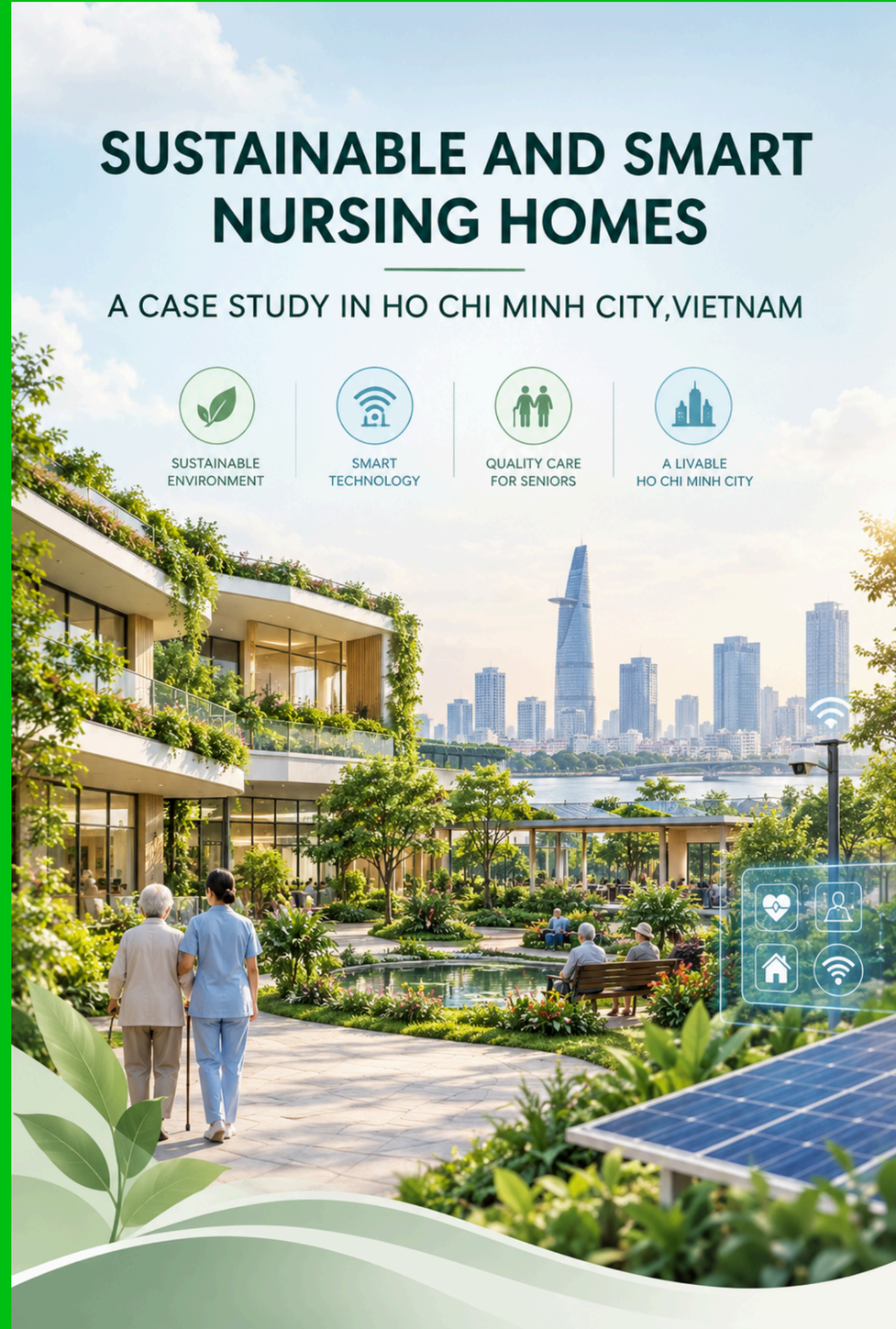
SUSTAINABLE AND SMART NURSING HOMES A CASE STUDY IN HO CHI MINH CITY,VIETNAM

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1. INTRODUCTION

HCMC is aging faster than its care infrastructure

65.2%

Aging index in 2024 Above Vietnam's national average of 60.18%

1.46M

Older adults in HCMC 10.49%–11.87% of municipal populati

MORE 243.5K

Net of elderly residents increase(2017–2024) Accelerating burden on health and welfare

