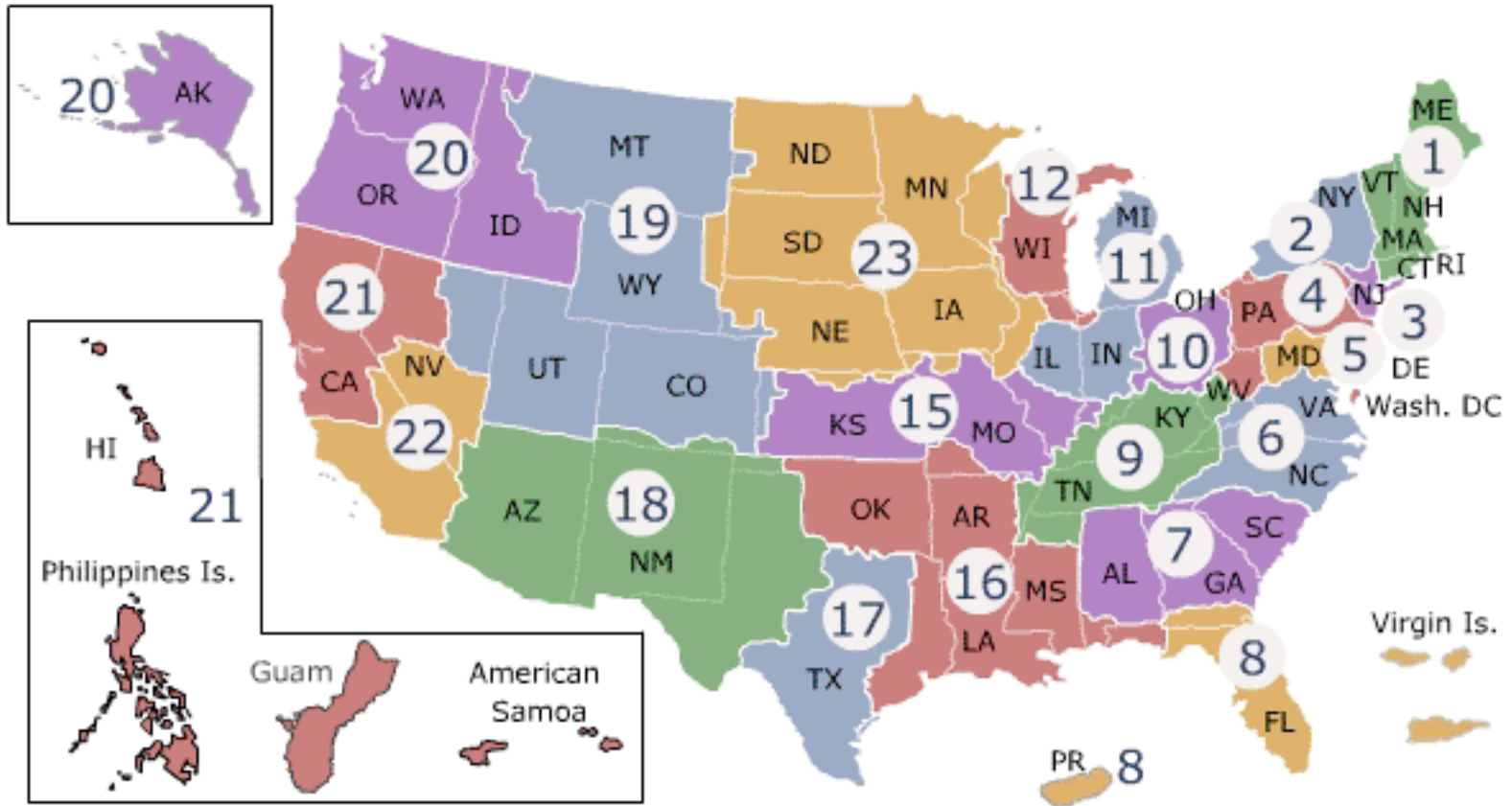


A wide-angle photograph of the MIT dome building, a large neoclassical structure with a prominent dome and a portico of columns. The building is centered in the background, flanked by rows of mature green trees. The foreground is a well-maintained green lawn. The sky is filled with dramatic, dark grey and blue clouds, with some light breaking through. A semi-transparent light blue banner is overlaid on the bottom half of the image, containing the title text.

Healthcare Delivery to Traveling Patients in the Veterans Health Administration

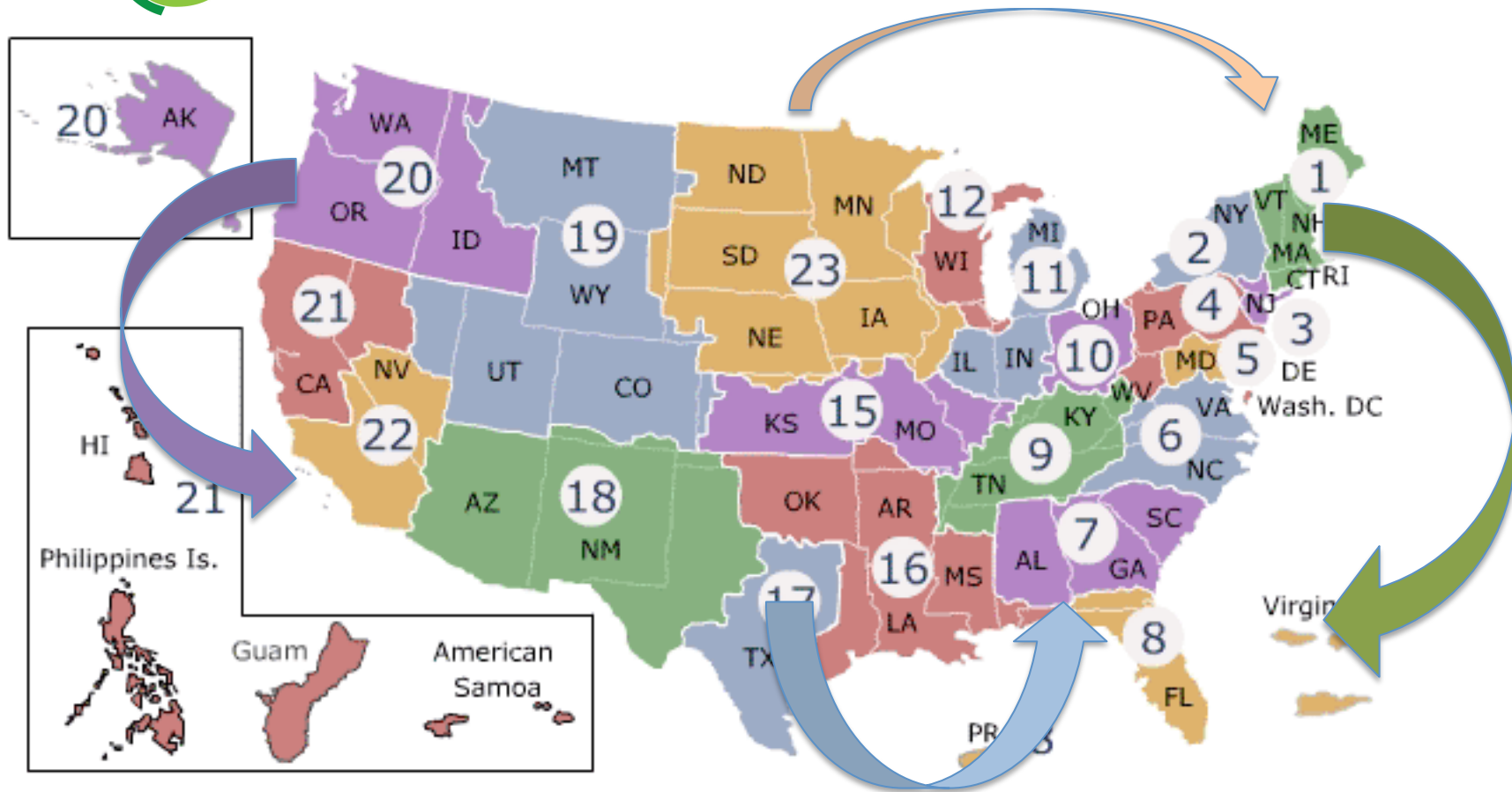
1. Background
2. Approaches: Systems thinking
3. Current state analysis
4. Initial findings
5. Next steps

Veterans Health Administration



To provide veterans the world-class benefits and services they have earned - and to do so by adhering to the highest standards of compassion, commitment, excellence, professionalism, integrity, accountability, and stewardship.

