



# Social Determinants of Health Policy Implementation in Virginia Public Schools

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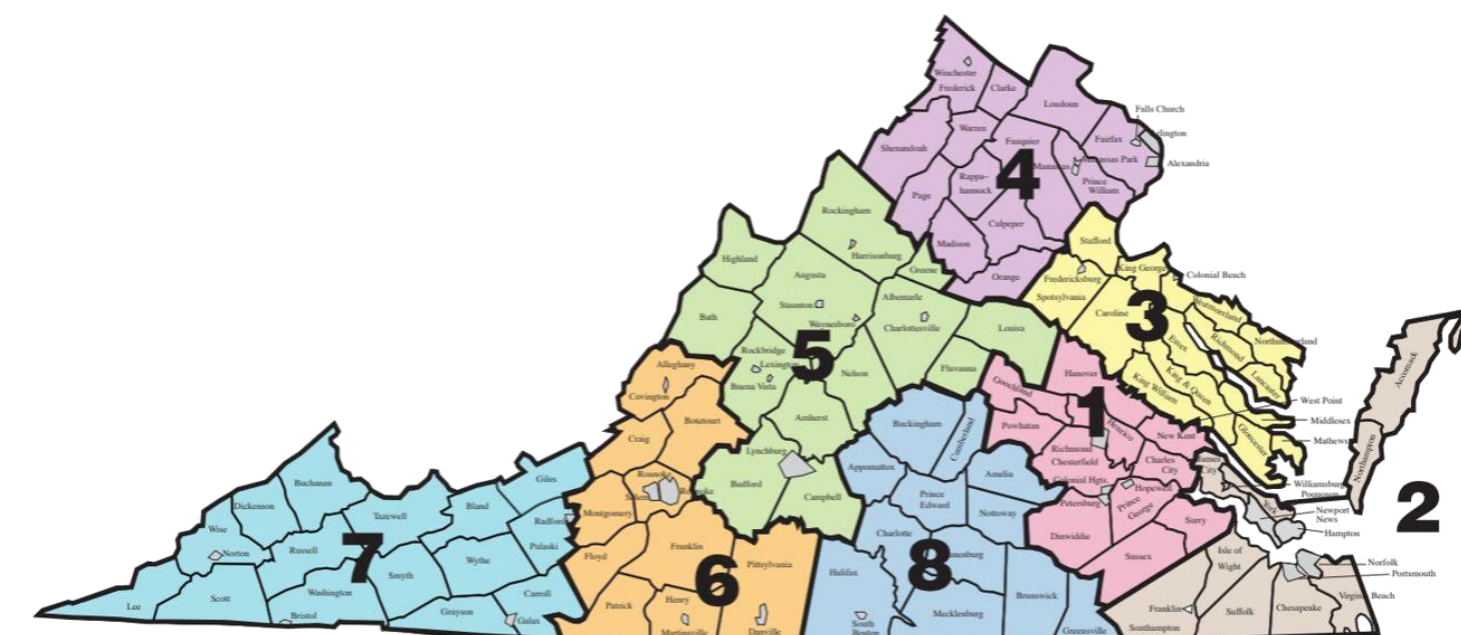
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## BACKGROUND

- Estimated 1.1-1.9M sport-related concussions in US youth ≤18 years old<sup>1</sup>
- Incidence rate increased 4.2-fold between 1998-2008 in all 12 scholastic sports (approximately 15.5% annual increase)<sup>2</sup>
- Since 2010, all 50 states and DC enacted legislation for concussion management in schools
- Virginia Legislation 2010, 2014\*, 2016\*
  - Virginia Board of Education guidelines mandate division-level policy implementation for public schools, but no fiscal support provided<sup>3</sup>
  - No implementation studies to understand division-level policy compliance or school-level practice compliance
- Virginia public high schools:
  - 8 VDOE regions
  - 131 public school divisions
  - 316 public schools
  - 42 sport district leagues
- Purpose of the *Virginia Concussion Initiative* is to better understand barriers to policy implementation and empower schools to deliver best-practices for concussion management



