



VSSTF Quarterly Meeting

April 22, 2022

Agenda



VSSTF Business

Pankaja Ramakrishnan, MD

Chad Aldridge, PT,DPT, MS-CR, NCS



Stroke Ethics

John Gaughen, MD, Neurointerventional
Surgeon



Public Policy Approaches to Reduce Disability for Stroke in Virginia

Haydon Pitchford

Lunch



Post-acute Stroke Care

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Objectives

- Disability numbers
- Post-acute levels of care for patients
 - Inpatient Rehab Facilities (IRF)
 - Skilled Nursing Facilities (SNF)
- Post-acute transition to home

Why it matters to me...



2022 AHA Statistics

- In 2019, stroke accounted for 1 of every 19 deaths in the US.⁽¹⁾
- Someone dies of a stroke every 3 min 30 sec. ⁽¹⁾
- When considered separately from other cardiovascular disease, stroke ranks #5 among all causes of death in the US. ⁽¹⁾
- In 2019, there was a 6.6% decrease in age adjusted stroke death rate. The actual number of stroke deaths increased by 16.4%. ⁽¹⁾
- Stroke was a leading cause of serious long-term disability in the US. Approximately 3% of males and 2% of females. ⁽¹⁾

Global Burden of Stroke

- Disability-adjusted life year (DALY) is a measure of overall disease burden, expressed as the number of years lost due to ill-health, disability or early death.
- In comparison to other causes of DALYs in the world, stroke was
 - The second largest contributor after ischemic heart disease globally and in developing countries⁽²⁾
 - The third largest contributor to DALYs in developed countries⁽²⁾

Global Burden of Stroke

- Evidence that specialized stroke rehabilitation reduces long-term disability and stroke-related costs exists for different countries and health care systems, including Switzerland, the United Kingdom, and Japan.⁽²⁾
- Cost effectiveness depends on the severity of disability: patients with moderate disability benefit more than those with mild or severe stroke disability.⁽²⁾

Top 10 causes of DALY in United States of America for both sexes aged **all ages** (2019)

[Hide filters](#) | [Top-10 deaths](#) | [Top-10 DALYs](#) | [Underlying data](#) | [Download with OData API](#)

Filters

Country

United States of America

Year

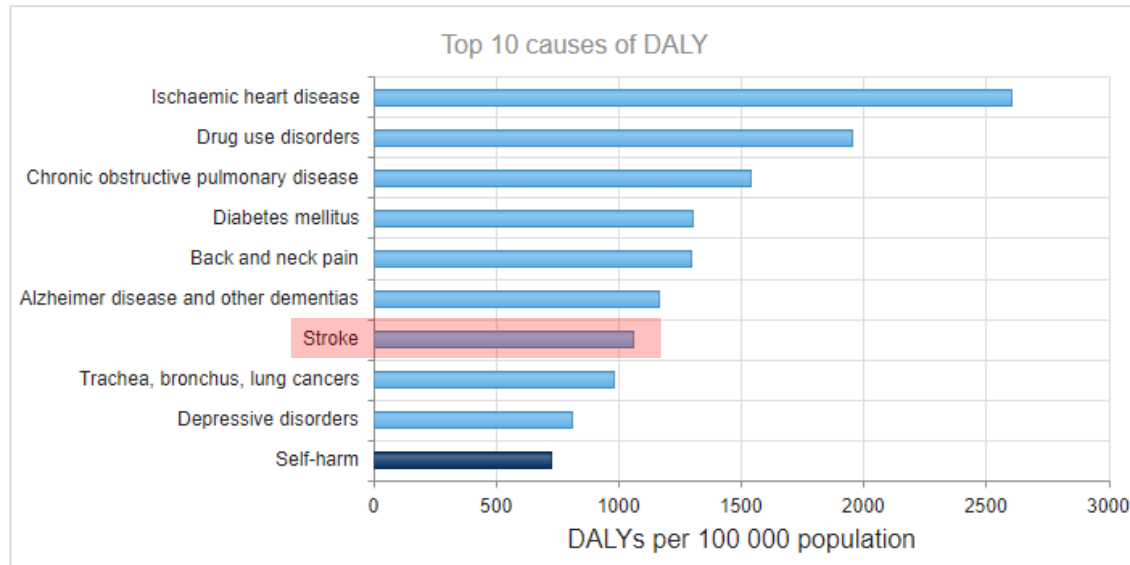
2019 ▾

Sex

Both sexes ▾

Age group

All ages ▾



■ Communicable, maternal, perinatal and nutritional conditions

■ Non-communicable diseases

■ Injuries

Top 10 causes of DALY in United States of America for both sexes aged 50 to 54 years (2019)