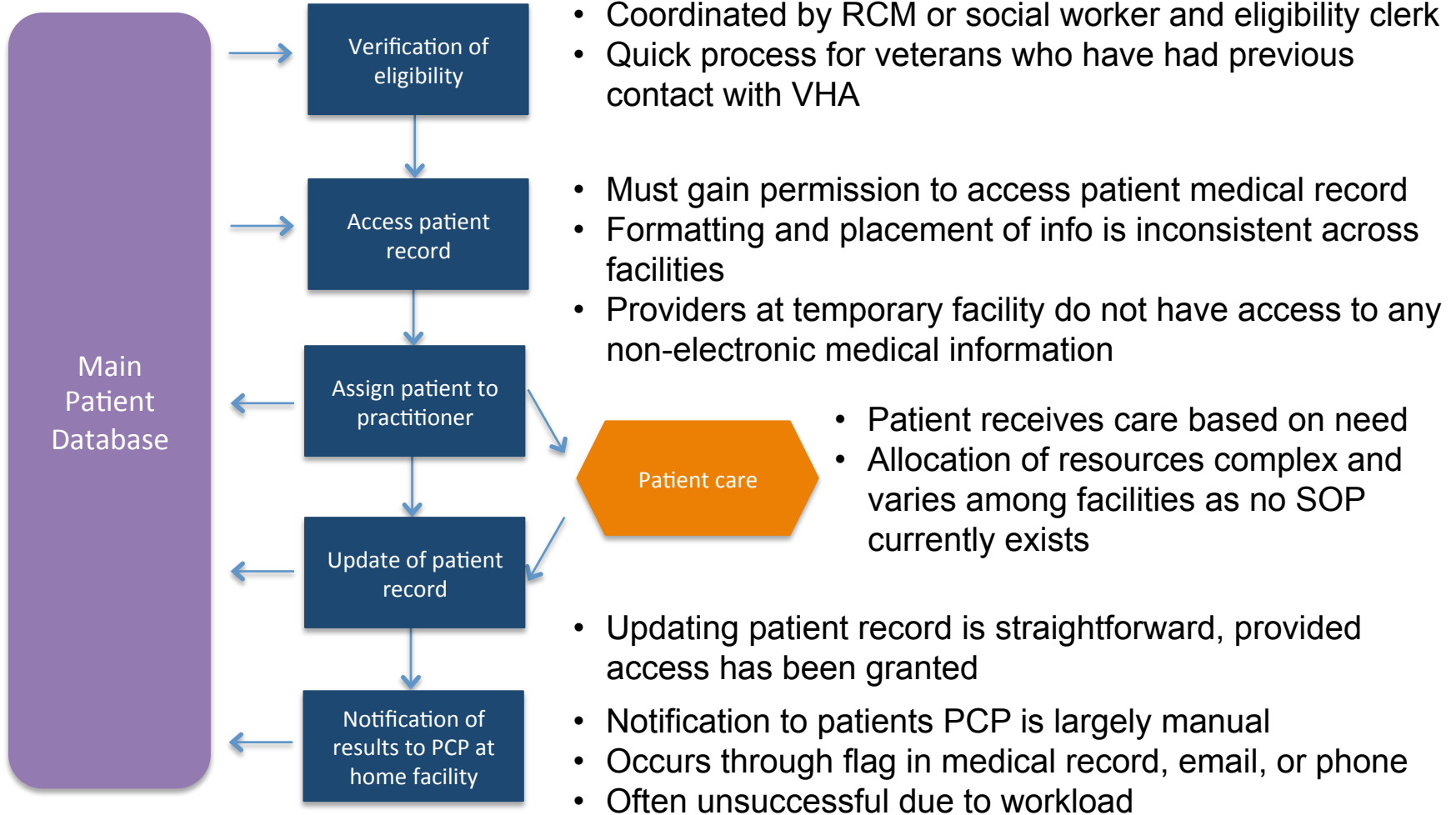
Traveling Veterans



2007 Directive:

“Maximize continuity and consistent, appropriate, and safe care for traveling veterans”

Traveling Veterans



Source: Medical Care for Traveling Veterans, LAI Integrating the Lean Enterprise, Fall 2010

1. Definition and categorization of traveling veterans
2. Load on VHA
 - i. Patient appointment volume and percentage
 - ii. Seasonality
 - iii. Case mix
3. Policy Analysis

Systems thinking is a holistic approach to analysis that focuses on the way that a system's constituent parts interrelate and how systems work over time and within the context of larger systems.