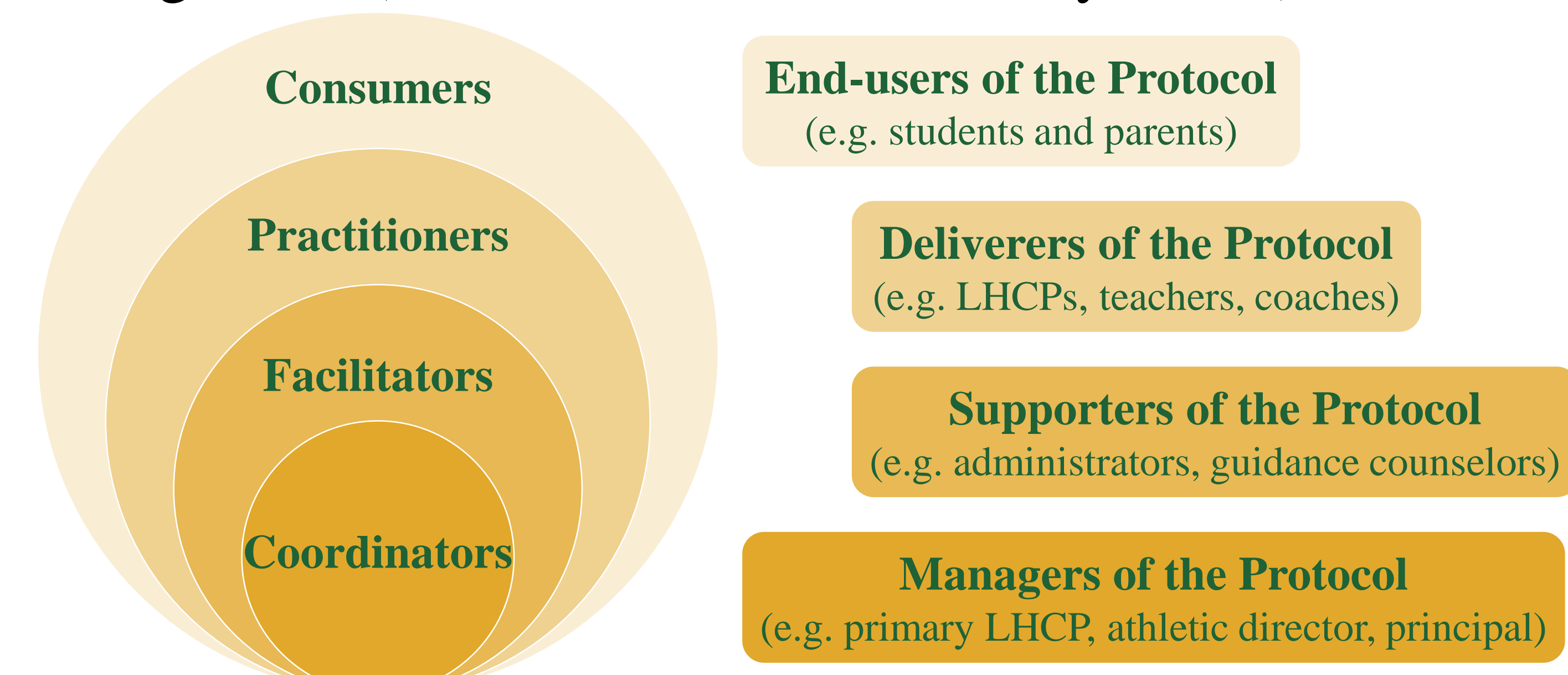
## CLUSTER ANALYSIS

- K-means Clustering method<sup>4</sup> used to identify division clusters based on composite index score (CIS; 0.39±0.16) and free/reduced lunch percentage (F/R%; 44%±18%)
  - Pearson's product-moment correlation coefficient between CIS and F/R% lunches was  $r = -0.266$  ( $p = 0.002$ )
- Three clusters emerged from exploratory analysis :
  - Higher-resourced divisions tended to have higher daily membership, schools per division ratio (S:D Ratio), and CIS
  - F/R% increased from high- to low-resourced to suggest community low ability-to-pay due to SES

Division Cluster	Division Count	School Count	S:D Ratio	Avg CIS	F/R% Lunches	Avg Daily Membership
High	22	68	3.09	0.69	35.0%	1000
Moderate	72	176	2.44	0.34	35.7%	953
Low	37	69	1.86	0.31	65.5%	768

## STAKEHOLDER ROLES

- Stakeholder groups defined based on role(s) in concussion management (i.e. in-school or community-based)