[Hide filters](#) |
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 [Top-10 DALYs](#) |
 [Underlying data](#) |
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Filters

Country

United States of America

Year

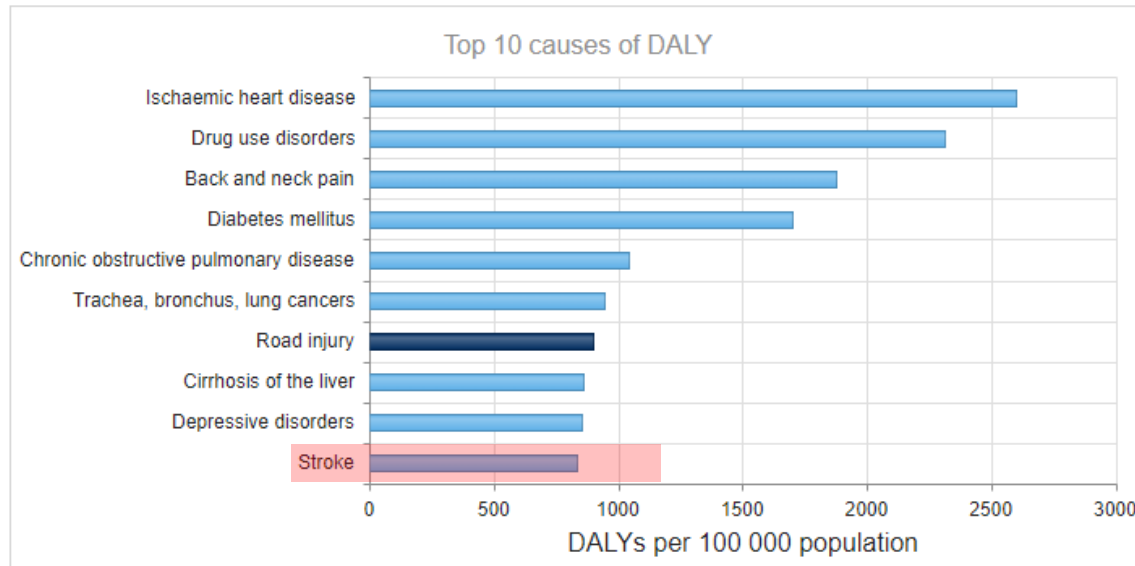
2019

Sex

Both sexes

Age group

50 to 54 years



- Communicable, maternal, perinatal and nutritional conditions
- Non-communicable diseases
- Injuries

Top 10 causes of DALY in United States of America for both sexes aged 55 to 59 years (2019)

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 [Top-10 DALYs](#) |
 [Underlying data](#) |
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Filters