Systems Thinking

Stakeholders

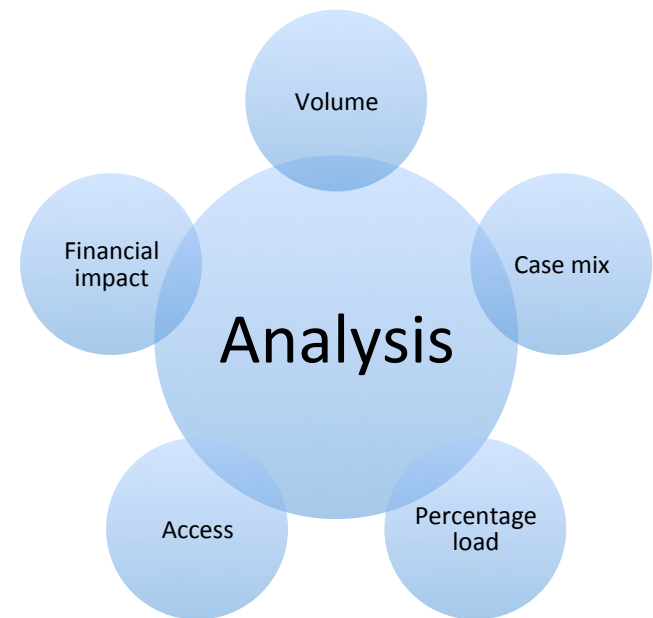
- Patients
- Physicians
- Case managers

Structure

- Regional networks
- Single payer
- Integrated IT infrastructure

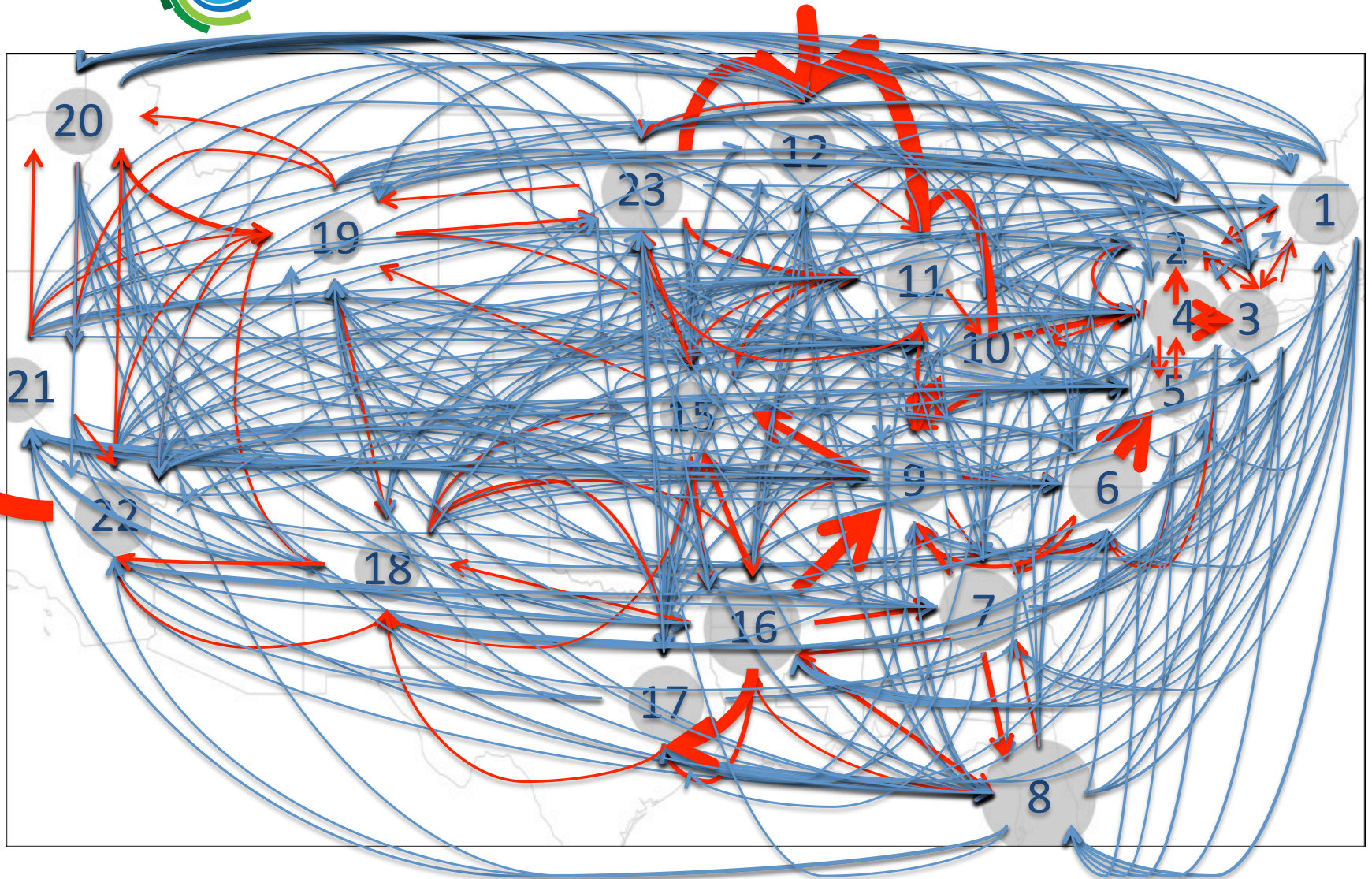
Desired Outcomes

- Continuity of care
- Reducing wastes



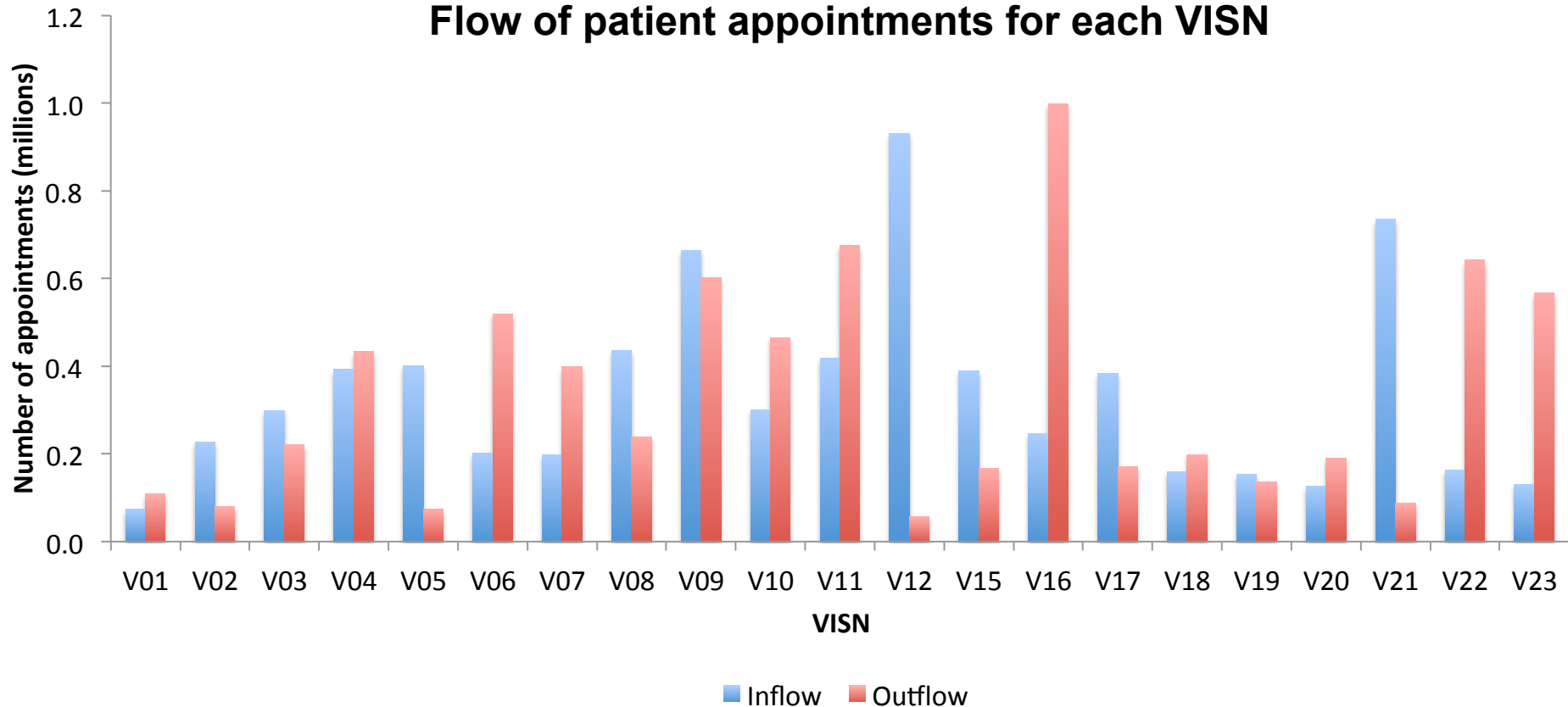


1. Background
2. Approaches: Systems thinking
- 3. Current state analysis**
4. Data analysis
5. Next steps



VISN	Residents (%)	Total Inflow (%)	Inflow from non-adjacent (%)	Total
V01	4,366,808 (98.3)	74,747 (1.7)	62,464 (1.4)	4,441,555
V02	2,552,418 (91.9)	226,417 (8.2)	47,759 (1.7)	2,778,835
V03	3,522,205 (92.2)	299,411 (7.8)	58,008 (1.5)	3,821,616
V04	4,793,589 (92.4)	392,450 (7.6)	90,661 (1.8)	5,186,039
V05	2,237,212 (84.8)	401,254 (15.2)	42,779 (1.6)	2,638,466
V06	4,975,402 (96.1)	202,304 (3.9)	49,032 (1.0)	5,177,706
V07	6,042,715 (96.8)	198,392 (3.2)	130,859 (2.1)	6,241,107
V08	11,942,690 (96.5)	435,573 (3.5)	265,613 (2.2)	12,378,263
V09	4,406,853 (86.9)	664,122 (13.1)	42,802 (0.8)	5,070,975
V10	4,029,822 (93.1)	301,128 (7.0)	45,111 (1.0)	4,330,950
V11	4,349,072 (91.2)	418,926 (8.8)	47,288 (1.0)	4,767,998
V12	4,063,326 (81.4)	931,389 (18.7)	75,777 (1.5)	4,994,715
V15	3,524,911 (90.1)	388,410 (9.9)	30,381 (0.8)	3,913,321
V16	8,524,930 (97.2)	246,711 (2.8)	57,538 (0.7)	8,771,641
V17	5,102,636 (93.0)	383,651 (7.0)	70,873 (1.3)	5,486,287
V18	3,980,143 (96.2)	158,475 (3.8)	96,064 (2.3)	4,138,618
V19	2,651,490 (94.6)	152,820 (5.45)	29,716 (1.1)	2,804,310
V20	4,024,833 (97.0)	125,976 (3.0)	73,961 (1.8)	4,150,809
V21	3,808,585 (83.8)	734,855 (16.1)	145,114 (3.2)	4,543,440
V22	5,351,126 (97.0)	163,171 (3.0)	83,520 (1.5)	5,514,297
V23	5,985,158 (97.9)	130,626 (2.1)	65,300 (1.1)	6,115,784

