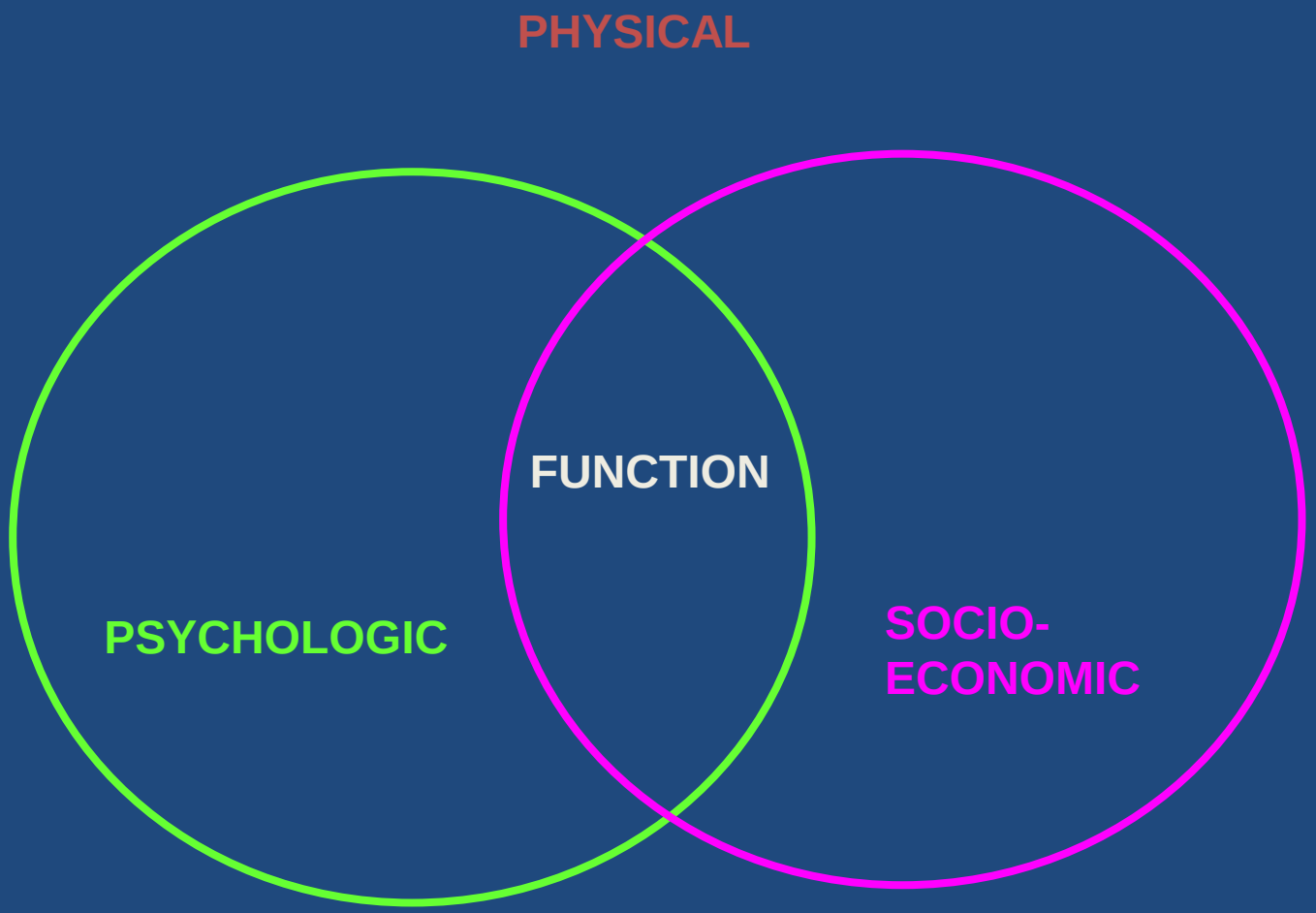
- Aging process is normal, progressive, and physiologically irreversible.
- Aging occurs despite optimal nutrition, genetic background, environmental surroundings, and activity patterns.
- Biological aging process, may demonstrate altered rates of progression in response to an individual's genetic background and daily living habits


Retirement
Occupation
Isolation
Boredom
Diseases
Depression
Death
New functions
New ventures
New social contacts
60
65
67
68
69
70
75
Years

Goals of Care

- The usual "fix-it" model is inadequate for geriatric medicine
- The best possible outcome for an elderly patient must be defined by patient's preferences and values
- Most treatments are only partially effective and carry both burdens and benefits, and reasonable persons differ in evaluating these
- Good decision making requires that the possible futures of the patient