Country

United States of America

Year

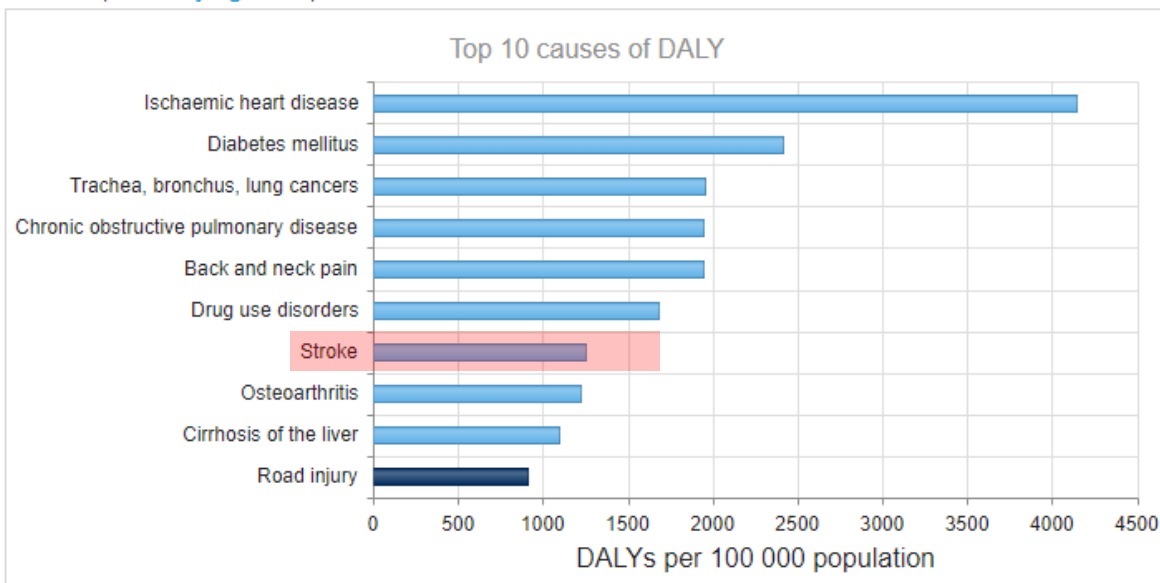
2019

Sex

Both sexes

Age group

55 to 59 years



■ Communicable, maternal, perinatal and nutritional conditions

■ Non-communicable diseases

■ Injuries

Top 10 causes of DALY in United States of America for both sexes aged 60 to 64 years (2019)

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Filters

Country

United States of America

Year

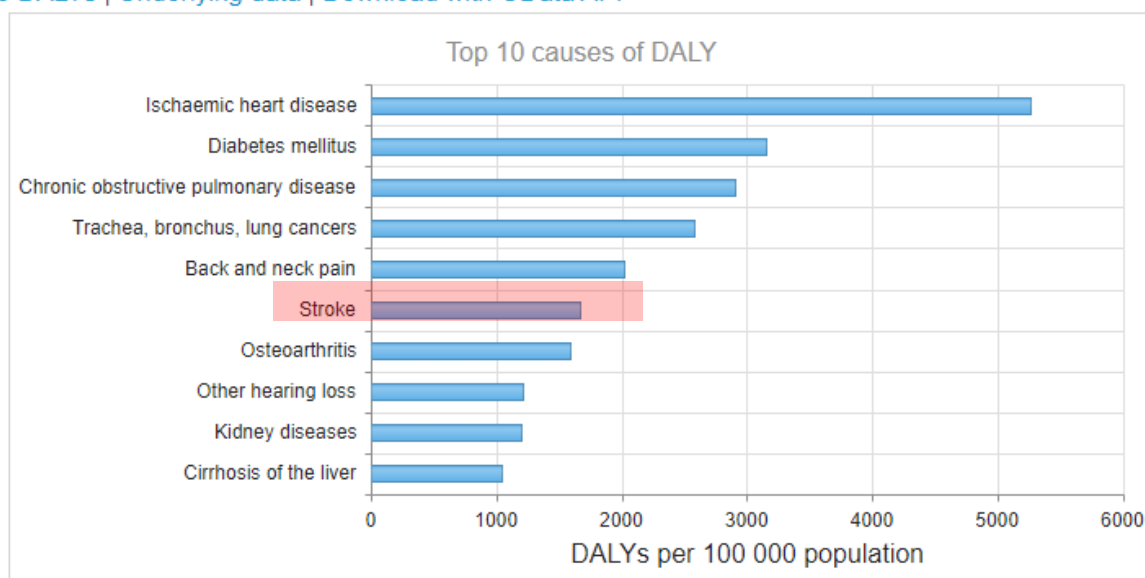
2019 ▾

Sex

Both sexes ▾

Age group

60 to 64 years ▾



■ Communicable, maternal, perinatal and nutritional conditions

■ Non-communicable diseases

■ Injuries

Top 10 causes of DALY in United States of America for both sexes aged 65 to 69 years (2019)

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 [Top-10 DALYs](#) |
 [Underlying data](#) |
 [Download with OData API](#)