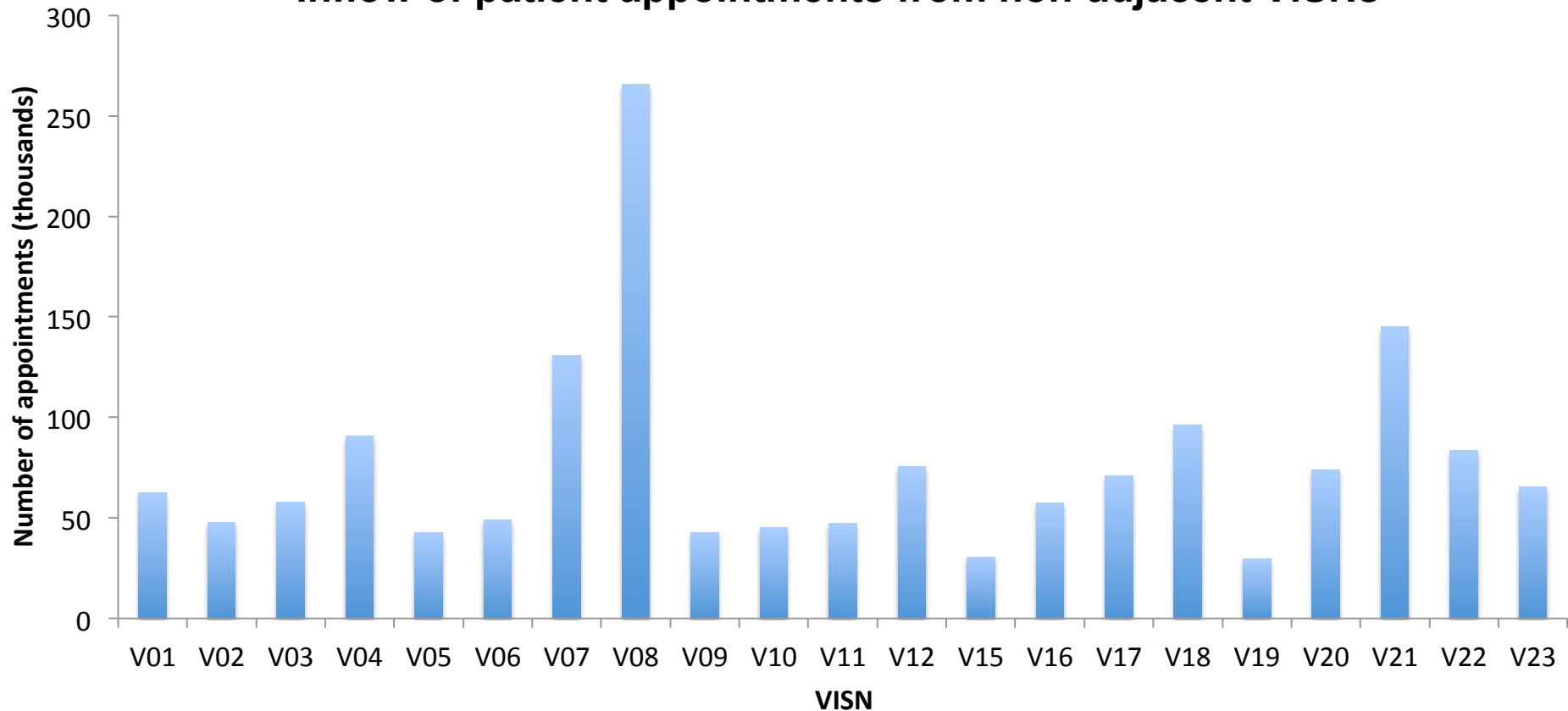
Flow of patient appointments for each VISN



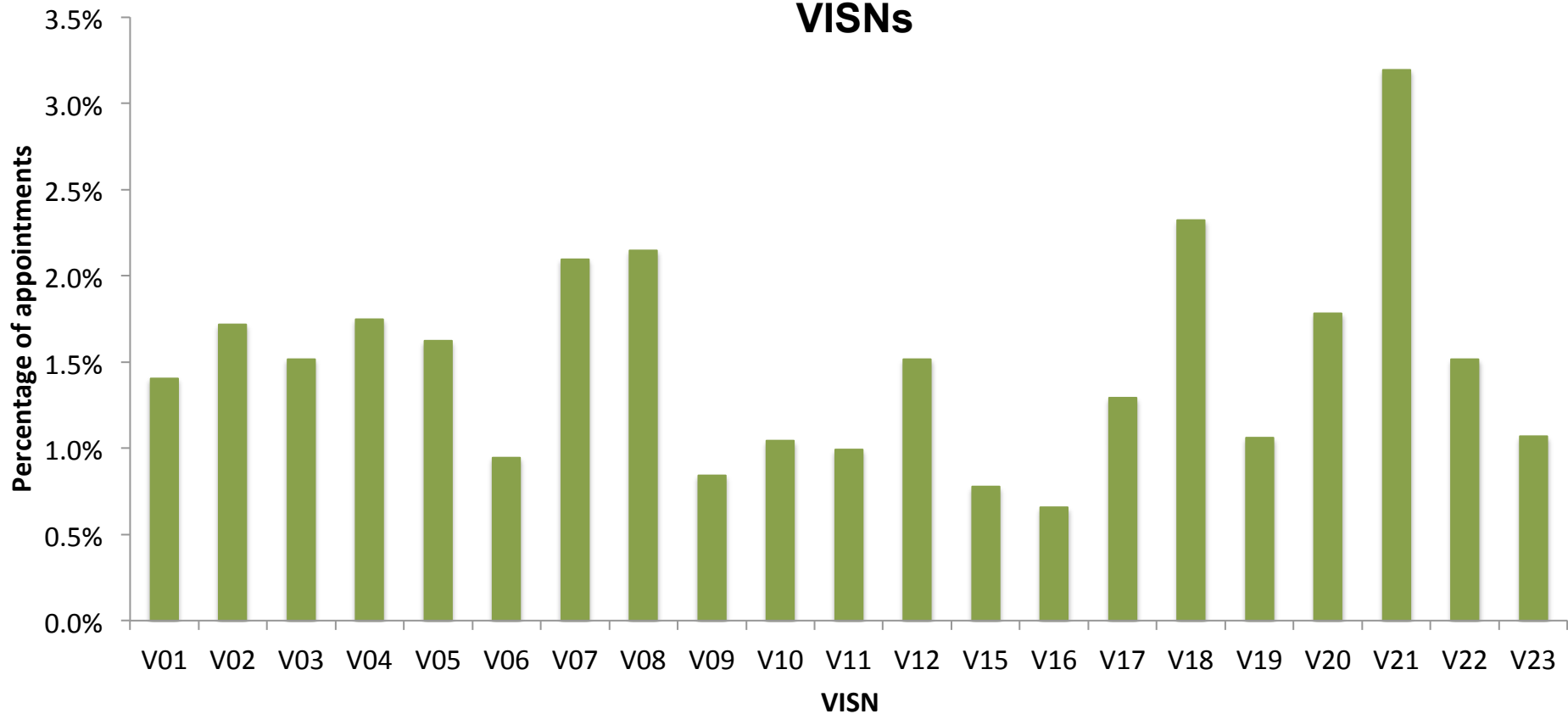
Inflow: Volume of patients from other VISNs seeking care

Outflow: Volume of patients seeking care at other VISNs

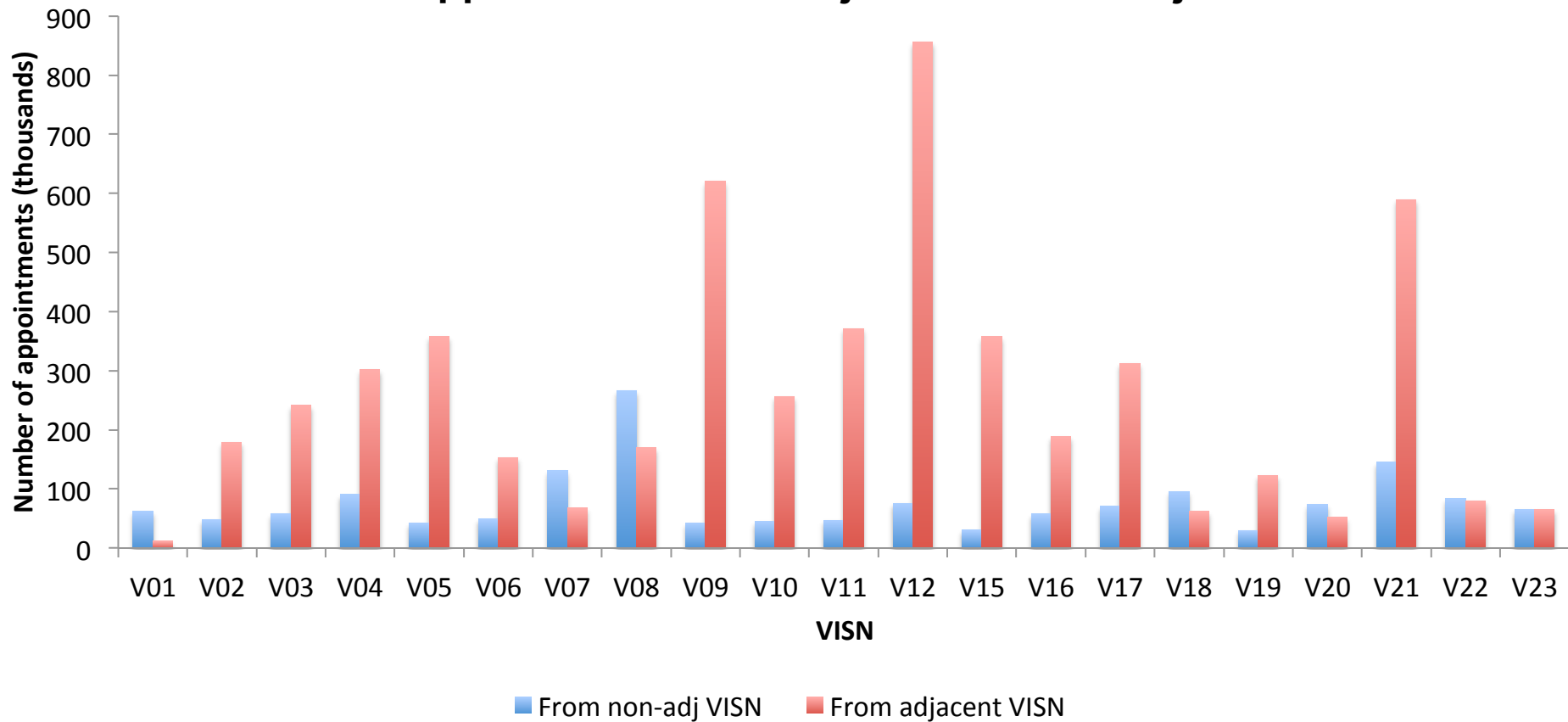
Inflow of patient appointments from non-adjacent VISNs



