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# The Need for Community-Based Aging and Senior Care Innovation

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ANNE TUMLINSON  
INNOVATIONS

# The New Old Age

- The New Era of Longevity
  - Many More People Living with High Needs
- The Current System is Ill-Prepared
- Communities Drive Change



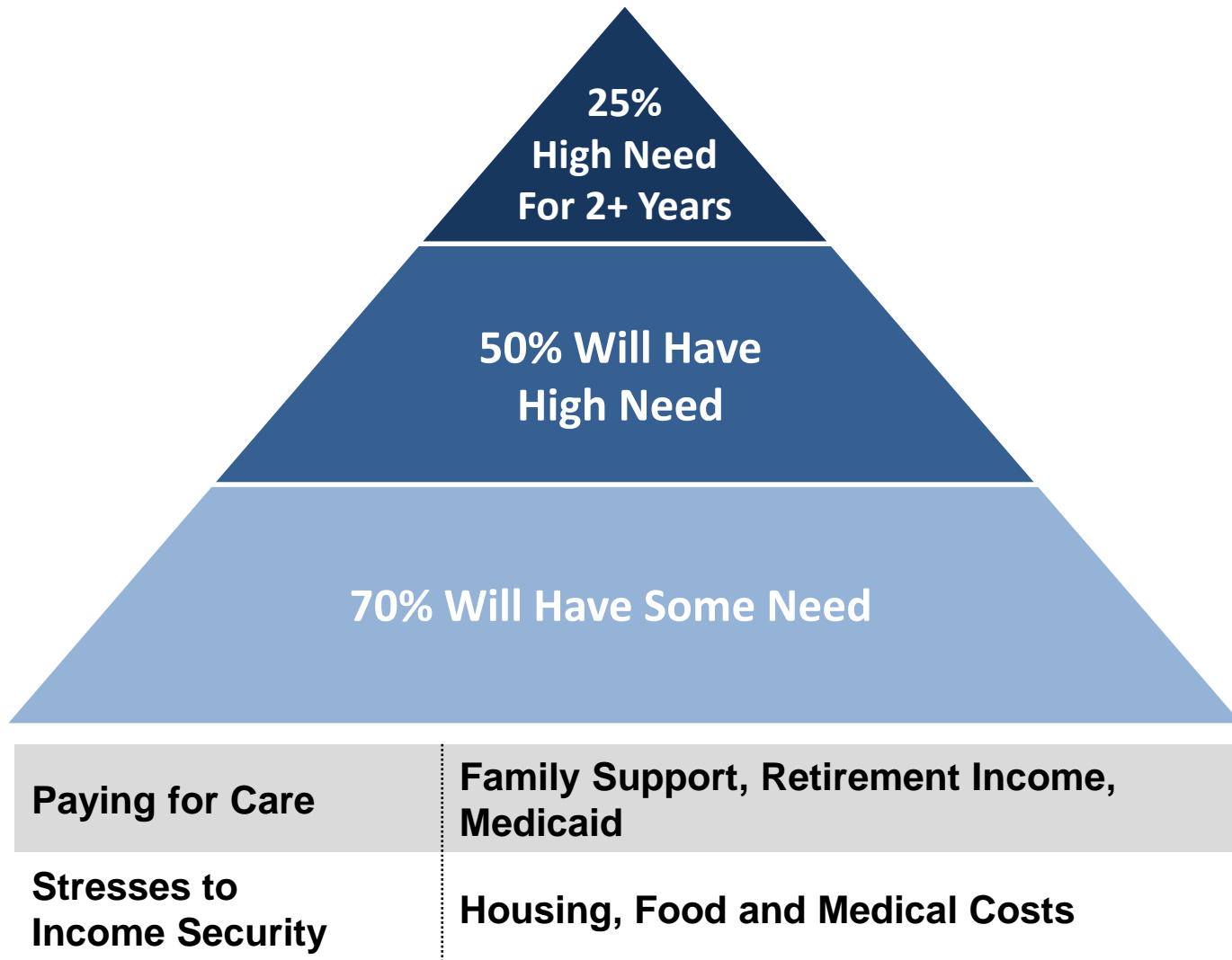
# Frailty in Old Age: A Risk We All Face