Filters

Country

United States of America

Year

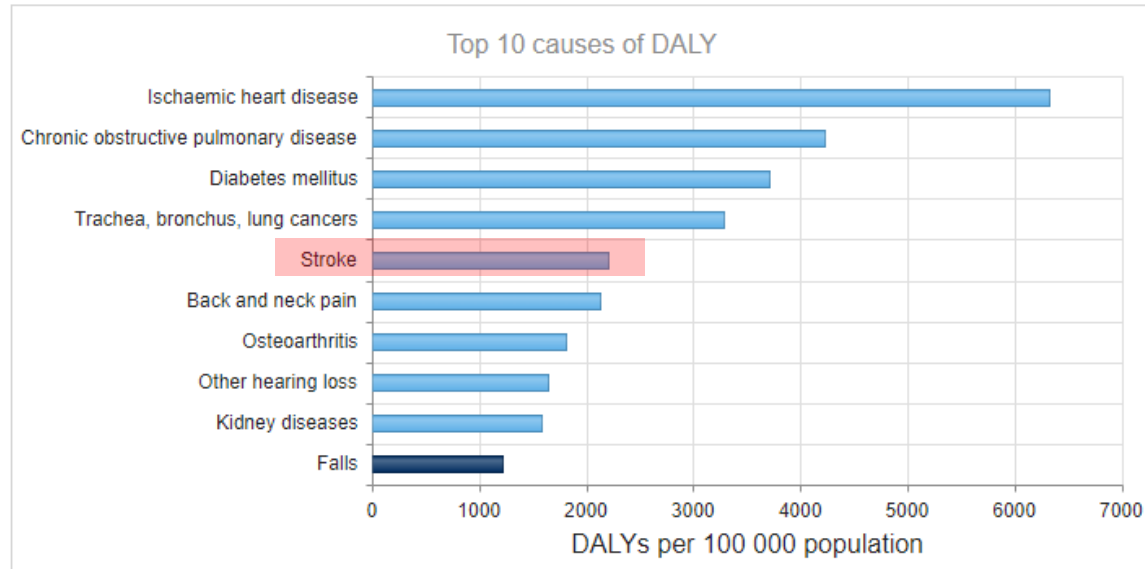
2019

Sex

Both sexes

Age group

65 to 69 years



- Communicable, maternal, perinatal and nutritional conditions
- Non-communicable diseases
- Injuries

Top 10 causes of DALY in United States of America for both sexes aged 70 to 74 years (2019)

[Hide filters](#) | [Top-10 deaths](#) | [Top-10 DALYs](#) | [Underlying data](#) | [Download with OData API](#)

Filters

Country

United States of America

Year

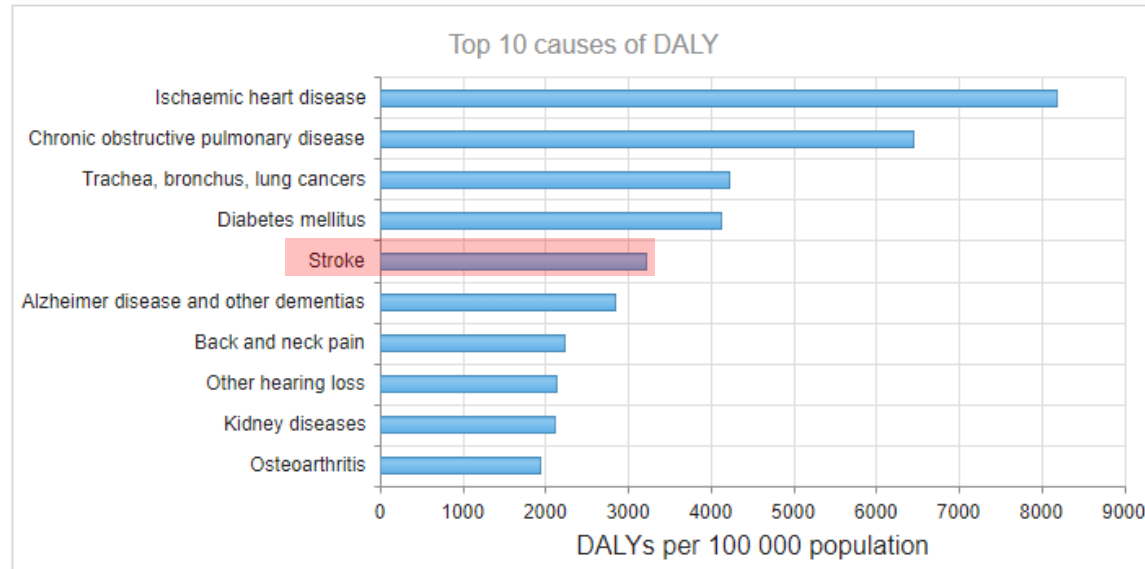
2019 ▾

Sex

Both sexes ▾

Age group

70 to 74 years ▾



■ Communicable, maternal, perinatal and nutritional conditions

■ Non-communicable diseases

■ Injuries

Top 10 causes of DALY in United States of America for both sexes aged 75 to 79 years (2019)