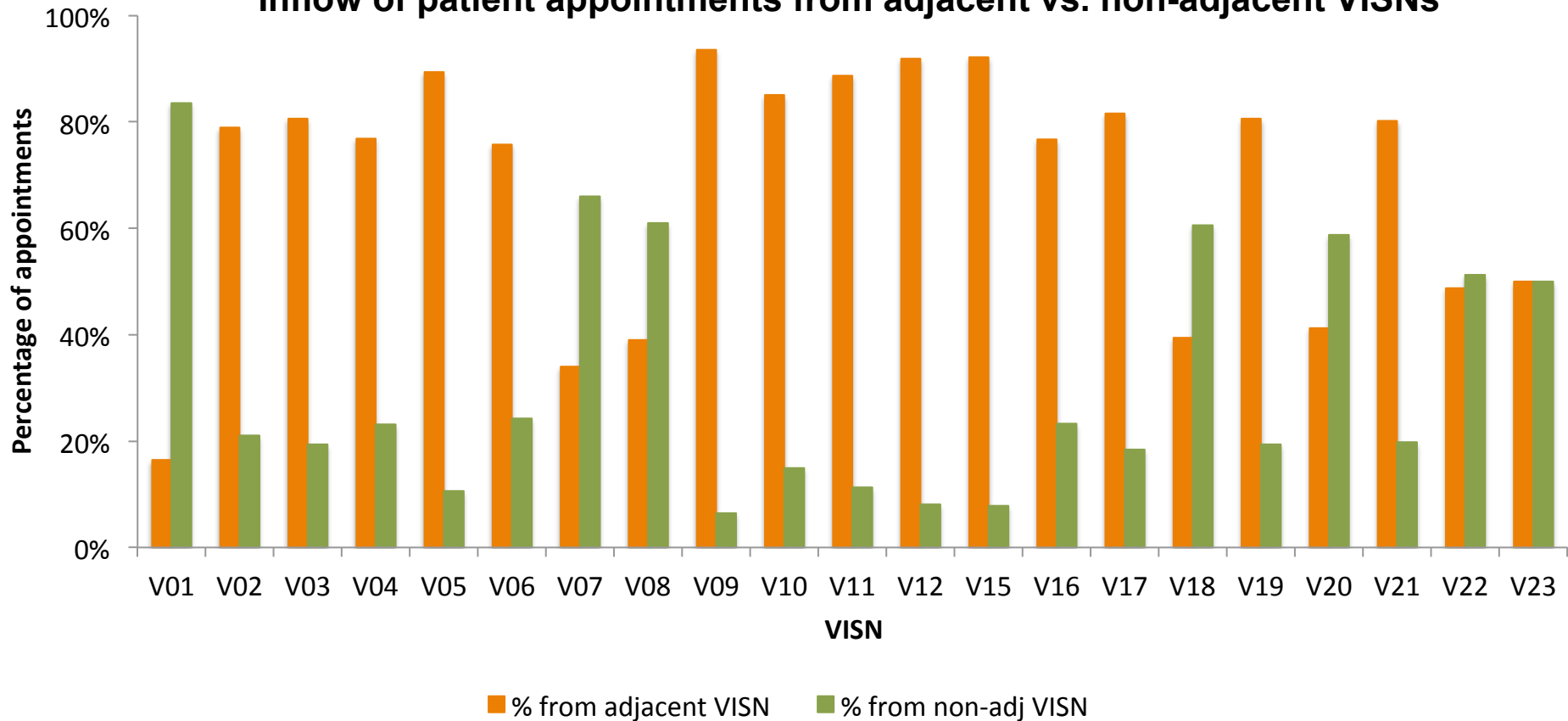
Percentage inflow of patient appointments from non-adjacent VISNs



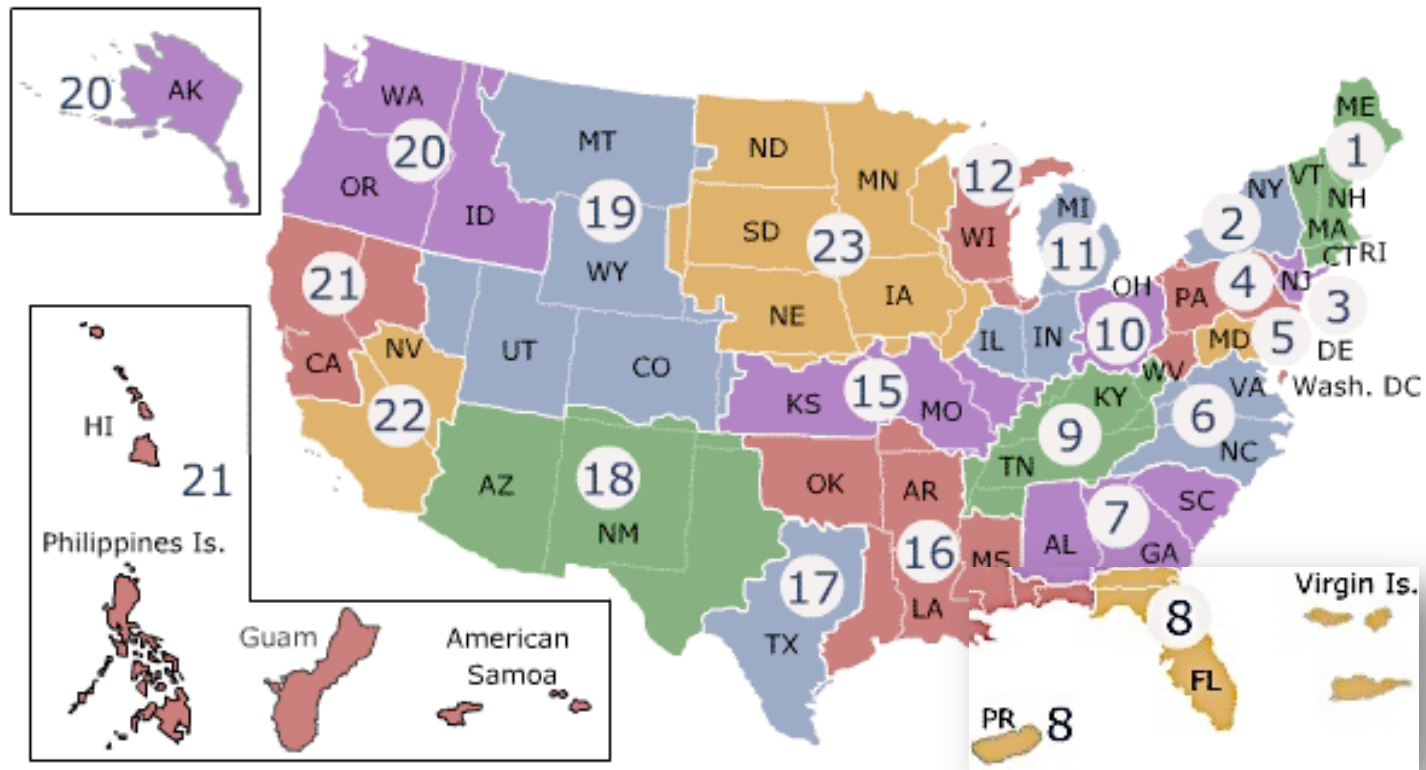
Inflow of appointments from adjacent vs. non-adjacent VISNs