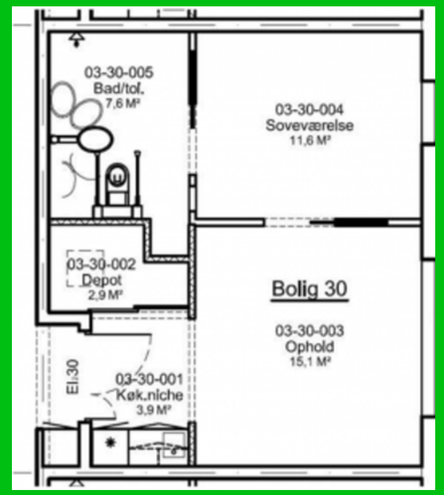
Source: Tuyết, T.T.M. and N. Cương, Sustainable development strategy in response to the aging population challenge in Vietnam. International Journal of Innovative Research and Scientific Studies, 2025.
https://news.tuoitre.vn/ho-chi-minh-city-faces-growing-challenges-from-rapidly-aging-population-10385724.htm

2. NURSING HOME MODELS IN THE WORLD

2.1 NURSING HOME OF THE FUTURE (AALBORG, DENMARK)



- **Technology Integration:** Features the Elsi Smart Floor system across 75 units for biometric monitoring and ambient assisted living.
- **High Tech-Adoption**: Danish elderly readily embrace user-centric solutions that tangibly elevate their quality of life.
- **Core Care Paradigm**: Focuses on empowerment, sustained autonomy, and maximizing independence.
- **Strategic Goal**: Municipalities deploy advanced assistive technologies for daily living (ADLs) to facilitate prolonged "aging in place."





Source:https://maricare.com/en/news/news/258-future-care-home-alborg-denmark-frontpage