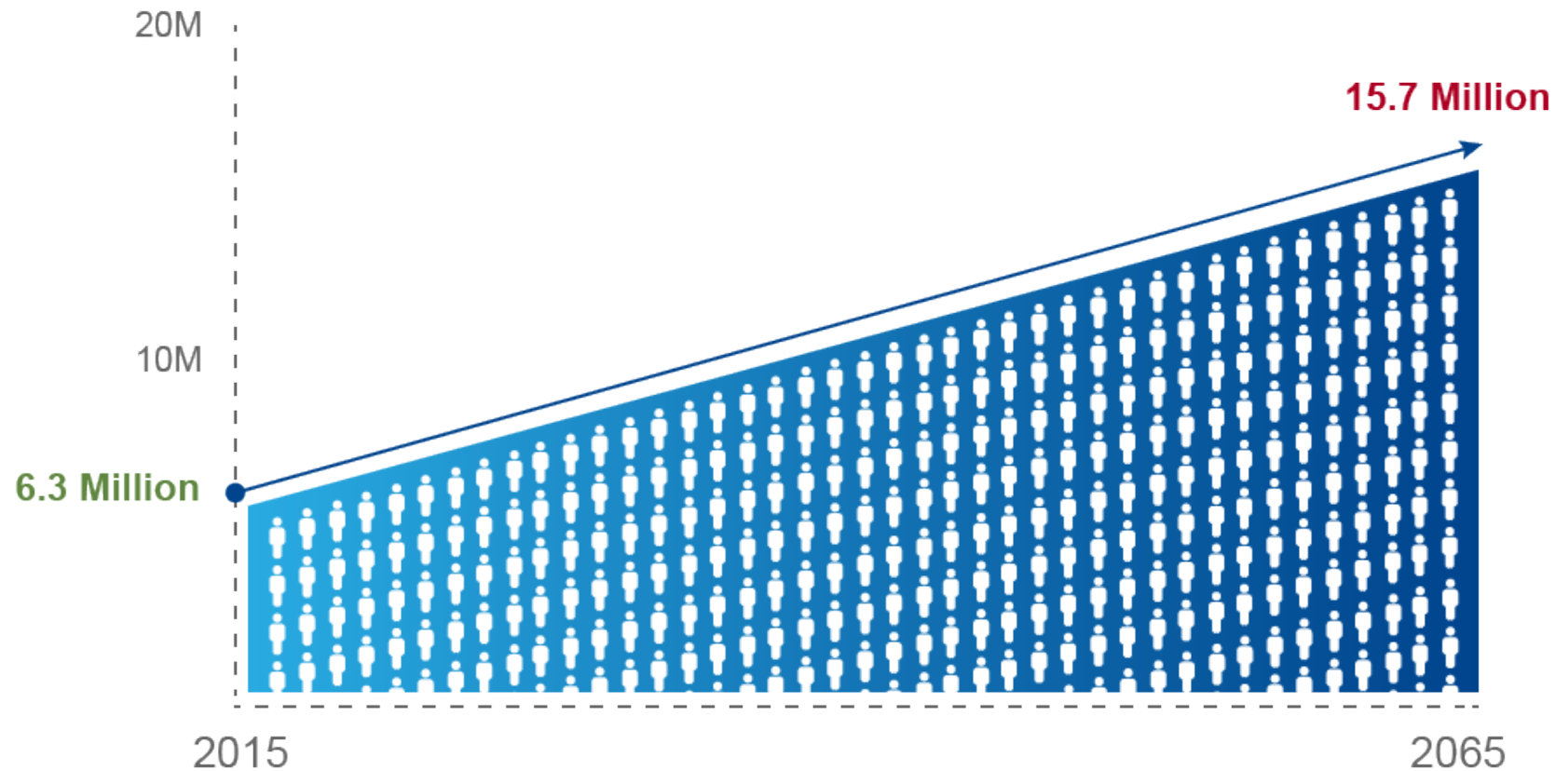
**Half of Adults Age 65+ Will Need a High Level of Care at Some Point**



# Lifetime Care Needs Vary



# High Need Older Adult Population Rising Fast



Favreault & Dey (2015), Figure 1



# Families Do Most of the Work Today



**Nearly 2/3**

of Older Adults with  
LTC Needs Living at  
Home Receive All  
Help from Unpaid  
Family and Friends

Note: Excludes individuals living in nursing homes  
**Table 4, Freedman and Spillman (2014)**