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Filters

Country

United States of America

Year

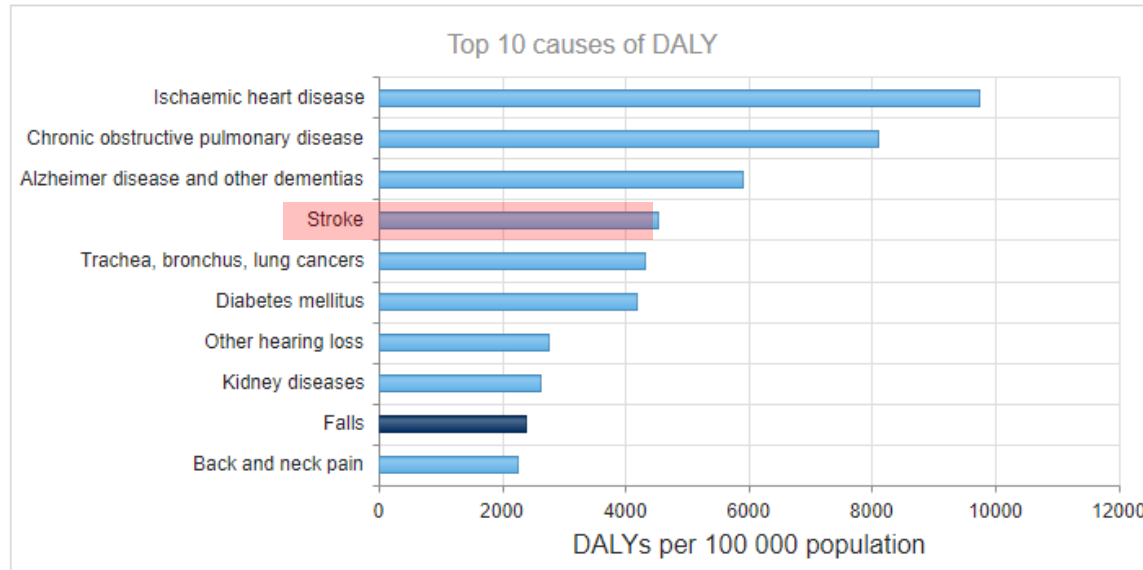
2019 ▾

Sex

Both sexes ▾

Age group

75 to 79 years ▾



■ Communicable, maternal, perinatal and nutritional conditions

■ Non-communicable diseases

■ Injuries

Top 10 causes of DALY in United States of America for both sexes aged 80 to 84 years (2019)

[Hide filters](#) | [Top-10 deaths](#) | [Top-10 DALYs](#) | [Underlying data](#) | [Download with OData API](#)

Filters

Country

United States of America

Year

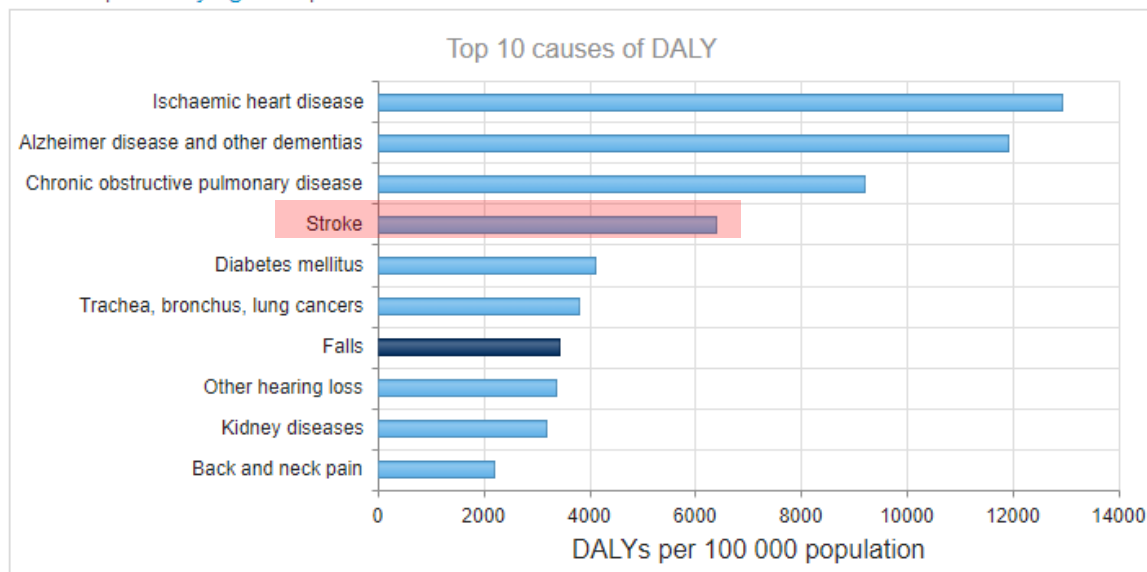
2019 ▾

Sex

Both sexes ▾

Age group

80 to 84 years ▾



■ Communicable, maternal, perinatal and nutritional conditions

■ Non-communicable diseases

■ Injuries

Top 10 causes of DALY in United States of America for both sexes aged 85 years and above (2019)

