



***We Need The Discipline of Cyber Public Health***

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**Time:** 16:00-17:00

**Teams Link:** [Join Seminar](#) (We'd appreciate if you could optionally [register](#) to join our mailing list)

**Abstract:**

For all the tragedy the coronavirus has brought and difficulties in fighting it, we have a discipline of public health. We have public health institutions at many scales: local, national and international. They are defining, gathering and distributing statistical measures. We have guidance for the public and professionals, many of whom carry various licenses to practice. Scientists are advancing the values of public health, and studying health problems beyond infectious diseases, including non-infectious diseases like diabetes and environmental factors like pollution.

We have few equivalents in the world of cybersecurity. We do not know how many computers have malware on them. We do not study means of infection or transmission rates, or even have consistent ways to discuss such things. What is the public health equivalent of an account taken over by phishing? What are the equivalents of diseases or deaths? Where do cyber-bullying or interface-limited attackers fit into our conception of security?

These gaps in our knowledge impact our ability to do secure development, including but not limited to threat modeling: the anticipation of future security problems in technology. What problems ought we anticipate and address?

Developer errors obviously lead to some problems. Mistakes include selecting bad tooling or failing to recognize that they must authenticate, sanitize or otherwise apply security knowledge to a situation. Slips happen when libraries are used badly, and many libraries are designed in ways that make them hard to use well. Other problems are what we call "user error," but that assignment of blame is, itself, hotly contested and often unfair.

Because we cannot quantify how computers are compromised, or the causes, it is hard to justify answers to the question of "what should developers know about security?" It is probably unavoidable that developers will always need to consider security sometimes, but their time and attention is a scarce resource. Educating and training them effectively is dependent on prioritization, and for that, we need cyber public health and its measurement capabilities. Similarly, the lack of evidence impacts our ability to provide individuals, small businesses or enterprises with effective mandates (never mind cost effective ones.)

Public health acts as a complement to medicine, and cyber public health could act as a complement to information security. A cyber public health frame could give us useful tools to study many of the problems we face in living our lives online, such as cyber bullying or disinformation.

The institutions and practices of public health have a great deal to teach us to usefully inform both the traditional discipline of cybersecurity and a new discipline of cyber public health..

**Biography:**

Adam is a leading expert on threat modeling, and a consultant, entrepreneur, technologist, author and game designer. He is an affiliate Professor at the Paul G. Allen School of Computer Science & Engineering at the University of Washington, an advisor to the UK's Research Institute in Socio-Technical Security, and an advisory board member at the Journal of Cybersecurity and the Privacy Enhancing Technologies Symposium. He's also a member of the BlackHat Review Board and helped create the CVE and many other things. He currently helps many organizations improve their security via Shostack & Associates, and helps startups become great businesses as an advisor and mentor. While at Microsoft, he drove the Autorun fix into Windows Update, was the lead designer of the SDL Threat Modeling Tool v3 and created the "Elevation of Privilege" game. Adam is the author of Threat Modeling: Designing for Security, and the co-author of The New School of Information Security.

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