Components of assessment of the elderly



Initial evaluation of geriatric patient

- Primary reason for visit
- Current medical problems
- Past medical and surgical history
- Current medications
- Medication allergies
- Vaccine status
  - Influenza, pneumococcus, tetanus
- Social issue
  - Living status
  - Driving
  - Smoking
  - Drinking alcohol

Potential difficulties in taking history from elderly

- Communication
  - Diminish vision
  - Diminish hearing
  - Slowed psychomotor performance
- Underreporting of symptoms
  - Health belief, fear, depression, altered physical and psychological responses to disease process
  - Cognitive impairment
- Vague or nonspecific symptoms
  - As above
  - Altered presentation of specific diseases
- Multiple complaints

Important aspects of the history in the elderly

- Social history
  - Living arrangement, relationships with family and friends, expectation of family or other care givers, economic status, abilities to perform activities of daily living, social activities and hobbies, mode of transportation
- Past medical history
  - Surgical procedures, major illnesses and hospitalizations, immunization status, TB, medications, perceived beneficial or adverse drug effects

Purposes and objectives of functional status measures

- Description
- Screening
- Assessment
- Monitoring
- prediction

Examples of measures of physical functioning

- Basic activities of daily living (ADL)
  - **Feeding, dressing, ambulation, toileting, bathing transfer (from bed and toilet), continence, grooming, communication**
- Instrumental activities of daily living (IADL)
  - **Writing, reading, cooking, cleaning, shopping, doing laundry, climbing stairs, using telephone, managing medication, managing money, ability to perform paid employment or outside work, ability to travel**

Geriatric Problems

- Immobility
- Instability
- Incontinence
- Intellectual impairment
- Infection
- Impairment of vision and hearing
- Irritable colon
- Isolation (depression)
- Inanition (malnutrition)
- Impecunity
- Iatrogenesis
- Insomnia
- Immune deficiency
- Impotence

Confusion

- 5% of older than 65 y/o, 20% of those older than 75 y/o
- As a mental state in which reaction to environmental stimuli are inappropriate
- DD of confusion:
  - Delirium (acute)
  - Dementias (more slowly)
  - Impaired cognitive function associated with affective disorders and psychoses

Depression

- Biological factor
  - Family history, aging changes in neurotransmission
- Physical
  - Specific diseases, chronic medical conditions, sensory deprivation, loss of physical function
- Psychological
  - Unresolved conflicts, memory loss and dementia, personality disorders
- Social
  - Losses of family and friends, isolation, loss of job, loss of income

Incontinence

- Basic causes incontinence
- Acute causes incontinence
- Persistent causes incontinence

Acute and reversible forms of urinary incontinence

- D delirium
- R restricted mobility, retention
- I infection, inflammation, impaction (fecal)
- P polyuria, pharmaceuticals

Types of persistent incontinence

Urge

Stress

Functional

Overflow

Instability and falls

Complications of falls in the elderly

- Injuries
  - Painful soft tissue injuries
  - Fracture : hip, femur, humerus, wrist, ribs
  - Subdural hematoma
- Hospitalization
  - Complications of immobilization
  - Risk of iatrogenic illnesses
- Disability
  - Impaired mobility due to physical injury
  - Impaired mobility from fear, loss of self-confidence, and restriction of ambulation
- Risk of institutionalization
- Death

Immobility

Common causes

- Musculoskeletal disorders
  - Arthritides, osteoporosis, fractures….
- Neurological disorders
  - Stroke, parkinson's disease….
- Cardiovascular diseases
  - CHF (severe), CAD…..
- Pulmonary diseases
  - COPD (severe type)
- Sensory factors
  - Fear, impairment vision
- Environmental causes:
  - Forced immobility…..
- Others :
  - Malnutrition, malignancy, depression…

Complications

- Skin: pressure sores
- Musculoskeletal: muscular atrophy…
- Cardiovascular: thrombosis, embolism
- Pulmonary : pneumonia, atelectasis
- GI: constipation, anorexia, impaction
- GU: incontinence, infection, retention
- Metabolic: impaired glucose tolerance, altered drug pharmacokinetics
- Psychological: depression, dementia, delirium

Other problems.

