Georgia Tech | Tennenbaum Institute | College of Computing
School of Interactive Computing

CYBER-SOCIAL LEARNING SYSTEMS

Observations & Reflections

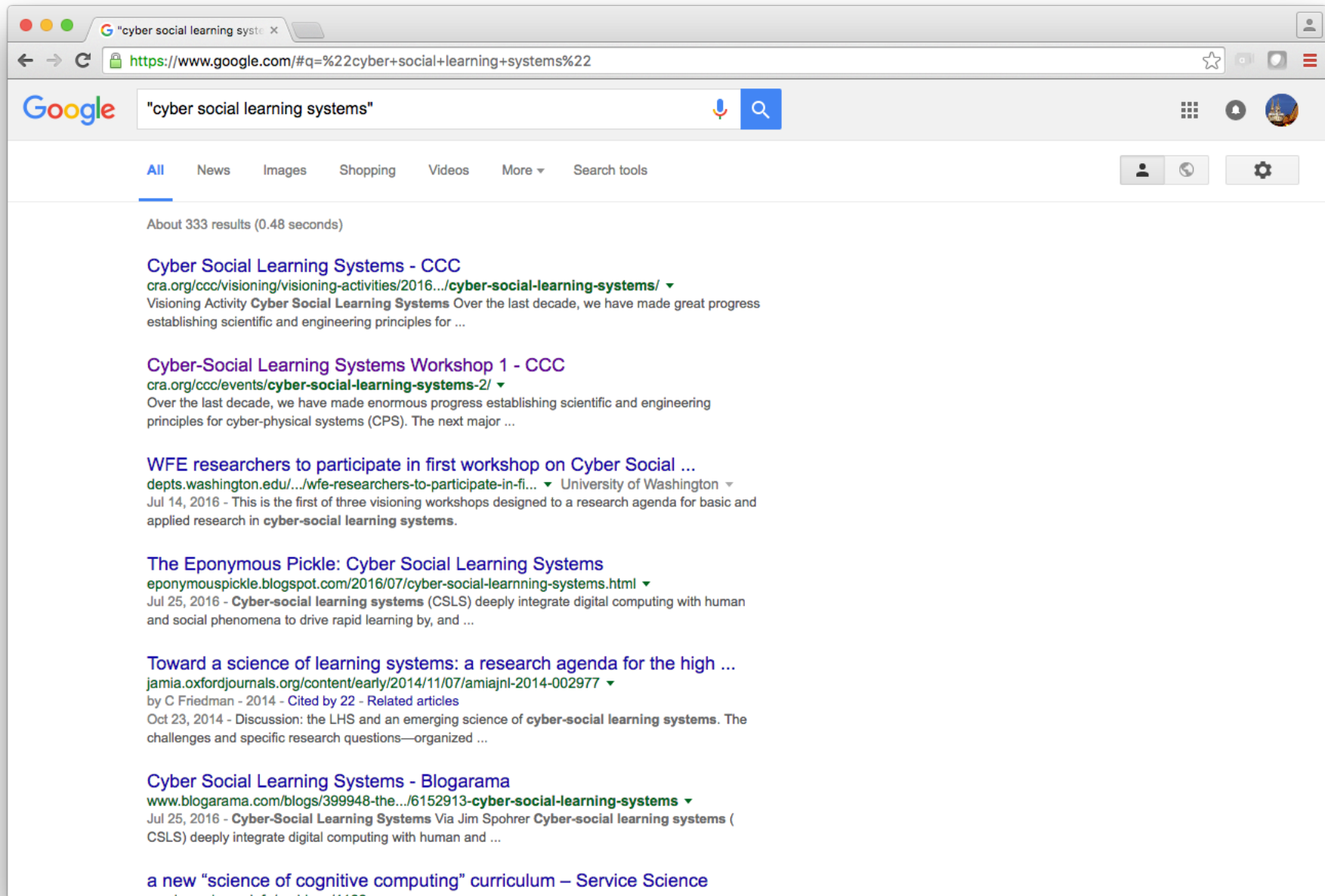**Rahul C. Basole**
basole@gatech.edu | @basole