# Supporting Older Adults at Home

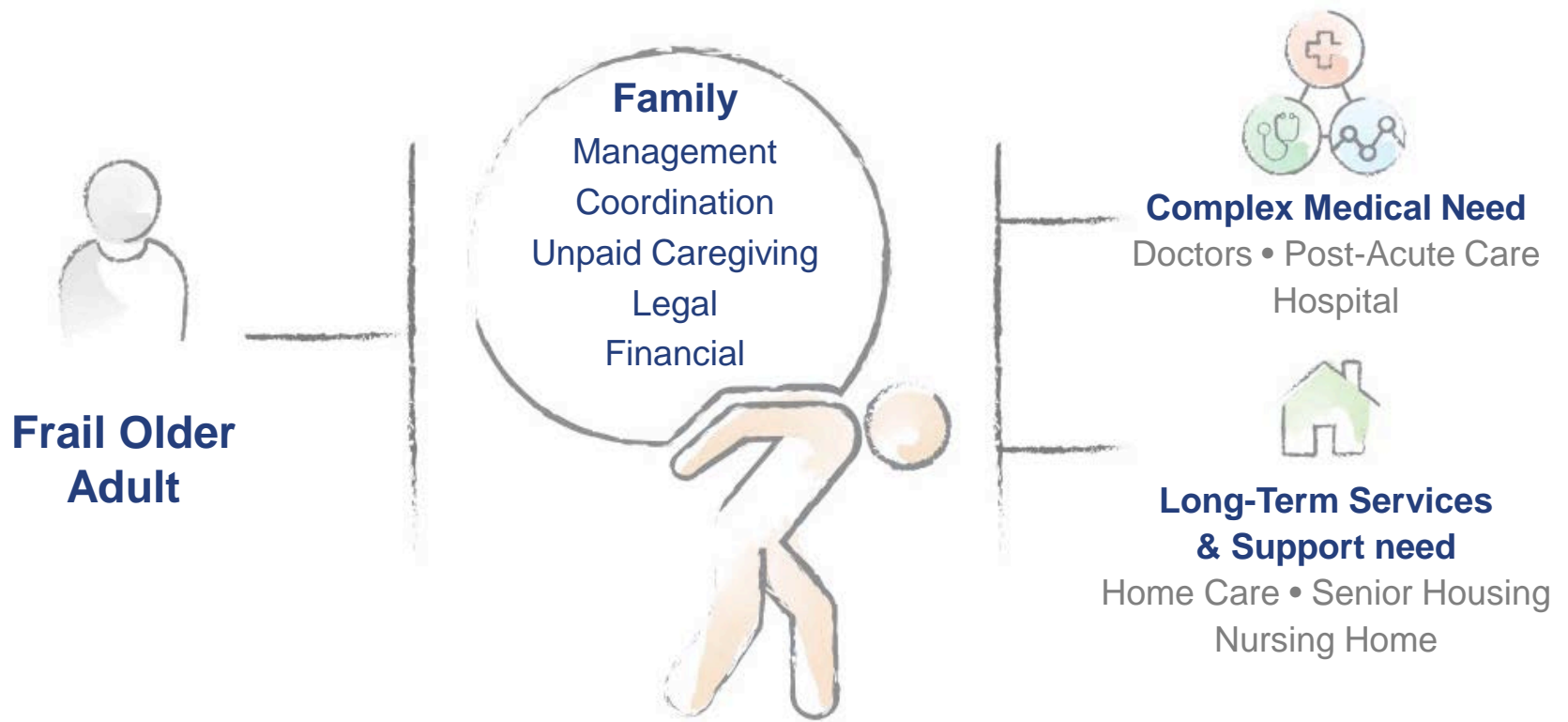


**3/4 Older  
Adults with  
Needs Live  
at Home**

Table 2, Freedman and Spillman (2014)