[Hide filters](#) |
 [Top-10 deaths](#) |
 [Top-10 DALYs](#) |
 [Underlying data](#) |
 [Download with OData API](#)

Filters

Country

United States of America

Year

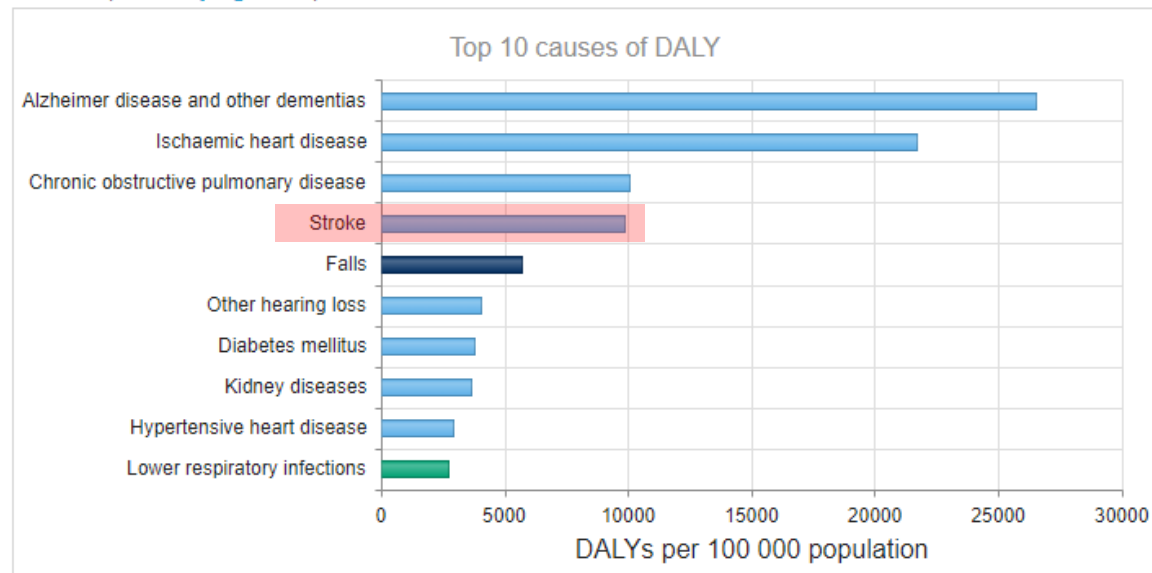
2019

Sex

Both sexes

Age group

85 years and above



- Communicable, maternal, perinatal and nutritional conditions
- Non-communicable diseases
- Injuries