CCC Workshop
August 29-30, 2016

CSLS Workshop Info

Me

Google

"cyber social learning systems"

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Cyber Social Learning Systems - CCC
cra.org/ccc/visioning/visioning-activities/2016.../cyber-social-learning-systems/ ▾
Visioning Activity **Cyber Social Learning Systems** Over the last decade, we have made great progress establishing scientific and engineering principles for ...

Cyber-Social Learning Systems Workshop 1 - CCC
cra.org/ccc/events/cyber-social-learning-systems-2/ ▾
Over the last decade, we have made enormous progress establishing scientific and engineering principles for cyber-physical systems (CPS). The next major ...

WFE researchers to participate in first workshop on Cyber Social ...
depts.washington.edu/.../wfe-researchers-to-participate-in-fi... ▾ University of Washington ▾
Jul 14, 2016 - This is the first of three visioning workshops designed to a research agenda for basic and applied research in **cyber-social learning systems**.

The Eponymous Pickle: Cyber Social Learning Systems
eponymouspickle.blogspot.com/2016/07/cyber-social-learning-systems.html ▾
Jul 25, 2016 - **Cyber-social learning systems** (CSLS) deeply integrate digital computing with human and social phenomena to drive rapid learning by, and ...

Toward a science of learning systems: a research agenda for the high ...
jamia.oxfordjournals.org/content/early/2014/11/07/amiajnl-2014-002977 ▾
by C Friedman - 2014 - Cited by 22 - Related articles
Oct 23, 2014 - Discussion: the LHS and an emerging science of **cyber-social learning systems**. The challenges and specific research questions—organized ...

Cyber Social Learning Systems - Blogarama
www.blogarama.com/blogs/399948-the.../6152913-cyber-social-learning-systems ▾
Jul 25, 2016 - **Cyber-Social Learning Systems** Via Jim Spohrer **Cyber-social learning systems** (CSLS) deeply integrate digital computing with human and ...

a new "science of cognitive computing" curriculum – Service Science
service-science.info/archives/4166 ▾

What I heard …

CSLS

- Describe/Analyze
- Explain
- Design/Engineer
- Control/Govern
- Manage
- Adapt
- Improve

Complex (Ecosystem)

Multi-Stakeholder
- Social
- Technical
- Physical
- Economical
- Regulatory

Roles
Objectives/Incentives
Collaboration/Competition/Co-opetition
Trust/Trustworthiness