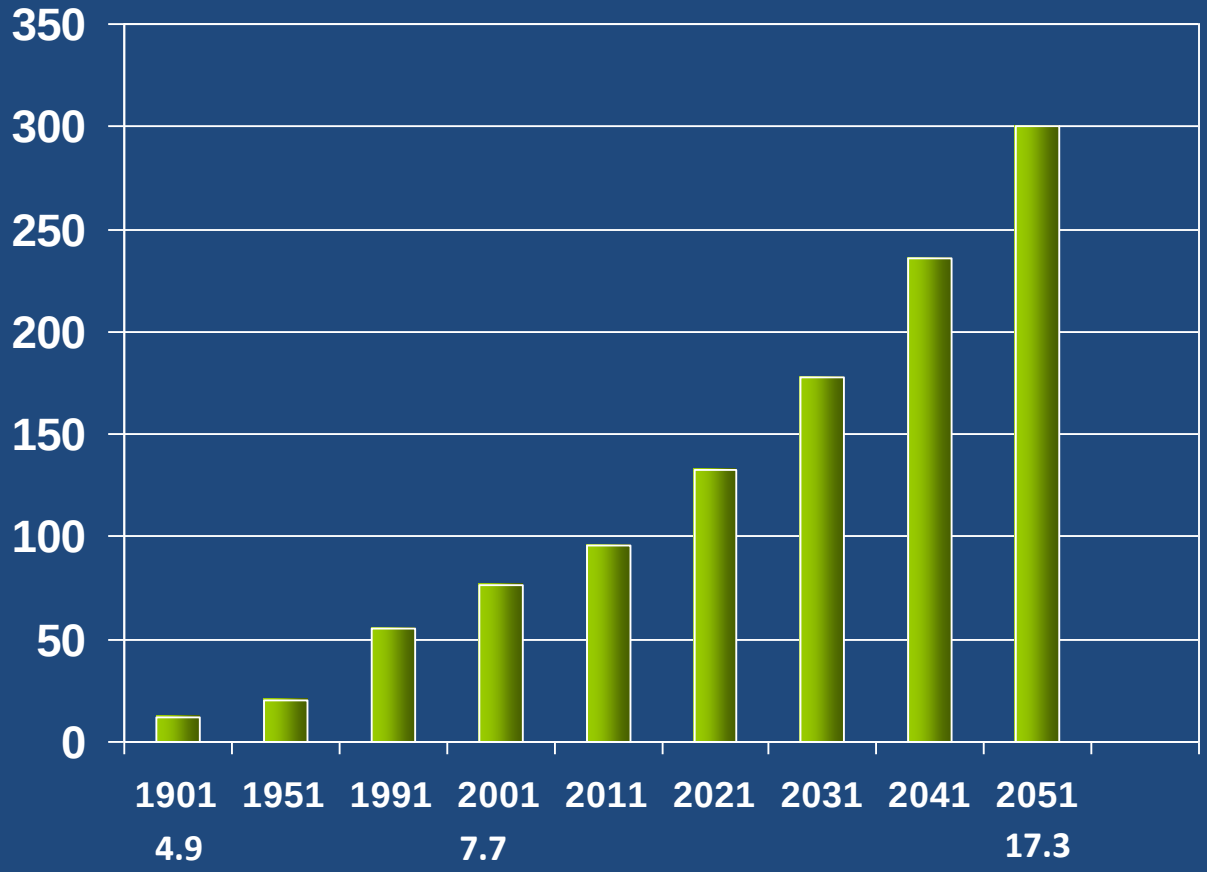
- Silent Acute MI.
- Small Bowel ischemia.
- Bowel Dysmotility.

- Poly Pharmacy

General management

- Iatrogenesis
- Drug therapy
- Developing clinical expectations
- Long-term-care resources
- Nursing home care

POPULATION GROWTH OF 60+ PERSONS IN INDIA (millions)



Note: Policy Projections must recognize that:

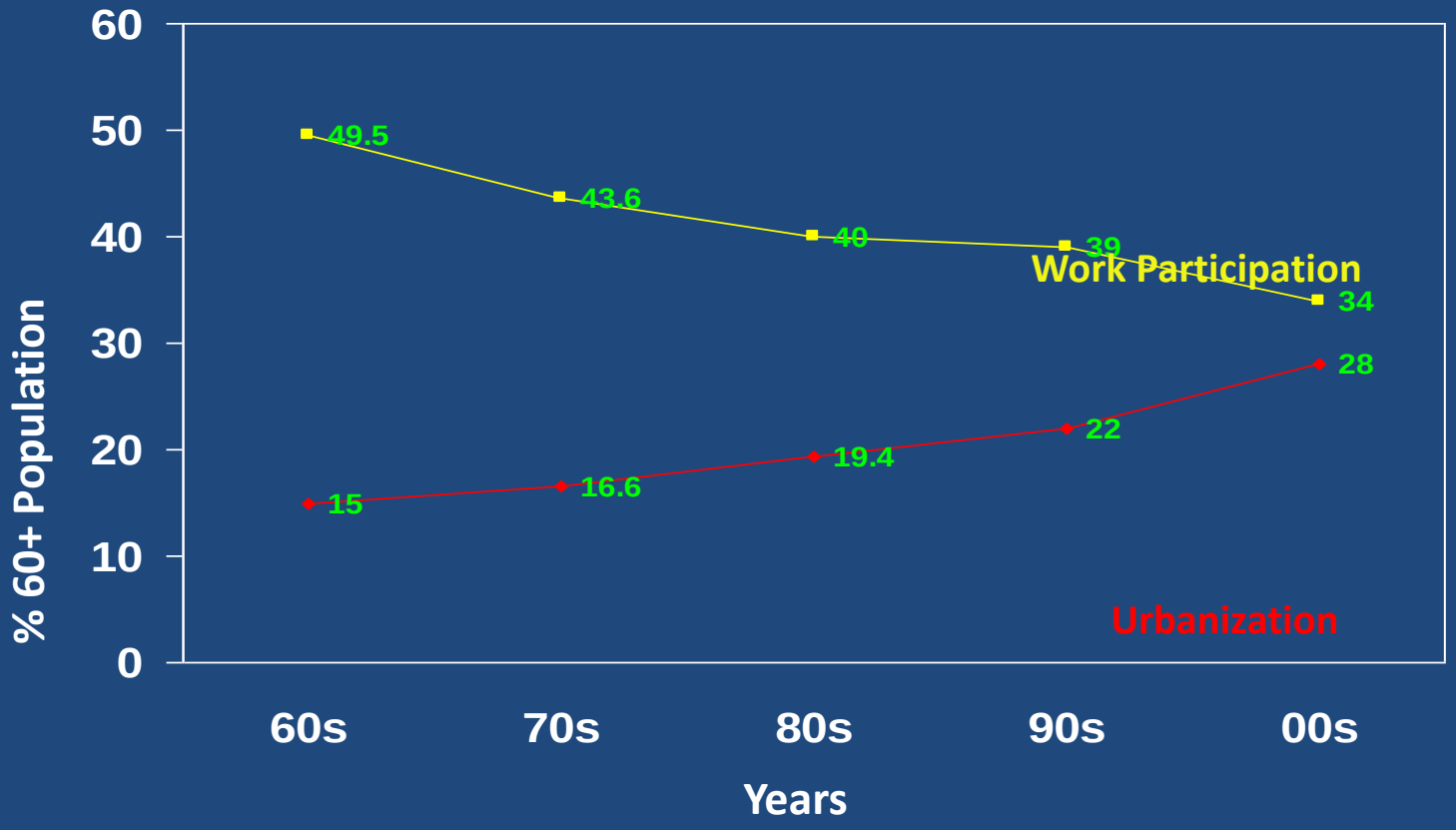
1. **Old age dependency will rise from 11.9 to 28.2 (2001-2051)**
2. **80+ persons are fastest growing segment of elderly**
3. **Old females will outnumber old males**

GREAT HETEROGENEITY OF OLDER PERSONS

Disraily's quote: Youth is a blunder, manhood is a struggle & old age is a regret---no longer valid

OPTIMISED	MARGINALIZED	VULNERABLE
• Fit, healthy	• Frail, disabled	• Women
• SE adequate	• SE deprived	• Migrants
• Care access	• Inaccessible	• Slum dwellers
• More males	• More females	• Mentally disable
• 60-75 age	• > 75 age	• Physically disabl

60+ POPULATION IN INDIA
URBANIZATION AND WORK PARTICIPATION



- Work participation decreased in rural and urban areas by 27% and 40%
- Rural participation is double of urban work work participation (1996)
- 70-75% of elderly engage in social, religious and house-hold activities

Source: Rajan: India's Elderly 1998; NSSO Survey 1998

NATIONAL PROGRAMMES AND SERVICES

- National Policy of Older Persons (NPOP)
- National Initiative on Care for Elderly (NICE)
- National Institute of Social Defence (NISD)
- Integrated Programme for the Elderly (NGOs)
- Welfare Schemes and Facilities for Elderly:
  - Ministries of Social Justice, Finance, Health, Law, Rural Development, Railways, Road Transport, Civil Aviation, Food & Public Distribution
- National Programme for Health Care of the Elderly
- National Institute on Aging (NIA): Two in the offing