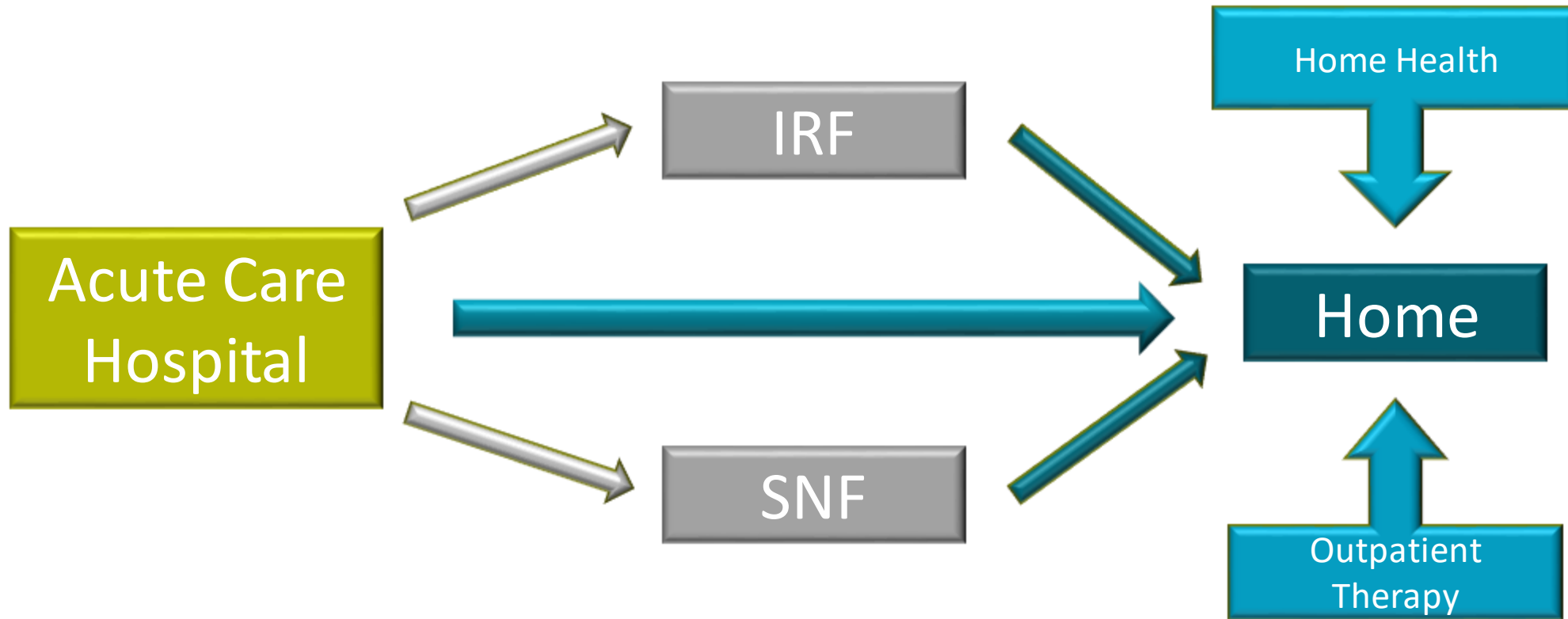
Specialized Stroke Rehabilitation

- IRF patients that were more likely to have a community-based discharge, compared with rehabilitation SNF patients, were patients with mild motor disabilities and FIM cognitive ratings of 23 or greater, patients with moderate motor disabilities, patients with significant motor disabilities and patients younger than 82 with severe motor disabilities.⁽³⁾
- IRF patients with significant and severe motor disabilities achieved greater motor function of 2 or more FIM units compared with rehabilitation SNF patients.⁽³⁾
- Medicare Part A payments for IRFs were higher than rehabilitation SNF payments across all subgroups.⁽³⁾

Discharge After Acute Hospital



Discharge After Acute Hospital



Inpatient Rehab Facility Vs Skilled Nursing Facility



Risk Factors for Disability⁽⁴⁾

- Minimal motor recovery at 4 weeks
- Decreased level of consciousness
- Diabetes mellitus
- Cardiac disease
- EKG abnormalities
- Old age
- Delay in rehabilitation
- Impaired cognition
- Bilateral lesions
- Previous stroke
- Previous functional disability
- Poor sitting balance
- Global aphasia
- Severe neglect
- Sensory and visual deficits
- Incontinence > 1-2 weeks

Inpatient Rehab Facility (IRF) Qualifying Criteria

Nursing: 24/7 nursing care

Therapy:

- Requires at least 2 disciplines (PT, OT, SLP, Prosthetic/Orthotic)
 - 1 of the disciplines must be PT or OT
- Patient can tolerate 3 hours of therapy, five days per week
 - Exception: 15 hours in 7-day period
 - Requires proper documentation to justify this
 - Examples: Dialysis, chemotherapy

Physician:

- At least three evaluations in 7-day period
 - History and Physical (H/P) or Post-admission Physician Evaluation (PAPE) does not count
- Physician with rehab training
 - Psychiatrist or Neurologist with rehab fellowship
 - NP's and PA's do not meet requirement

Admission Process for IRF's Takes Time...

- Pre-admission screen (PAS)
 - Must be done 48 hours prior to admission by a licensed or certified clinician with the understanding of rehabilitation (NP, PT, OT, SLP)
 - A rehabilitation physician consultation note may serve as the PAS as long as it contains the required information⁽¹⁾
 - Must be signed by a rehabilitation physician prior to admission to IRF
 - Cannot be signed by PA's or NP's

Medicare vs Other

Medicare	Private, Medicaid, Medicare Secondary
Does not require approval*	Requires authorization
Capitated payment**	Fee for service
Pre-determined LOS based on functional level and diagnosis/comorbidities	Week to week LOS based on continued medical necessity and ongoing functional improvements

*Medicare is considering requiring pre-approval for admission to IRF

**Medicare may deny payment after discharge (ex. No PAS, PAS older than 48 hours, acute hospital discharge summary recommending SNF discharge, etc.)