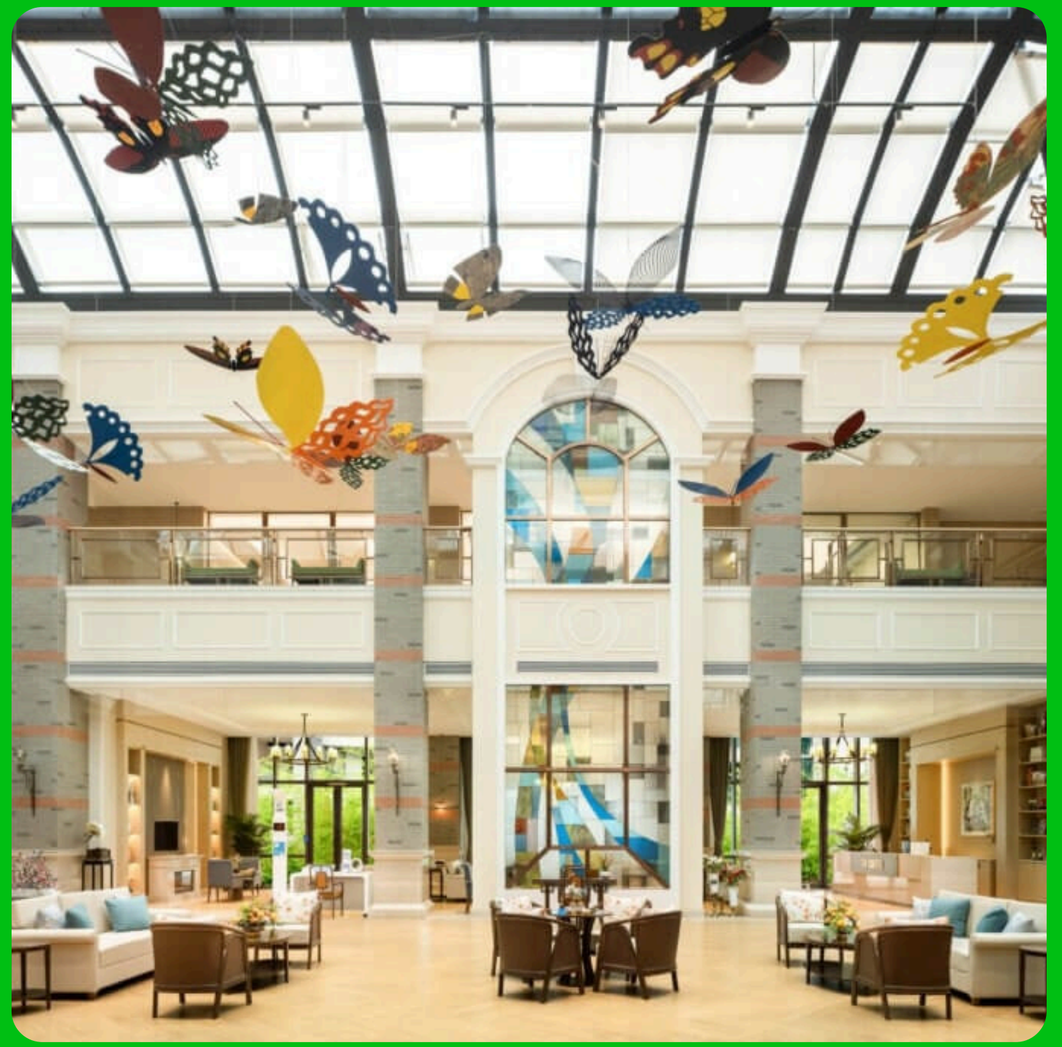
2. NURSING HOME MODELS IN THE WORLD

2.2 PREMIUM RESORT-STYLE RETIREMENT & CARE MODEL (SHANGHAI, CHINA)

- **Innovative Paradigm:** Transitions from traditional nursing homes to a high-end, resort-style complex, integrating residential, social, and medical functions.
- **Elderly-Centric Ergonomics:** Features rounded furniture edges, assistive seating depths, and a widespread emergency call network for optimal safety and accessibility.
- **Psychosocial Integration:** Designed as a "micro-neighborhood" with fitness, educational, retail, and dining facilities, utilizing glass architecture to maximize natural light and prevent social isolation.







Source:https://maricare.com/en/news/news/258-future-care-home-alborg-denmark-frontpage

3. CURRENT STATUS OF SMART TECHNOLOGY UTILIZATION & PREMIUM NURSING HOME MODELS IN HO CHI MINH CITY

3.1 VI HOANG ELDERLY CARE FACILITY: A PHILANTHROPIC PARADIGM (DISTRICT 12 ,HCMC)

- **Catholic Care Model:** Care for solitary elderly.
- **Humanitarian Living:** Secure, empathetic environment.
- **Resident Scope:** 100 individuals without family support.











Source:https://maitam.org/gioi-thieu-mai-am-vi-hoang/

3.2 AN NGOC NURSING HOME: MEDICAL-RESIDENTIAL CARE MODEL



Source: https://duonglaoanngoc.vn

- **Hospitality Standard:** 3-star equivalent hospitality with mindfulness and physiotherapy zones.
- **Humanitarian Living:** Integrated unit for screening, ongoing management, and direct clinical treatment
- **Geriatric Pathologies:** Targeted management for hypertension, diabetes mellitus, and musculoskeletal disorders.

3.3. BINH MY NURSING HOME SYSTEM: BIOPHILIC AND PERSON-CENTERED DESIGN

- **Strategic Dual-Location Model:** Balances serene suburban gardens (Cu Chi) with central urban accessibility (Go Vap) near transport hubs and hospitals.
- **Comprehensive Care Ecosystem:** Integrates specialized physical therapy, rehab centers, ICU units, climate-controlled rooms, and dedicated medical transit.
- **Contemporary Social Architecture:** Blends contemporary aesthetic layout with communal recreational areas designed to mitigate isolation and build social cohesion.



Source: https://duonglaobinhmy.com

4. CHALLENGES IN IMPLEMENTING SUSTAINABLE AND SMART NURSING HOME MODELS IN HO CHI MINH CITY

4.1 The Disruption of Traditional Kinship Models and Intergenerational Dynamics

~30% of Vietnam's elderly do not live with their adult children

(higher in Ho Chi Minh City)

Dual socio-cultural shifts

- Younger generation seeks autonomy and faces occupational stress
- Older adults seek independence to avoid intergenerational conflict

Risks of decentralization

- Physical endangerment
- Social isolation
- Higher health risks during acute illness



Within multi-generational households

- Conflicts due to limited space, different routines, diet and childcare styles
- Elderly feel marginalized and seen as a "burden"
- Loss of agency in family decisions → loneliness and poor mental health