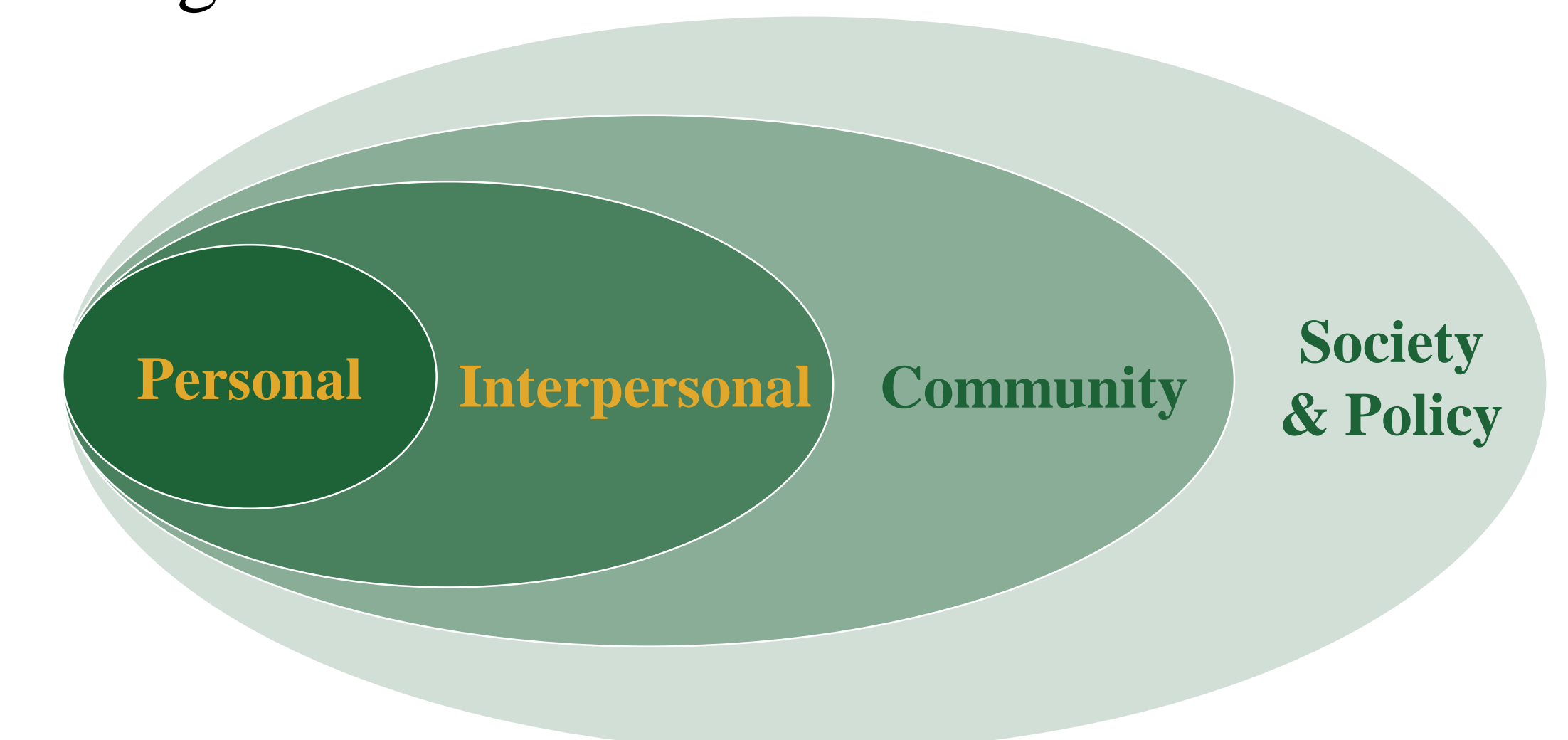


## STAKEHOLDER INTERVIEWS

- One-hour, interviews (n=67) conducted with various school and community stakeholders from all defined role groups
- Randomly sampled across cluster strata and VDOE region
- Interviews audio recorded, transcribed, and analyzed by three trained coders<sup>5</sup>

## SOCIAL DETERMINANTS

- Stakeholders have different skills and knowledge, but not all schools have access to the same professionals
- Varying levels of:
  - *Motivation* – cultural buy-in, empathy, compassion
  - *Means* – resources, infrastructure, capacity
  - *Medium* – intermediary providers or community support
- Either individual- or division-level limitations influence the socioecological framework<sup>6</sup>



## IMPACT ON HEALTH POLICY

- Policy propagation primarily driven by necessity to meet requirements rather than best practices
- Proximity to community health services seems to be more influential than local ability-to-pay
- Disparities in access and concussion health literacy may decrease compliance with implementing guidelines
- Diverse barriers require culturally responsive recommendations—different for unique conditions
- Recommendations:
  - Reevaluate fiscal impact to support/sustain implementation
  - Revise VA School Board Association model policy annually
  - Develop culturally responsive resources and support to schools and communities via concussion management toolkit
  - Explore telehealth options for rural areas in Virginia

## CONTACT INFORMATION

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## SCHOOL HEALTH POLICY LOGIC MODEL