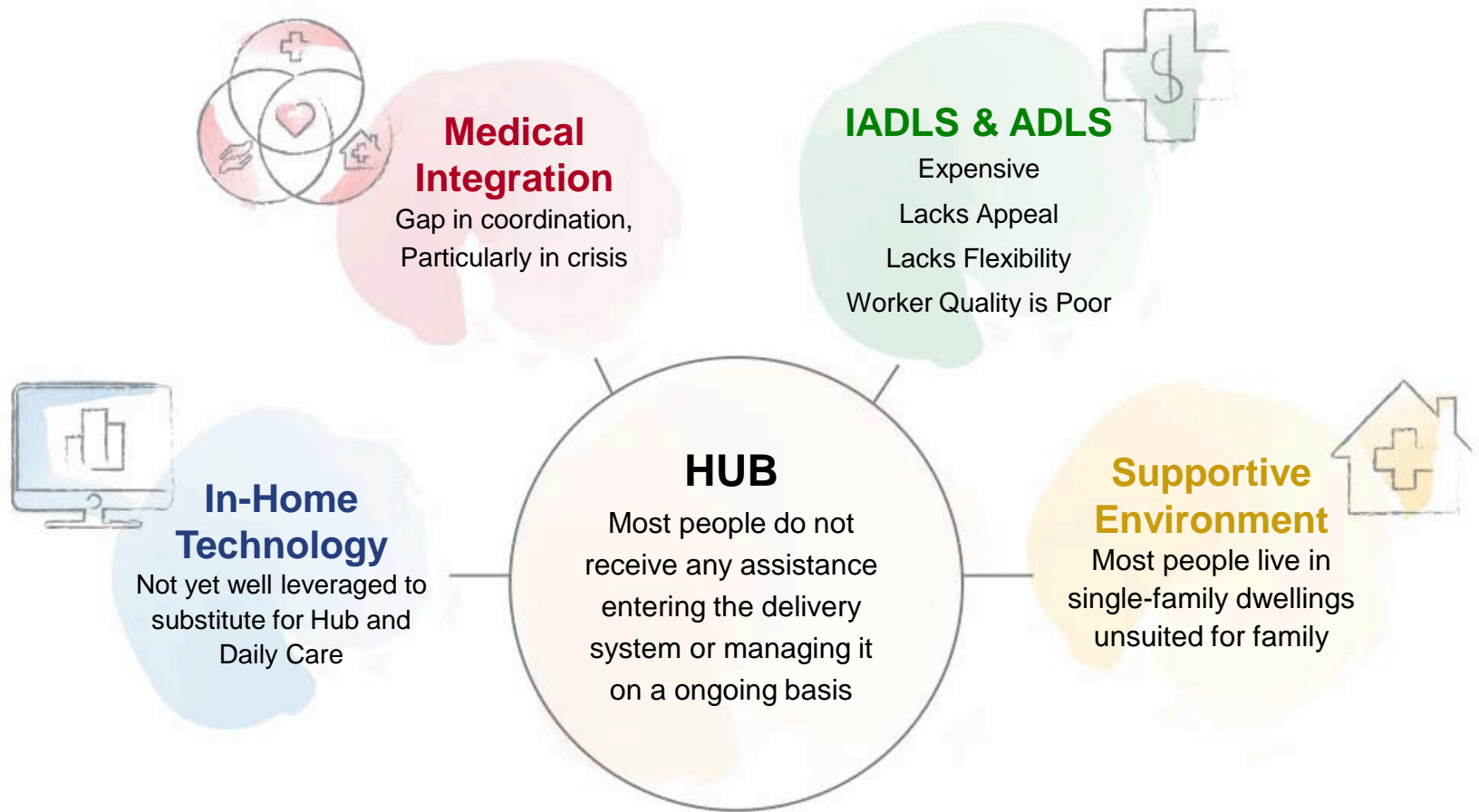


# But They are in Crisis

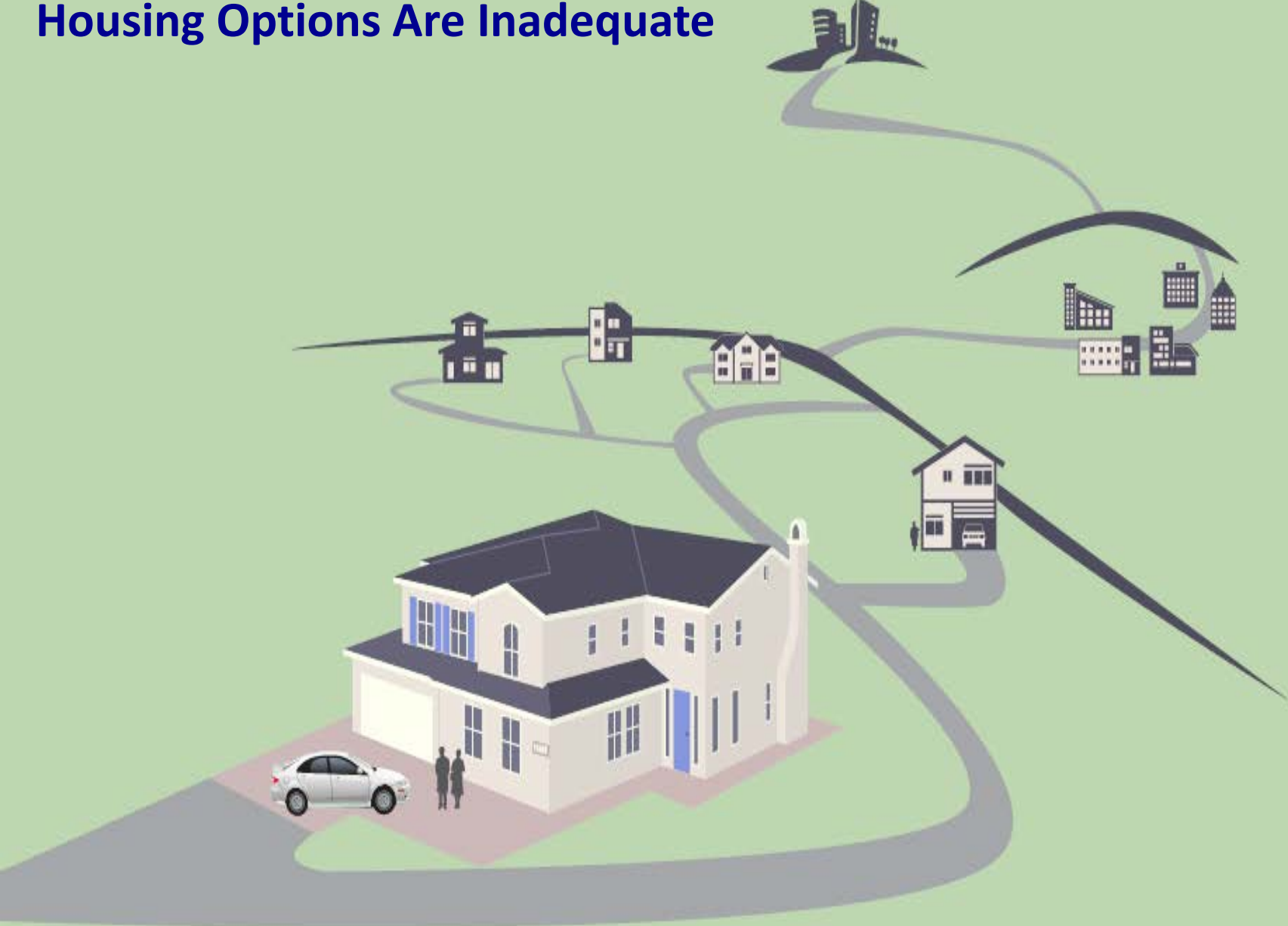




# Because of Disconnected Local Systems

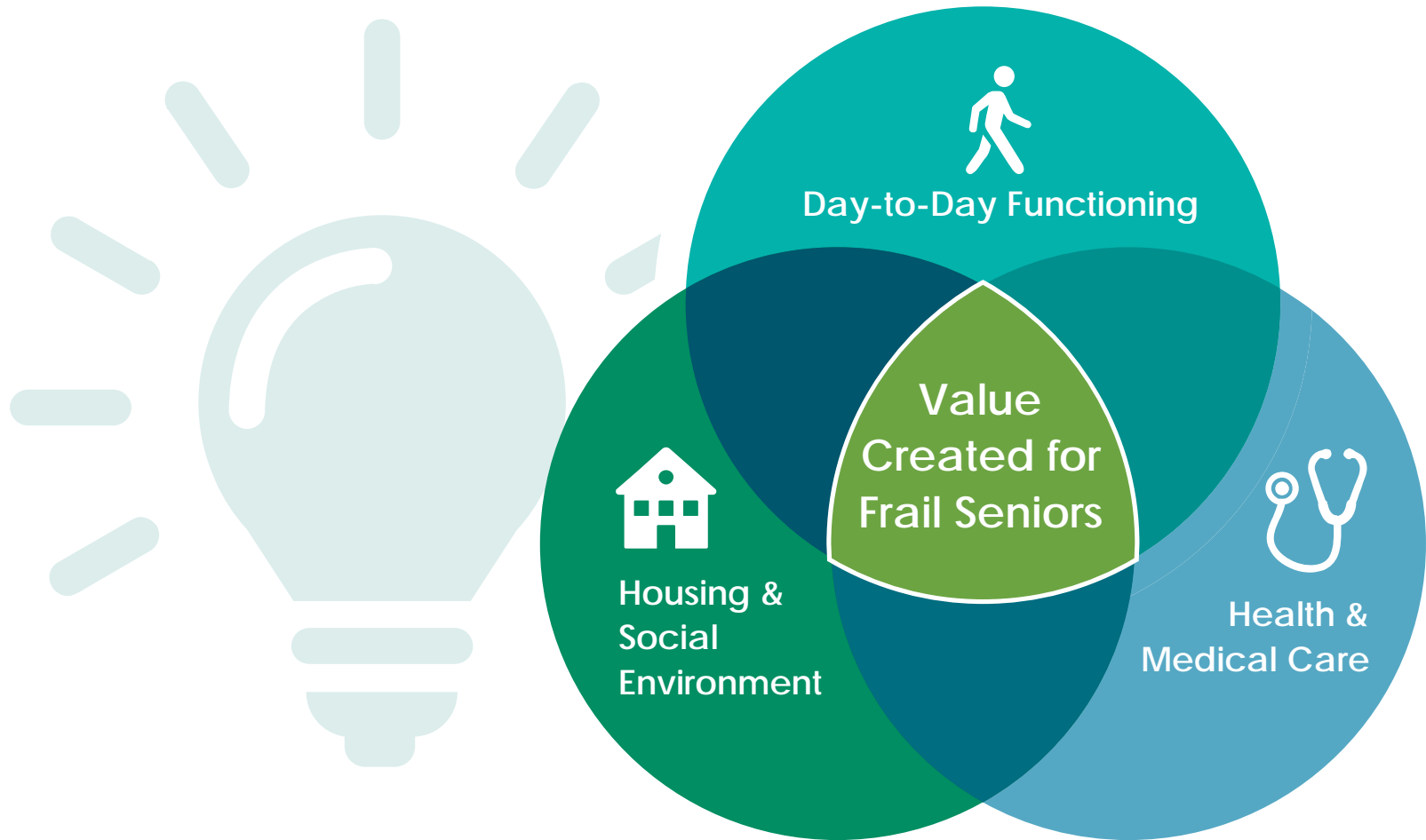


# Housing Options Are Inadequate





# We Need Holistic, Community-Based Solutions



# Case Study in Housing: The Stories



- New models are emerging that allow people to age in place
- Walkable mixed-use locations
- Integration of technology and delivery of on demand services
- Not necessarily seen as “senior” communities
  - May not be age-restricted

The Washington Post

Forbes

nextavenue<sup>SM</sup>  
where grown-ups keep growing



ANNE TUMLINSON INNOVATIONS

*Confidential & Proprietary*

# The Village Movement: Staying in your own home in the neighborhood you love

A non-profit, membership organization created and run by people 50 and over.

- One stop shopping: Offers everything and anything members want to enhance and make their lives easier
- Members are the driving force behind all actions the “Village’ takes.
- Strategic Partners are critical- Work with all resources



# Technological Solutions: Explosion of Health Care & Wellness Apps

FitBit  
(Fitness/Wellness)



iBGStar  
(Diabetes)



AliveCor  
(ECG)



Proteus  
Digital  
Health  
(Digital  
Pill)



*Yes, There's an App for That*



# Self-Driving Car Just in Time

## Arrival Expected in 2020

### Google unveils self-driving car

Google has begun building a fleet of experimental electric-powered cars that will have a stop-go button but no controls, steering wheel or pedals.