4.2 Spatial Limitations and Built Environment Barriers for "Aging in Place"

While "Aging in Place" is widely supported, HCMC's current housing stock presents significant physical barriers:

Vernacular "Tube Houses"

- Narrow footprints, steep stairs
- Limits mobility, confines elderly to ground floor/bedroom

Dehumanizing Micro-Spaces

- Lack of balconies/loggias
- Less natural light & ventilation
- Higher respiratory risks

Ergonomic & Safety Deficits

- 70% lack grab bars
- 90% high-gloss, low-friction tiles
- Poor lighting, inaccessible switches, non-wheelchair doors

Architectural Segregation

- Long, dark corridors
- Discourages neighborly interaction

Deficit of Therapeutic Landscapes

- Green space ratio: only 0.5–1 m²/person
- Lack of walking paths, shaded seating, low-impact exercise areas

Ageist Urban Planning

- Focus on young (playgrounds, gyms, pools)
- Geriatric amenities are minimal or absent

4.3 Socioeconomic Vulnerability within the Informal Economy

A large segment of the elderly in HCMC still relies on precarious daily labor, operating outside the formal social safety net.

Main livelihood types

Street vending and lottery sales

- Low capital requirement
- Continuous walking in harsh weather
- Exposure to pollution and traffic risks

Intensive manual labor

- Security, domestic work, construction assistants, recyclable collectors
- No formal contracts or hazard insurance
- Age-based wage discrimination

Only **30% – 40%** of the elderly receive a monthly pension or formal social insurance.

60% – 70% remain without financial support, mainly in the informal sector.

Policy gap

- Retirement age: 60/62 years
- Universal pension eligibility: 75/80 years

→ **15–20 years** without formal pension.

HCMC's subsidy: 650,000 VND/month

(lowering the eligibility age to 75 and increasing the allowance)

Still symbolic compared to the high cost of living in the city.

4.4 Policy Lacunae in the Social Pension Framework

Current coverage



of the elderly receive a pension or social insurance.

60%–70% remain without support, mostly in the informal economy.

The structural policy gap

A **15–20 year gap** between the statutory retirement age (60/62) and universal pension eligibility (75/80).

→ Many must rely on precarious labor without formal pensions.

Nominal municipal subsidies

HCMC has lowered the eligibility age to 75 and increased the allowance to **650,000 VND/month**. However, this amount is only **symbolic** and cannot cover basic living expenses in the metropolis.

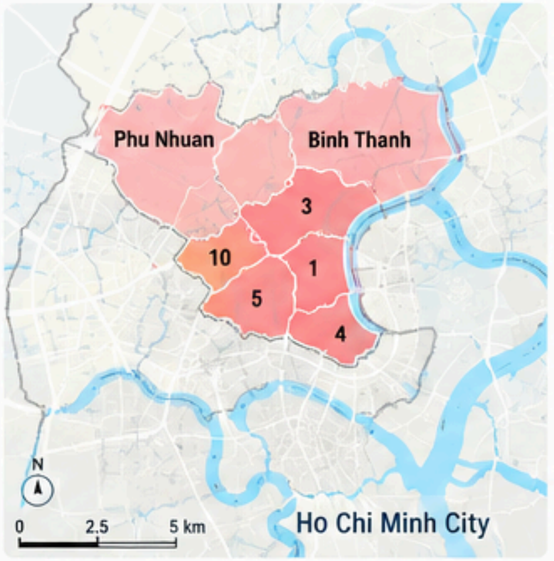
These challenges highlight the urgent need for integrated solutions including appropriate housing, healthcare, social protection and age-friendly urban policies.

5. PROPOSED FRAMEWORK FOR THE SMART NURSING HOME MODEL

5.1. ZONE 1: THE URBAN CORE – DECENTRALIZED "AGING IN PLACE" MICRO-HUBS



5.1.1 Geospatial Scope & Typology



Zone 1 – Urban Core (Selected districts)

- District 1
- District 3
- District 4
- District 5
- District 10
- Phu Nhuan
- Binh Thanh

Urban morphology:
Hyper-density,
land scarcity,
tube houses & narrow alleys,
premium real estate values.

Elderly demographic:
Strong place attachment and relies on neighborhood social capital.

