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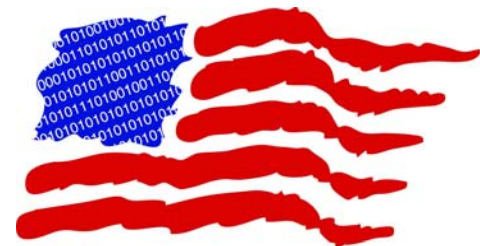
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# An Analysis of the Legality of Government-Mandated Computer Inoculations

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# Simple Computer Inoculation (Scenario #1)



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- State government mandates computer inoculations
- Vaccination centers are established to inoculate computing resources
- Computer Protection Board
- Cost covered by government (swine flu vaccine) or via subscription fee

Seeks to establish herd immunity in cyberspace through a mass vaccination strategy



# Simple Computer Inoculation (Analysis)

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- **Governmental Powers**
  - State government: Police Powers
  - Federal government: Commerce Clause (Article I, section 8) and the responsibility to provide for the national defense
- **Position of state government:**
  - Computing resources that connect to the Internet should have “up-to-date” inoculations—similar to states’ position requiring vaccination for school attendance under the police powers doctrine
- **Arguments against mandated inoculations**



# Simple Computer Inoculation (Analysis)

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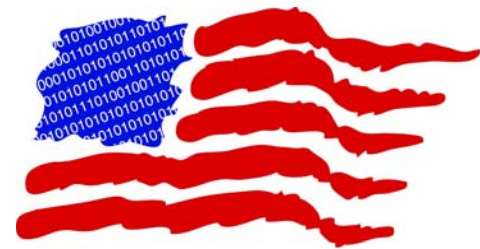
- **Jacobson v. Massachusetts**
  - U.S. Supreme Court, 1905
  - Enabled state legislatures to fight outbreaks by mandating inoculations, but placed some restrictions
  - Shaped public policy – more than 2,500 cases in various courts have referred to this case
- **Supreme Court established four conditions on compulsory inoculations:**
  - Must be a *public health necessity*
  - Must be *reasonable means*
  - Must *not discriminate*
  - Must not *pose a serious health risk* to the individual



# Simple Computer Inoculation (Analysis)

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- **Zucht v. King**
  - U.S. Supreme Court, 1927
  - Ruled it is within the state's police power to require compulsory vaccination
  - Does not violate 14<sup>th</sup> Amendment
- **Court's view of Protection Board**
  - *Jenkins v. Board of Education*: Contingent upon statute that specifically conveys authority
  - *Freeman v. Zimmerman*: Contingent upon legislature intending to confer authority
  - *State of Arkansas v. Martin*: Well within the board's authority to compel vaccinations

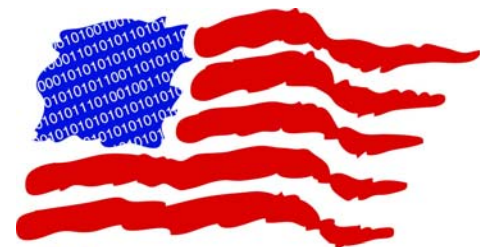


# Simple Computer Inoculation (Analysis)



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- Internet access a right?
- History
  - State-enacted computer laws:
    - Utah's 2003 SPYWARE bill—violated the Commerce Clause
  - Federal government does have the ability to regulate interstate commerce
    - Bills have been introduced, but none enacted
    - Spy Act, Internet Spy Act, Spy-Block Act
    - Caveat: U.S. Safe Web Act of 2006—enables FTC to work with foreign governments to deter spam originating in foreign countries



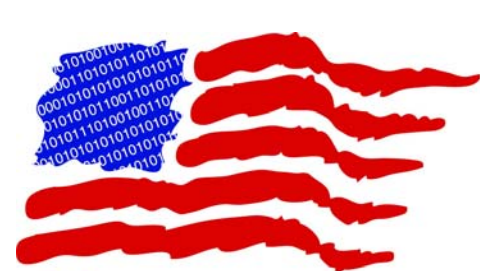
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# Simple Computer Inoculation (Conclusion)

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- Assuming, of course, that the importance of cyberspace health to society is considered to approach that of public health
- Requiring Internet-connected devices to be inoculated would not violate the Fourteenth Amendment
- Fundamental purpose of the board is valid
- Interstate commerce should not be an issue

Mass computer inoculations would fall within the limits of a state's police powers



# Computer Inoculation With Feedback (Scenario #2)



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- Builds on Simple Computer Inoculation
- Incorporates a monitoring and reporting feature into the “vaccine”
- Vaccination centers insert trusted software
- Initiate ring inoculations when alerted

Seeks to detect malware and inoculate in real-time to strengthen herd immunity



# Computer Inoculation With Feedback (Analysis)

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- Disease surveillance & reporting are performed routinely in public health
- Every state requires health professionals to report certain infectious diseases
- No direct analog to tracking health conditions by inserting sensors in general public
- Windows Genuine Advantage— “phones home” w/o user consent



# Computer Inoculation With Feedback (Analysis)

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- Critical issue of PRIVACY
- U.S. Constitution does not expressly grant a right of privacy
- Griswold v. Connecticut
  - U.S. Supreme Court, 1965
  - Established “zone of privacy”
- Whalen v. Roe
  - U.S. Supreme Court, 1977
  - Private medical information can be provided to representatives of the state without violating privacy



# Computer Inoculation With Feedback (Conclusion)

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- Abuse

- *“Human history teaches that even the loftiest of goals, such as public health protection, can always be and often are abused.”*– Parmet
- It is vital that the law stipulate that information gathered by the sensors not be used as evidence of wrongdoing
- The law should levy severe penalties to deter abuse.