Google claims that the two-seater vehicle will revolutionise transport by making roads safer, and decrease congestion and pollution

#### 1 GPS receiver

Matches position with customised version of Google's road maps

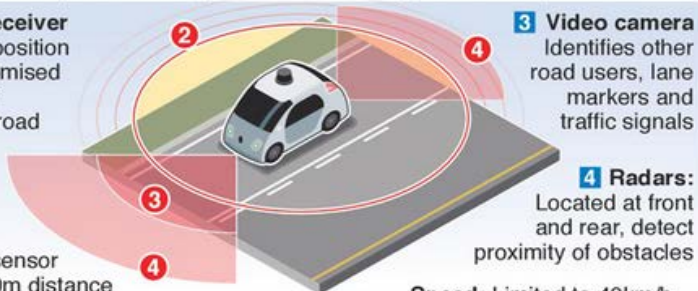
#### 2 Laser range finder:

Rotating sensor scans 180m distance through 360° to generate 3D map of surroundings

**Windscreen:** Flexible plastic designed to reduce injuries

**Front:** Foam-like material minimises impact in case of crash

Car would be summoned with smartphone application



#### 3 Video camera

Identifies other road users, lane markers and traffic signals

#### 4 Radars:

Located at front and rear, detect proximity of obstacles

**Speed:** Limited to 40km/h to help ensure safety

**Engine:** 160km-range electric motor – equivalent to one used by Fiat's 500e

Inertial motion sensors determine velocity and direction



Source and Picture: Google

### Under the bonnet

How a self-driving car works

Signals from **GPS (global positioning system)** satellites are combined with readings from tachometers, altimeters and gyroscopes to provide more accurate positioning than is possible with GPS alone

**Lidar (light detection and ranging)** sensors bounce pulses of light off the surroundings. These are analysed to identify lane markings and the edges of roads

**Video cameras** detect traffic lights, read road signs, keep track of the position of other vehicles and look out for pedestrians and obstacles on the road

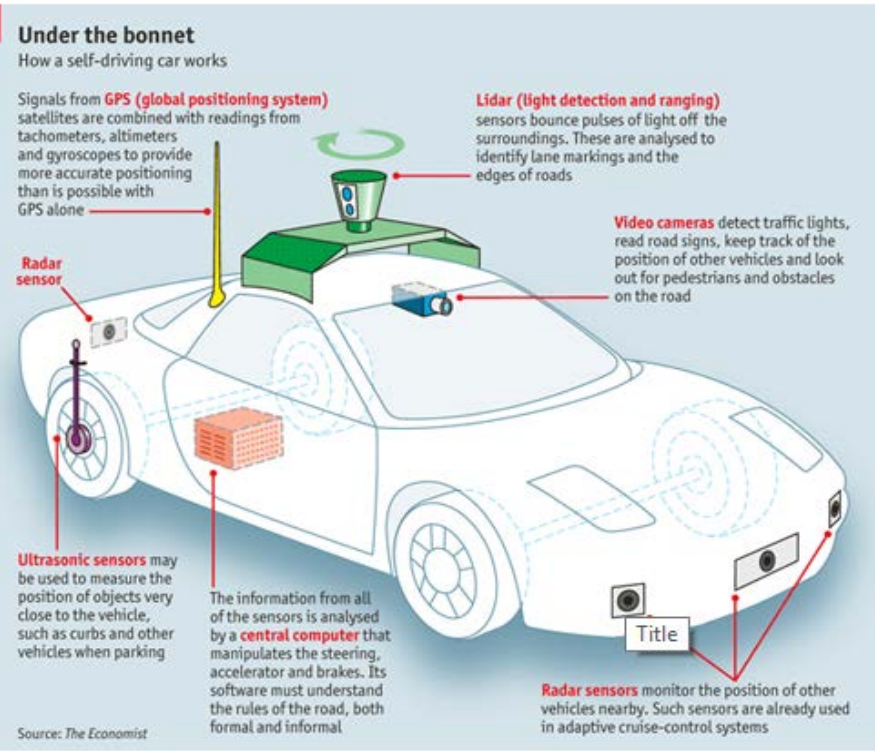
**Radar sensor**

**Ultrasonic sensors** may be used to measure the position of objects very close to the vehicle, such as curbs and other vehicles when parking

The information from all of the sensors is analysed by a **central computer** that manipulates the steering, accelerator and brakes. Its software must understand the rules of the road, both formal and informal

**Radar sensors** monitor the position of other vehicles nearby. Such sensors are already used in adaptive cruise-control systems

Source: The Economist



<https://www.google.com/url?sa=i&rc=j&q=&esrc=s&source=images&cd=&ved=0CAQqjBw&>





# Can The Internet Address Malnutrition?

## At-Home Eating: The Race To Convenience



Source: TechCrunch 7/11/15 - "The Billion Dollar Food Delivery Wars"



# Laughterhood

## Circles