5.1.2 Spatial Asset Repurposing

Use surplus public real estate
From administrative restructuring.
Ideal sites: structurally sound civic buildings > 200 m², with elevator retrofits and wheelchair-accessible fire egress.

Micro-service radius
300 – 500 meters
with upgraded pedestrian infrastructure.

Auction suboptimal plots
Proceeds go to the "Social Welfare Infrastructure Fund" to develop compliant care nodes.



5.1.3 Regulatory Framework

Time-limited concession
Municipalities use competitive bidding to allocate operational rights to vetted NGOs or social enterprises.

Subsidized leasing rates
In exchange for heavily subsidized leasing rates, operators must deliver affordable, KPI-driven care services.

KPI monitoring
Quality, accessibility, affordability and community impact.

5.1.4 Architectural Typology & Adaptive Reuse

Target structures

- Redundant ward-level administrative offices
- Police substations
- Cultural houses

Retrofitting interventions

- ✓ Preserve load-bearing framework
- ✓ Remove non-structural partitions to create open-plan communal zones
- ✓ Install grab bars and high-friction flooring in all sanitation facilities.



Before: Existing public building
(e.g., ward office / cultural house)



After: Adaptive reuse into a geriatric hub
(open, accessible, welcoming)



Typical Floor Plan (open-plan communal space)

- Communal area
- Dining area
- Activity room
- Health monitoring
- Sanitary (accessible)
- Circulation



Accessible design
(grab bars, non-slip flooring)

5.1.5 Programmatic Functionality

"Semi-Residential Geriatric Clubs"

Biometric monitoring
(health tracking & early detection)

Nutritional communal dining
(healthy and affordable meals)

Therapeutic activities
(cognitive games, Tai Chi, low-impact physiotherapy)

Occupational therapy & micro-income
(light artisanal crafting, local food processing partnerships)



Cognitive games



Tai Chi / Physiotherapy

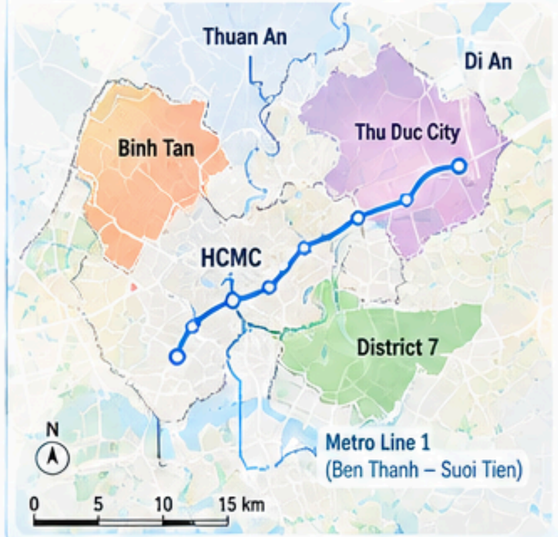


Crafting / Food processing

5.2. ZONE 2: EMERGING URBAN CENTERS – THE TRANSIT-ORIENTED "HUB AND SPOKE" MODEL



5.2.1 Geospatial Scope



Expansion vectors
(Thu Duc City, District 7, Binh Tan)

Adjacent satellite cities
(Thuan An, Di An)

Metro Line 1
(Ben Thanh – Suoi Tien)

Ho Chi Minh City boundary

Geospatial scope:
Eastern, Southern and Western expansion vectors and adjacent satellite cities.

5.2.2 Demographic & Infrastructural Profile

Young families & middle class
- High-density vertical living
- Strong demand for modern amenities and technology integration

Synchronized infrastructure
- Modern housing, services, utilities
- Connected urban environment

Care demand
- Linked to convenience, quality and digital solutions

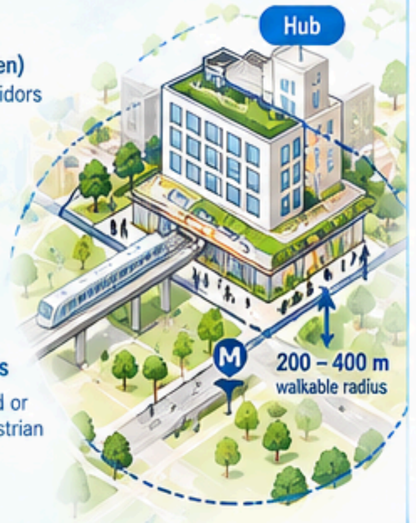

Modern urban living with transit connectivity

5.2.3 Transit-Oriented Placement

Along Metro Line 1
(Ben Thanh – Suoi Tien)
and future transit corridors

200 – 400 m
walkable radius from transit stations

Commercial podiums
with climate-controlled or grade-separated pedestrian links



5.2.4 Operational Workflow

1. Drop-off (Morning commute)
2. Triage & Health Check & Breakfast
3. Activities (Spoke Connections)
4. Pick-up (Evening)