Installing sensors in computers, most likely, would NOT violate the zone of privacy



# Controlled Immunized Network (Scenario #3)

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- Under normal conditions works just like Computer Inoculation With Feedback
- In times of crisis:
  - Prevent computers from being enslaved
  - Quarantine infected computers
  - Support attack mitigation and recovery activities
  - Perform forensic analysis

During crisis situations (large-scale cyber attack on the critical infrastructure) the computer vaccination center serves as a “master” of a “benevolent botnet.”



# Controlled Immunized Network (Analysis)

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- Assuming large-scale cyber attack on the critical infrastructure, these issues must be addressed:
  - Quarantine
  - Compulsory treatment
  - Controlling Authority
- Quarantine
  - Barmore v. Robertson
  - *“It is NOT necessary that one be actually sick...the health authorities have the right to restrain liberties by quarantine regulations”*



# Controlled Immunized Network (Analysis)

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- **Compulsory Treatment**
  - A compelling interest for the intervention
  - A close connection between the means and ends
  - The intervention is the least restrictive alternative
  - Provide rigorous procedural safeguards
  - McFall v. Shrimp
- **Controlling Authority**
  - Government has the power of eminent domain
  - Green Dam Youth Escort
  - Inducting a personal computer in a benevolent botnet in a crisis situation is similar to a military draft or even deploying the National Guard

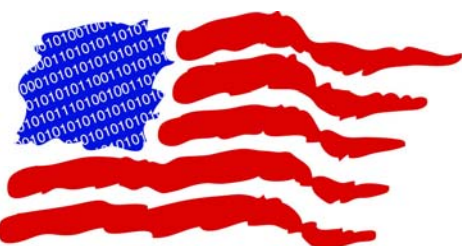


# Controlled Immunized Network (Conclusion)

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- The Constitution safeguards individual interests in liberty, privacy and property
- The use of controlled immunized networks must be vital and nondiscriminatory, and the least restrictive

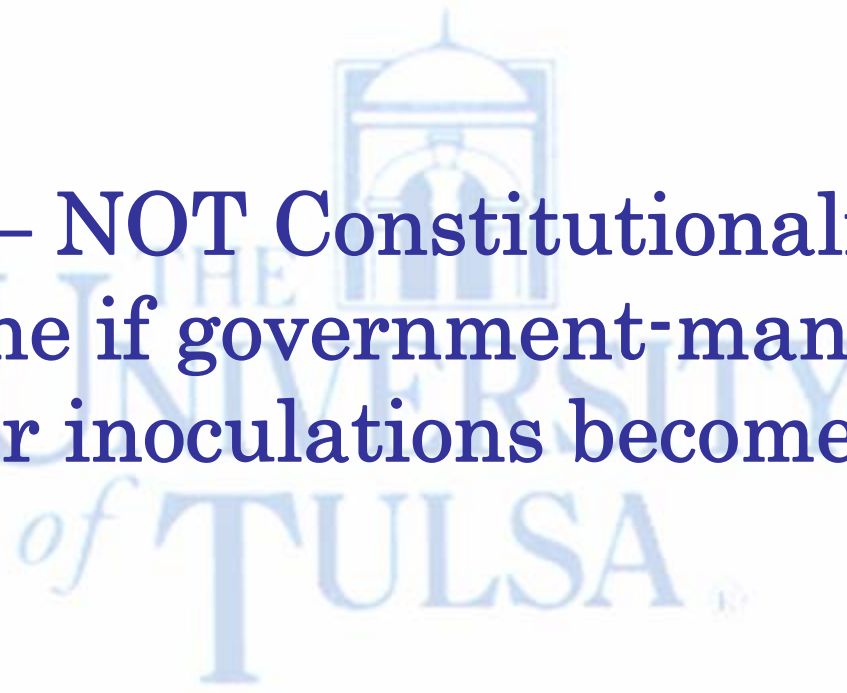
Legal precedents would appear to support the use of controlled immunized networks

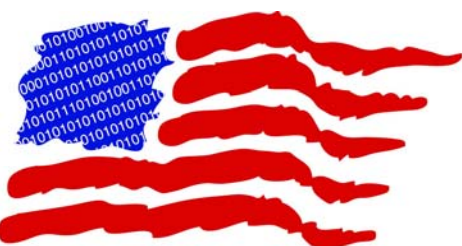


# Summary

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Politics – NOT Constitutionality – will determine if government-mandated computer inoculations become reality





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# Questions

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