Inflow of patient appointments from adjacent vs. non-adjacent VISNs

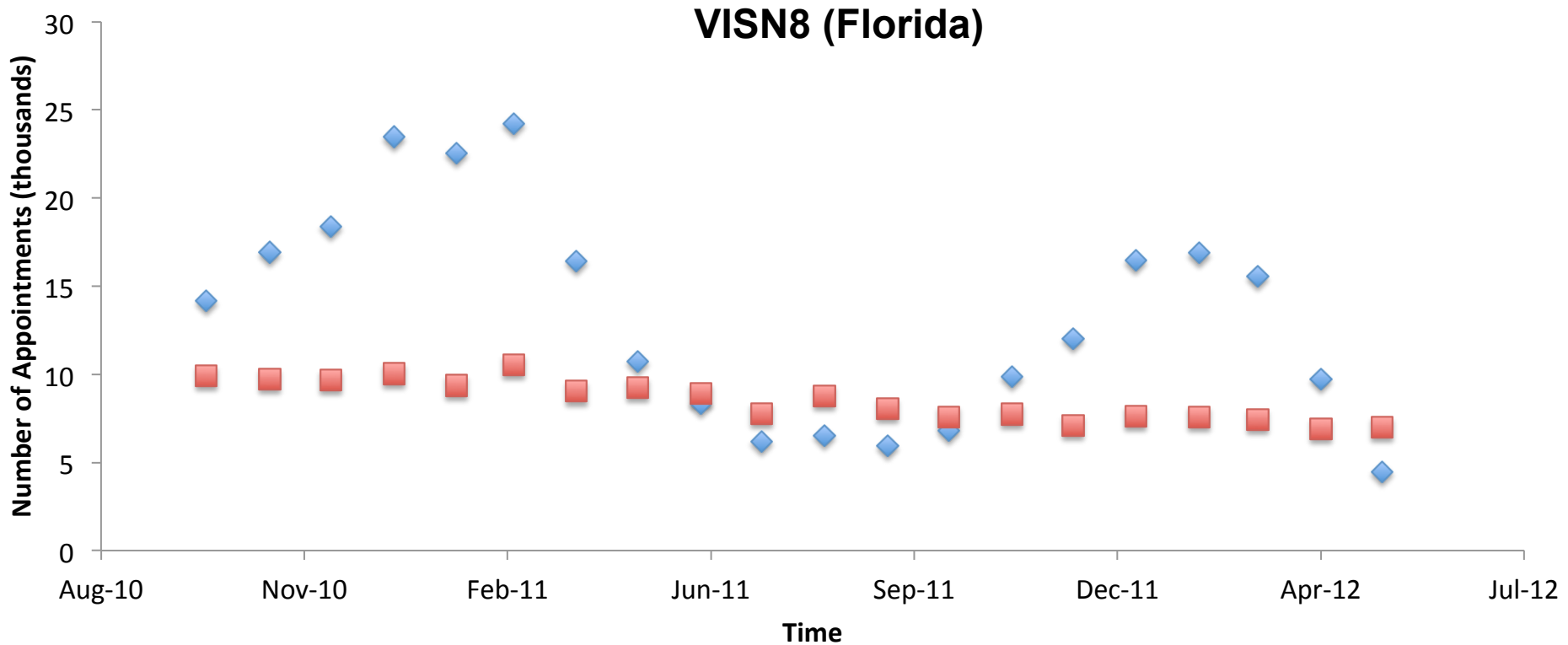


Scope: VISN 8 (Florida)