Working families drop off elderly relatives.


Secure triage, preliminary health diagnostics and breakfast.


Electric buggies or safe walkways to parks or clinical facilities.


Family picks up at the end of the day.

5.2.5 Inclusion Criteria

Cognitive status
Intact or mild cognitive impairment (MCI)

Independence
Maintain ADLs

Stable health
Pharmacologically managed chronic conditions

Guardian requirement
Locally employed, guaranteed retrieval schedules, moderate financial capacity.

5.2.6 Economic Synergies

For Commercial Real Estate
- Mitigates off-peak underutilization (9:00 AM – 4:00 PM)
- Channels captive demographic to secondary consumption (dining, retail)
- Sustains TOD commercial vitality

For Healthcare Operators
- Early-stage customer acquisition
- Builds trust during ambulatory phase
- Creates seamless pipeline to 24/7 intensive care


Transit + Care + Commerce = Stronger Urban Ecosystems

5.2.7 Strategic Policy Enablers

Zoning mandates
Mixed-use TOD projects must allocate **at least 5%** of gross commercial floor area to social infrastructure (childcare, geriatric hubs, polyclinics)

Targeted corporate tax incentives
Applied exclusively to revenue generated from social care operations.

Transit fare support
Total subsidization of metro fares for the elderly, coupled with discounted transit passes for their designated caregivers.



5.3. ZONE 3: THE ECOLOGICAL GREENBELT – PREMIUM THERAPEUTIC AND RETIREMENT ENCLAVES



5.3.1 Geospatial Scope



Zone 3 – Ecological Greenbelt
(Selected districts)

Eastern periphery
(Ba Ria – Vung Tau province)

Key locations
(Xuyen Moc, Chau Duc)

Geospatial scope:
Eastern periphery extending into Ba Ria – Vung Tau province (e.g., Xuyen Moc, Chau Duc districts).

5.3.2 Topological Assets

Primary forest canopies
Clean air, rich biodiversity, peaceful environment.



Geothermal hot springs
Natural healing, wellness and relaxation.



Pristine coastal ecosystems
Clean beaches, marine life, scenic landscapes.



5.3.3 Spatial Configuration of the "Geriatric Resort"



Key components:

The Clinical Core
Advanced regenerative medicine and intensive rehabilitation center.

Residential Matrix
Low-rise, biophilic villas for long-term leasing.

Intergenerational Amenities
Family resort zones, play areas, macrobiotic gastronomy, mindfulness pavilions.

5.3.4 Stakeholder Value Proposition

For Developers / Investors



- Dual revenue stream: real estate sales + medical service fees.
- Stable, long-term occupancy reduces seasonal volatility.
- Clinical integration increases asset value.

High returns + Sustainable value

For Municipal Authorities



- Socializes high-end eldercare, freeing public resources for vulnerable groups.
- Monetizes natural assets into medical tourism.
- Attracts elite professionals, reducing brain drain.

Stronger communities + Local development

For End-Users



- Natural healing + 24/7 clinical care.
- Turns family visits into premium leisure retreats.
- Eliminates institutional stigma, strengthens kinship bonds.

Better health + Happier families

5.3.5 Strategic Policy Enablers

Immigration & Licensing

- Expedited immigration and licensing frameworks to attract expatriate medical specialists and gerontologists.

Tax Incentives

- Comprehensive corporate tax concessions across the entire complex.

Investors must prove that medical and care-related revenue is the predominant share of gross income (to prevent regulatory arbitrage).





Sustainable Environment

Smart Technology

Better Living

Happier Elderly

Thank You!

Together for a Sustainable and Smart
Future of Elderly Care in Ho Chi Minh City, Vietnam