Amorphous Boundaries
- Internal/External

Change/Evolution/Dynamic
- Adaptive
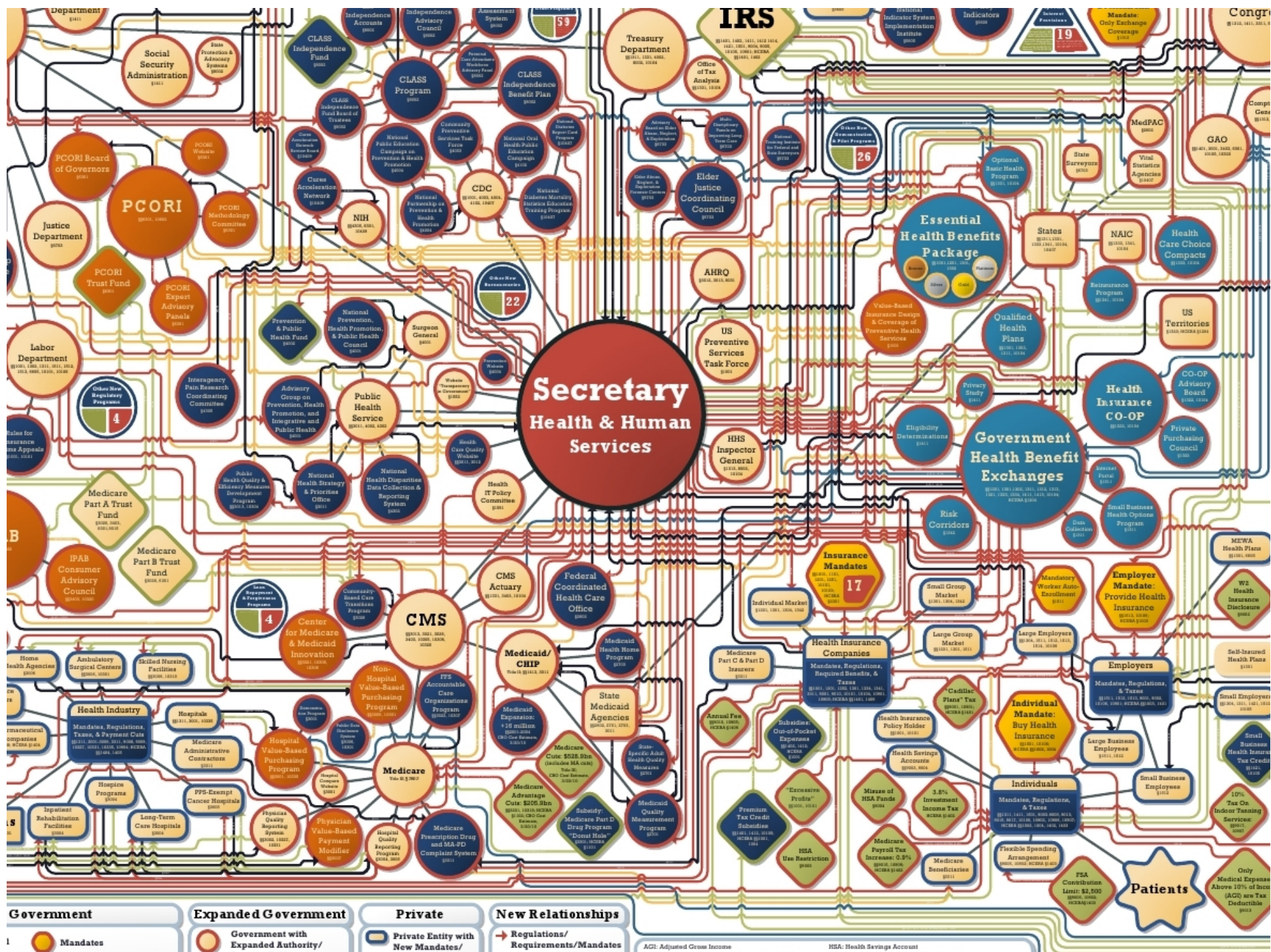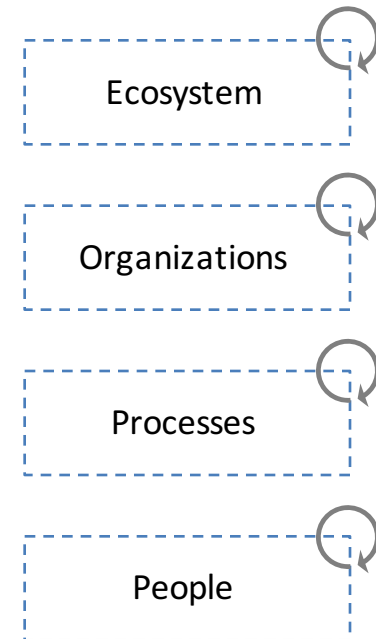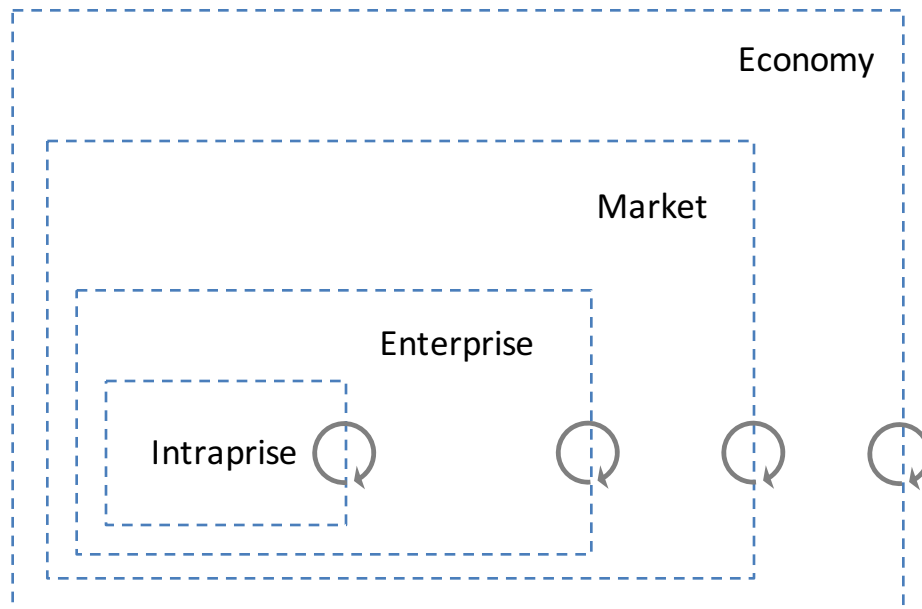- Emergent
- Self-Learning