1. Background
2. Approaches: Systems thinking
3. Current state analysis
- 4. Initial findings**
5. Next steps

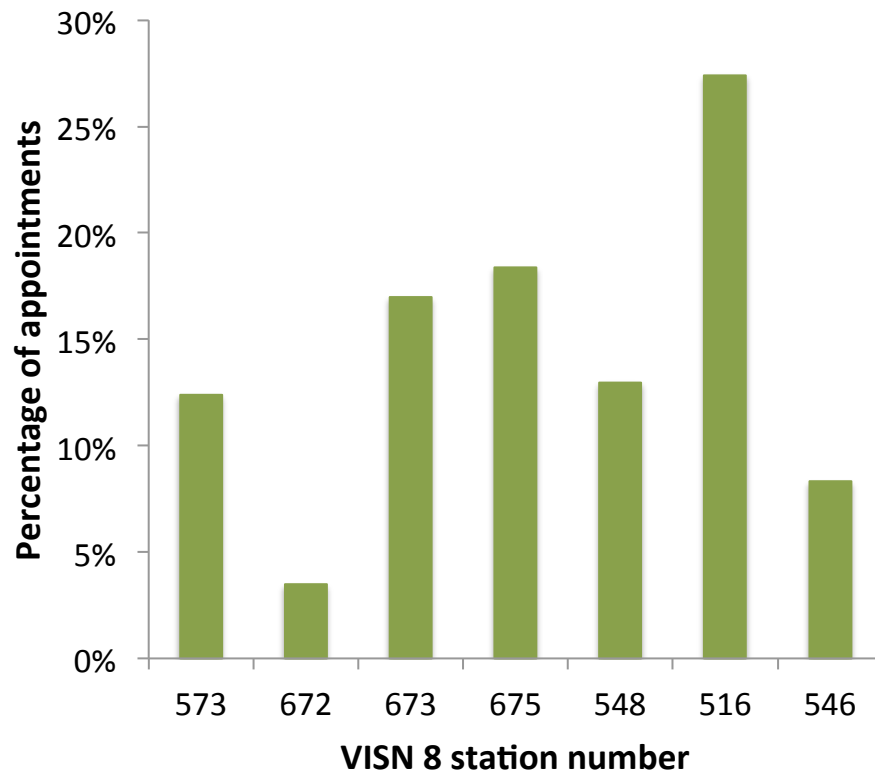


◆ Inflow from non-adjacent VISN ■ Inflow from adjacent VISN

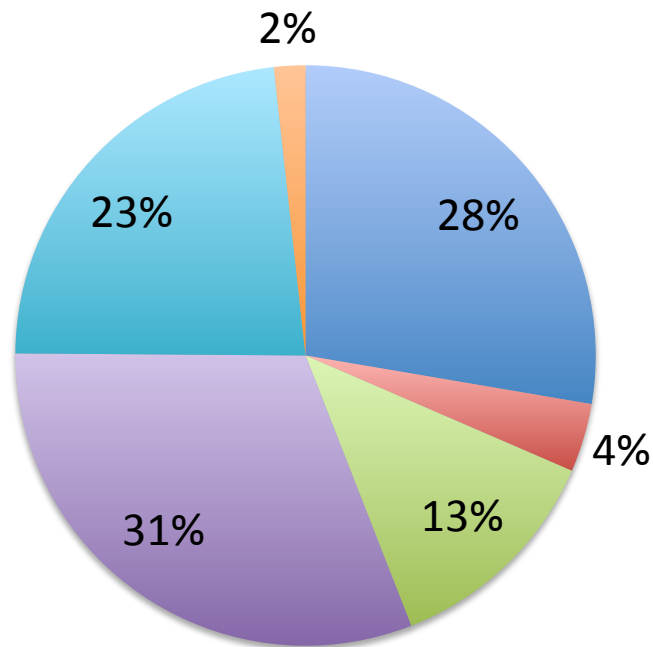
$R^2 = 0.25$
 $p = 0.026$

$R^2 = 0.86$
 $p < 0.001$

Percentage of appointments by station number



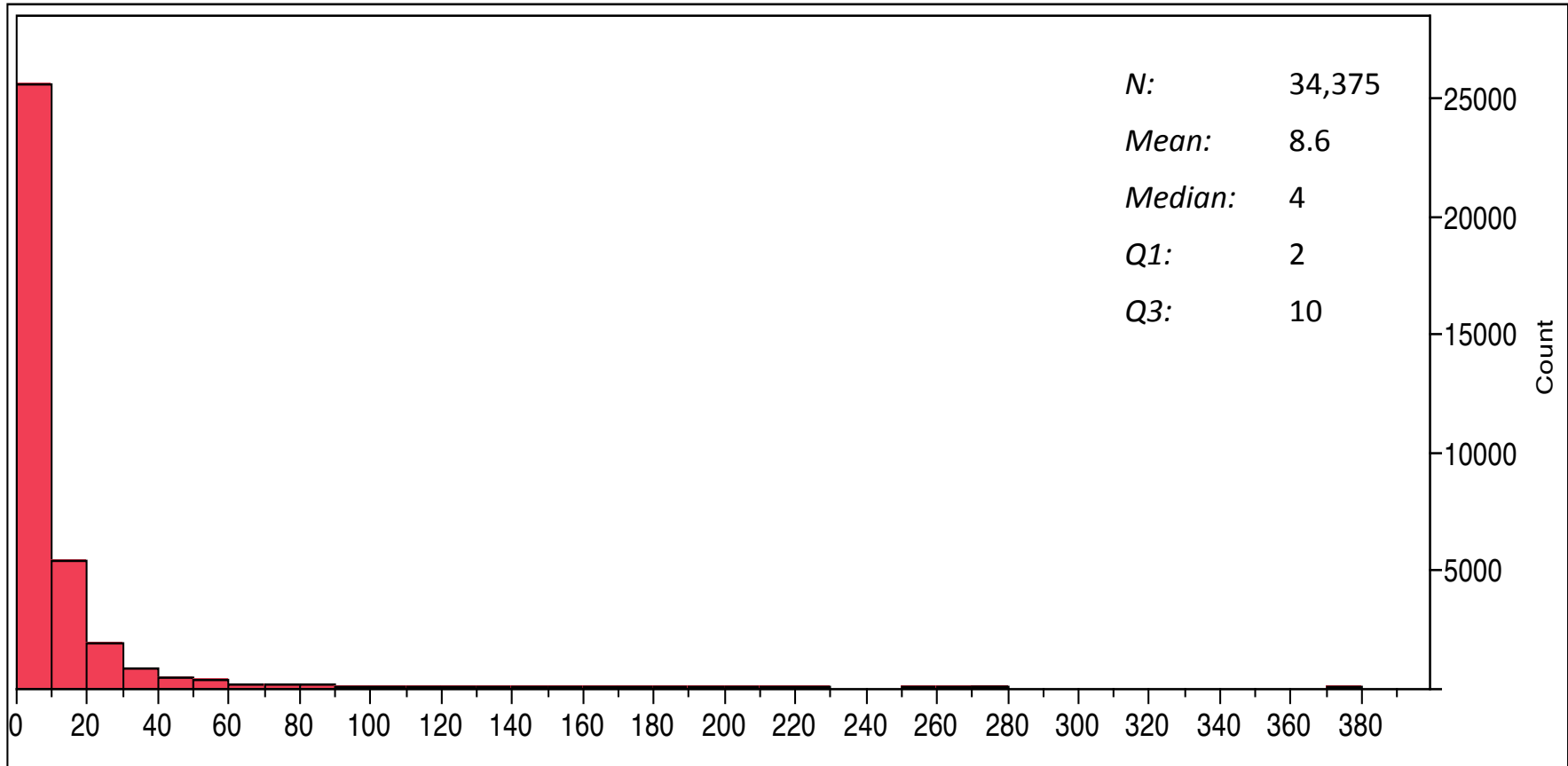
Accessibility of appointments



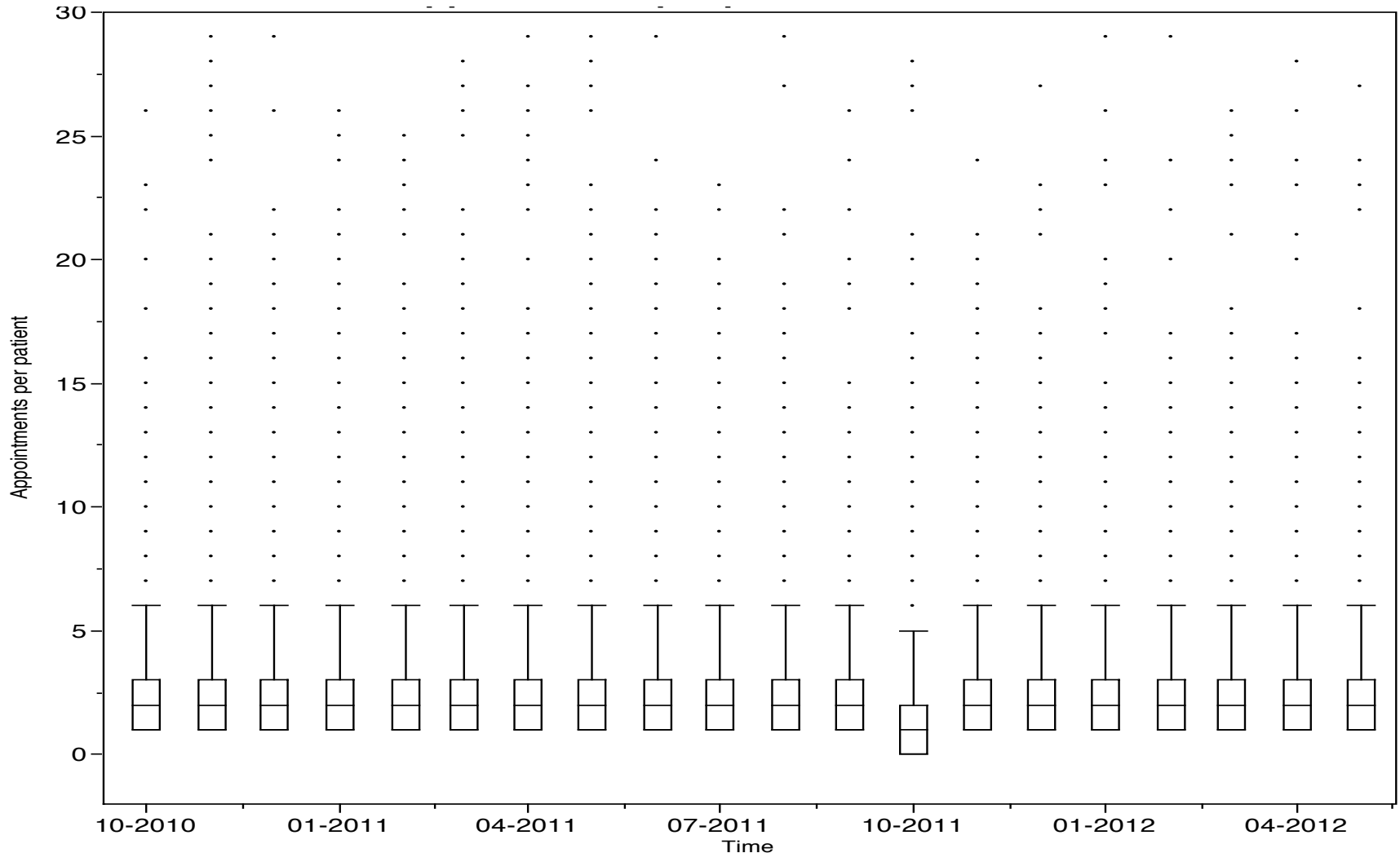
- 31% of appointments occur within 1 day (drop-ins)
- 44% of appointments occur within one week of the date scheduled (arranged near travel time)
- 31% to 54% of appointments occur within one to six months (arranged far in advance of travel)