Skilled Nursing Facility

- Nursing
 - Care provided 24/7
 - A Registered Nurse (RN) must be on duty at least one 8-hour shift of every day, 7 days a week⁽⁵⁾
- Therapy
 - PT, OT, and SLP must be available
 - No requirements of duration or frequency
- Physician Care⁽⁵⁾
 - In a Medicare certified nursing facility, physician visits are required:
 - Upon admission, no later than 48 hours
 - Every 30 days thereafter

Home Health

- Patient cannot leave home except for
 - Medical appointments
 - Church
 - Hair appointments...
- Available services include PT, OT, SLP, Nursing
- Wait time for initiation of services varies and depends on agency's availability
- Frequency and duration of services depends on insurance

Current Challenges

- Decreasing LOS approved for IRF
 - Max LOS for a severe stroke, dependent for all ADLS/IADLS is on average 23 days...
- Decrease intensity of therapy after discharge from post-acute care setting
 - IRF >900 min/week
 - SNF <<450 min/week
 - HH <270 min/week
- Delay in initiation of therapies after discharge
- Unavailability of therapy disciplines

Success Story

- Mrs. C is a 57 y/o female with PMH of obesity
- Day 1: Presents to outside ED with generalized weakness and slurred speech. CTA negative. Transferred to LGH (TJC Stroke Center)
- Day 2:
 - MRI: ischemic stroke involving bilateral pons region
 - Echocardiogram: Cardiomyopathy with diffuse hypokinesis and LVEF of 30-35%
- Day 5:
 - Code stroke initiated due to worsening weakness
 - CT negative for acute process

First Day of Rehab

- Day 6:
 - Admitted to Acute Rehab (TJC Stroke Rehab Certified)
 - Self care
 - Dependent for Toileting, bathing, upper and lower body dressing, donning foot ware
 - Self-care admission score 10
 - Mobility
 - Dependent for all bed mobility: rolling in bed, sit to lying, lying to sit edge of bed.
 - Dependent for transfer bed to chair with ceiling lift
 - Sit to stand, toilet transfer, walking not attempted due to safety
 - Swallowing
 - Level 3 solids with nectar thick liquids

Last Day of Rehab

- Day 54
 - Self care
 - Independent for eating, oral hygiene, toileting
 - Set up/clean-up for showering, upper and lower body dressing, donning foot ware
 - Discharge mobility score 38
 - Mobility
 - Independent for rolling in bed, sit to laying, laying to sit edge of bed, sit to stand, bed to chair transfer, toilet transfer
 - Supervision for walking 150 ft and doing stairs (12 steps)
 - Left AFO and rolling walker
 - Discharge mobility score 72
 - Swallowing
 - Regular solids with thin liquids





Take a way point!

- Be pro-active on your patient's discharge destination.
- Pick your battles
 - Severe disability
 - Previously independent and highly functional
 - Young age
- Peer-to-peer
 - Enjoy them... they are like a good boxing match
 - Use financial arguments: cost of readmission due to injury related to disability (hip fx, head trauma, etc.)

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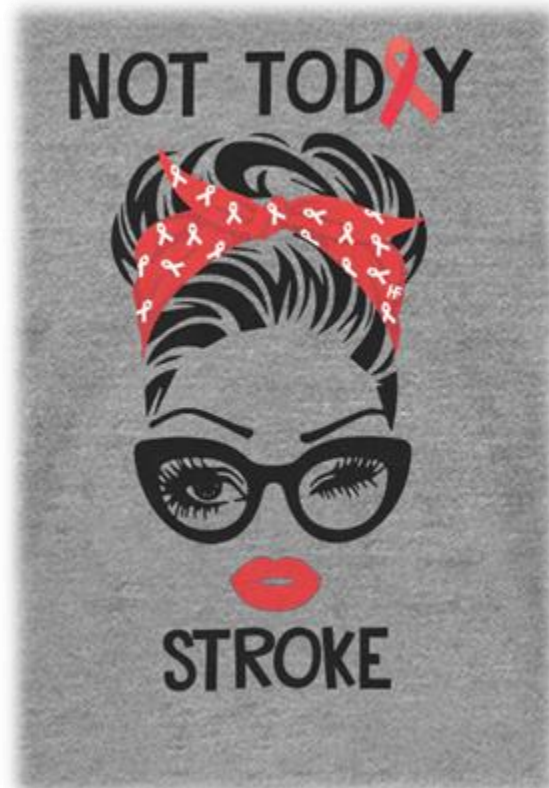
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Stroke Survivor Testimony



“Our Michelle”



Virginia Stroke Quality Improvement Initiative

Patrick Wiggins, MPH

Kathryn Funk, AGAXNP-BC, MSN, SCRNP



Virginia Stroke Coordinators Consortium Meeting



Virginia Stroke Care Quality Improvement Advisory Group