Contextual

…

Describe

CSLS

Terra Incognita*

Shared Vocabulary

Shared Mental Map/
Frameworks/Visualization

IRS

Congress

Secretary
Health & Human Services

- Social Security Administration
- Justice Department
- Labor Department
- PCORI
- PCORI Board of Governors
- PCORI Methodology Committee
- PCORI Trust Fund
- PCORI Expert Advisory Panels
- Treasury Department
- Office of Tax Analysis
- CLASS Independence Fund
- CLASS Program
- CLASS Independence Benefit Plan
- Independence Accounts
- Independence Advisory Council
- National Public Education Campaign on Prevention & Health Promotion
- National Oral Health Public Education Campaign
- Cures Acceleration Network
- Elder Justice Coordinating Council
- CDC
- NIH
- AHRQ
- Surgeon General
- Prevention & Public Health Fund
- National Prevention, Health Promotion & Public Health Council
- Public Health Service
- Advisory Group on Prevention, Health Promotion, and Integrative and Public Health
- Interagency Pain Research Coordinating Committee
- US Preventive Services Task Force
- HHS Inspector General
- Health IT Policy Committee
- National Health Strategy & Priorities Office
- National Health Disparities Data Collection & Reporting System
- MedPAC
- GAO
- State Surveyors
- Vital Statistics Agencies
- Essential Health Benefits Package (Bronze, Silver, Gold, Platinum)
- States
- NAIC
- Health Care Choice Compacts
- Reinsurance Program
- US Territories
- Qualified Health Plans
- Value-Based Insurance Design & Coverage of Preventive Health Services
- Health Insurance CO-OP
- CO-OP Advisory Board
- Private Purchasing Council
- Government Health Benefit Exchanges
- Small Business Health Options Program
- Eligibility Determinations
- Risk Corridors
- Data Collection