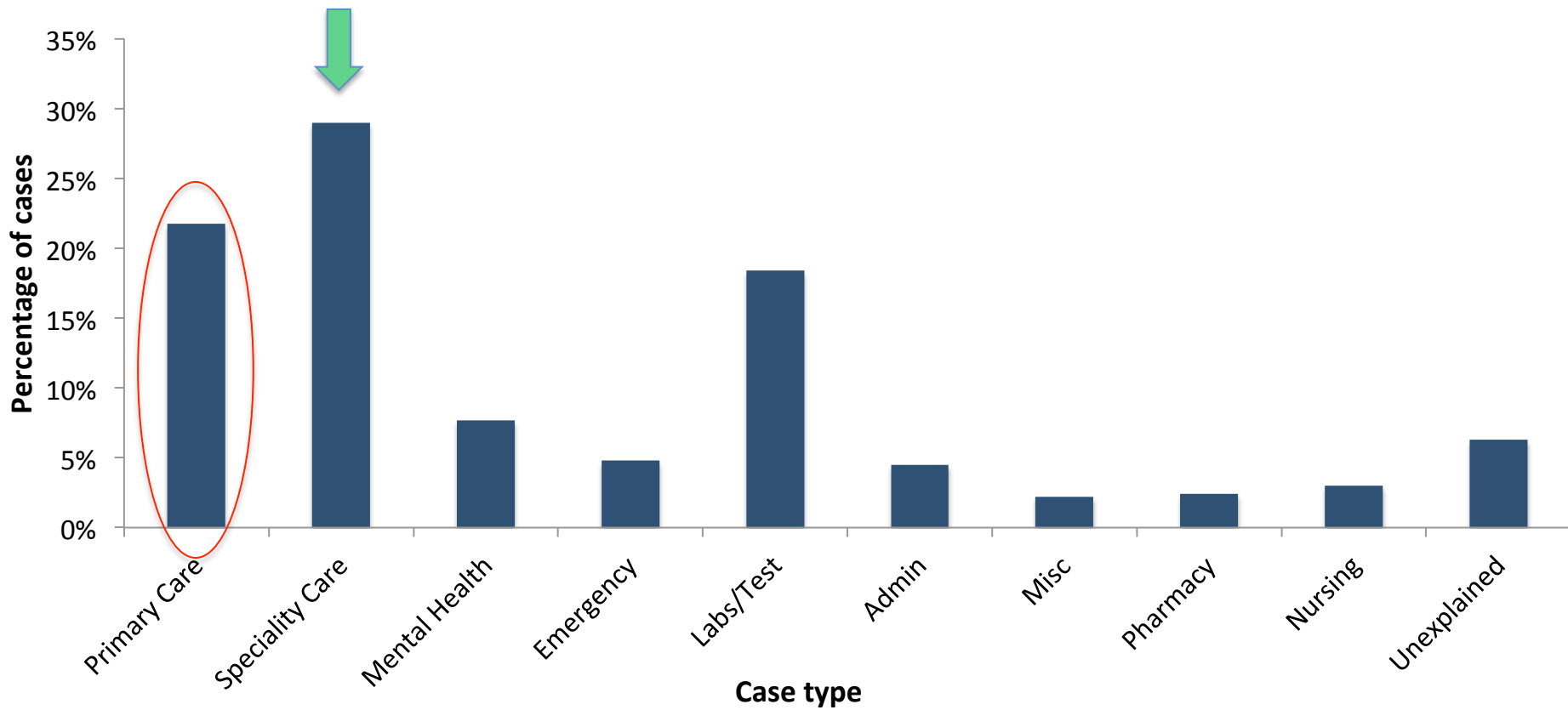
Distribution of VISN 8 appointments



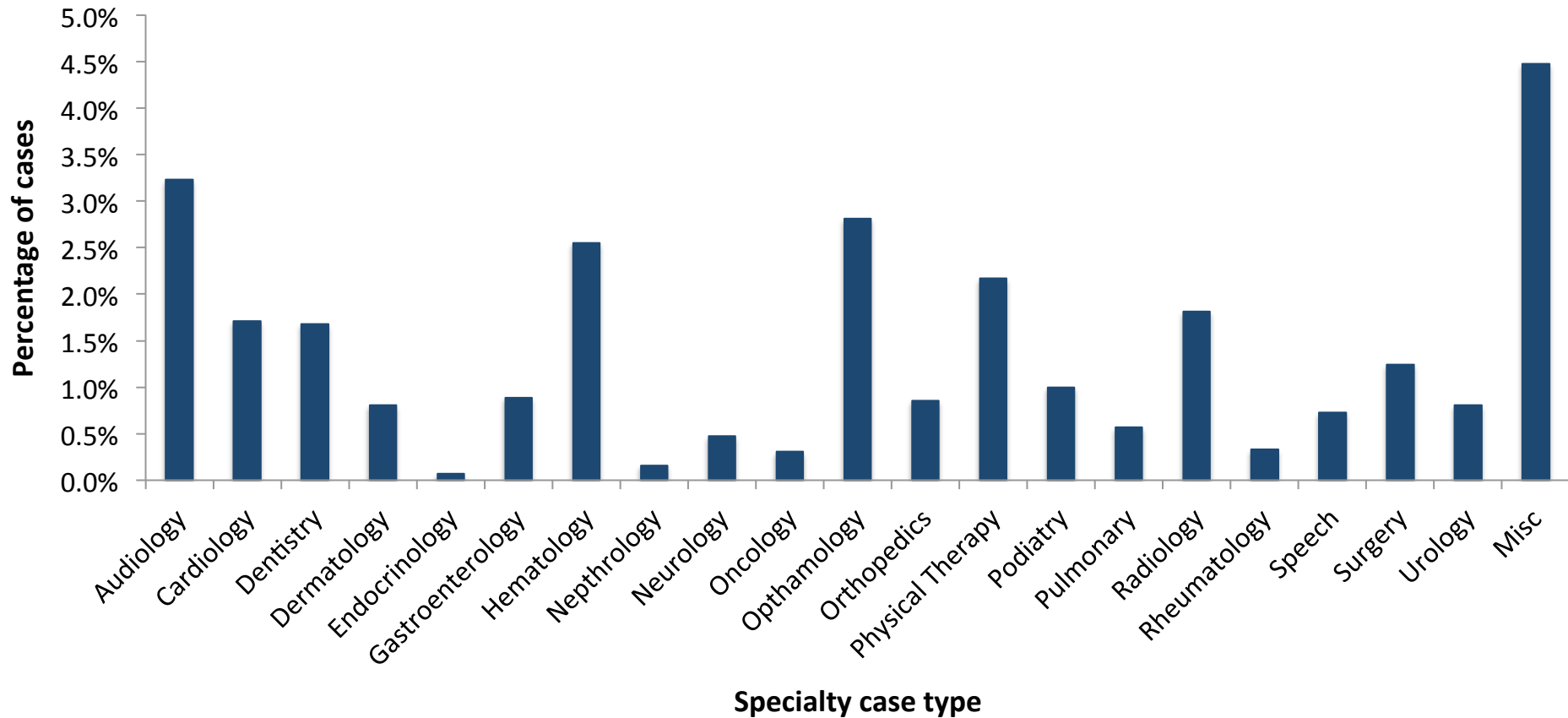
Distribution of VISN 8 appointments by time

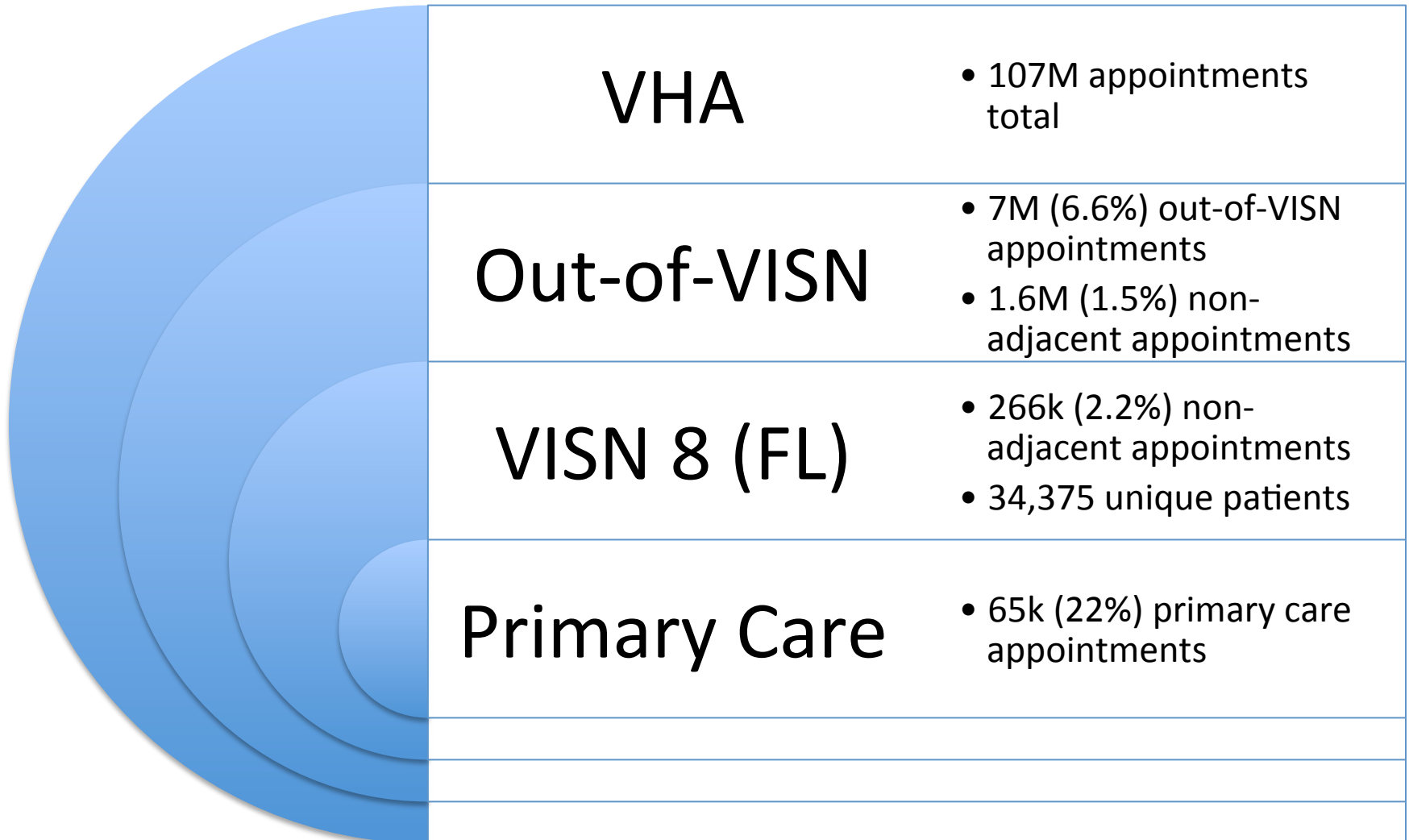


Percentage of appointments by case type



Percentage of specialty care appointments by type





1. Impact of traveling veterans on primary care delivery
 - a. Next available appointments: wait times
 - b. Physician utilization
2. Financial impact
3. Interventions / policy testing



Q & A



**SOCIOTECHNICAL SYSTEMS
RESEARCH CENTER**