- Medicare Part A Trust Fund
- Medicare Part B Trust Fund
- IPAB Consumer Advisory Council
- Center for Medicare & Medicaid Innovation
- CMS
- CMS Actuary
- Federal Coordinated Health Care Office
- Community-Based Care Transitions Program
- Non-Hospital Value-Based Purchasing Program
- Medicaid/CHIP
- Medicaid Home Health Program
- State Medicaid Agencies
- Medicaid Expansion: +16 million
- Medicaid Quality Measurement Program
- Health Industry
- Hospitals
- Hospice Programs
- Inpatient Rehabilitation Facilities
- Long-Term Care Hospitals
- PPS-Exempt Cancer Hospitals
- Skilled Nursing Facilities
- Ambulatory Surgical Centers
- Home Health Agencies
- Medicare Administrative Contractors
- Hospital Value-Based Purchasing Program
- Physician Quality Reporting System
- Physician Value-Based Payment Modifier
- Medicare
- Hospital Quality Reporting Program
- Medicare Prescription Drug and MA-PD Complaint System
- Medicare Cuts: $525.9bn (includes MA cuts)
- Medicare Advantage Cuts: $205.9bn
- Subsidy: Medicare Part D Drug Program "Donut Hole"
- Insurance Mandates 17
- Individual Market
- Small Group Market
- Large Group Market
- Large Employers
- Mandatory Worker Auto-Enrollment
- Health Insurance Companies
  - Mandates, Regulations, Required Benefits, & Taxes
- Medicare Part C & Part D Insurers
- "Cadillac Plans" Tax
- Annual Fee
- Subsidies: Out-of-Pocket Expenses
- Health Insurance Policy Holder
- Health Savings Accounts
- "Excessive Profits"
- Misuse of HSA Funds
- HSA Use Restriction
- Premium Tax Credit Subsidies
- 3.8% Investment Income Tax
- Medicare Payroll Tax Increase: 0.9%
- Medicare Beneficiaries
- Employer Mandate: Provide Health Insurance
- Employers
  - Mandates, Regulations, & Taxes
- Self-Insured Health Plans
- MEWA Health Plans
- W2 Health Insurance Disclosure
- Large Business Employees
- Small Business Employees
- Individual Mandate: Buy Health Insurance
- Individuals
  - Mandates, Regulations, & Taxes
- Flexible Spending Arrangement
- FSA Contribution Limit: $2,500
- Small Employers
- Small Business Health Insurance Tax Credit
- 10% Tax On Indoor Tanning Services
- Only Medical Expenses Above 10% of Income (AGI) are Tax Deductible
- Patients

Legend

- **Government**
- **Expanded Government**
- **Private**
- **New Relationships**
- Mandates
- Government with Expanded Authority/...
- Private Entity with New Mandates/...
- Regulations/Requirements/Mandates

AGI: Adjusted Gross Income
HSA: Health Savings Account

Describe

CSLS

*Terra Incognita**

Shared Vocabulary

Shared Mental Map/
Frameworks/Visualization

Analyze

CSLS

Metrics

Structure/Topology

Configurations
& Taxonomy

Comparison

Speed of Learning
Distribution of Learning

Evolution/Change/Velocity

Outcome

Experiment/
Design/
(Re)engineer

CSLS

Private/Public
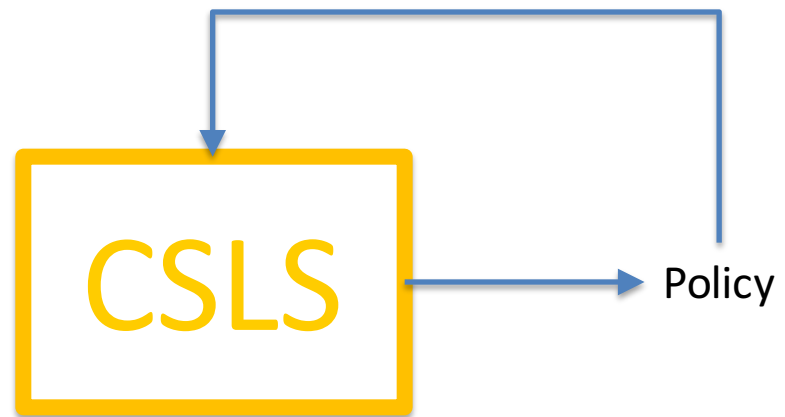Collaboration Structures*

Organizational Simulation

Living Laboratories

Thanks.