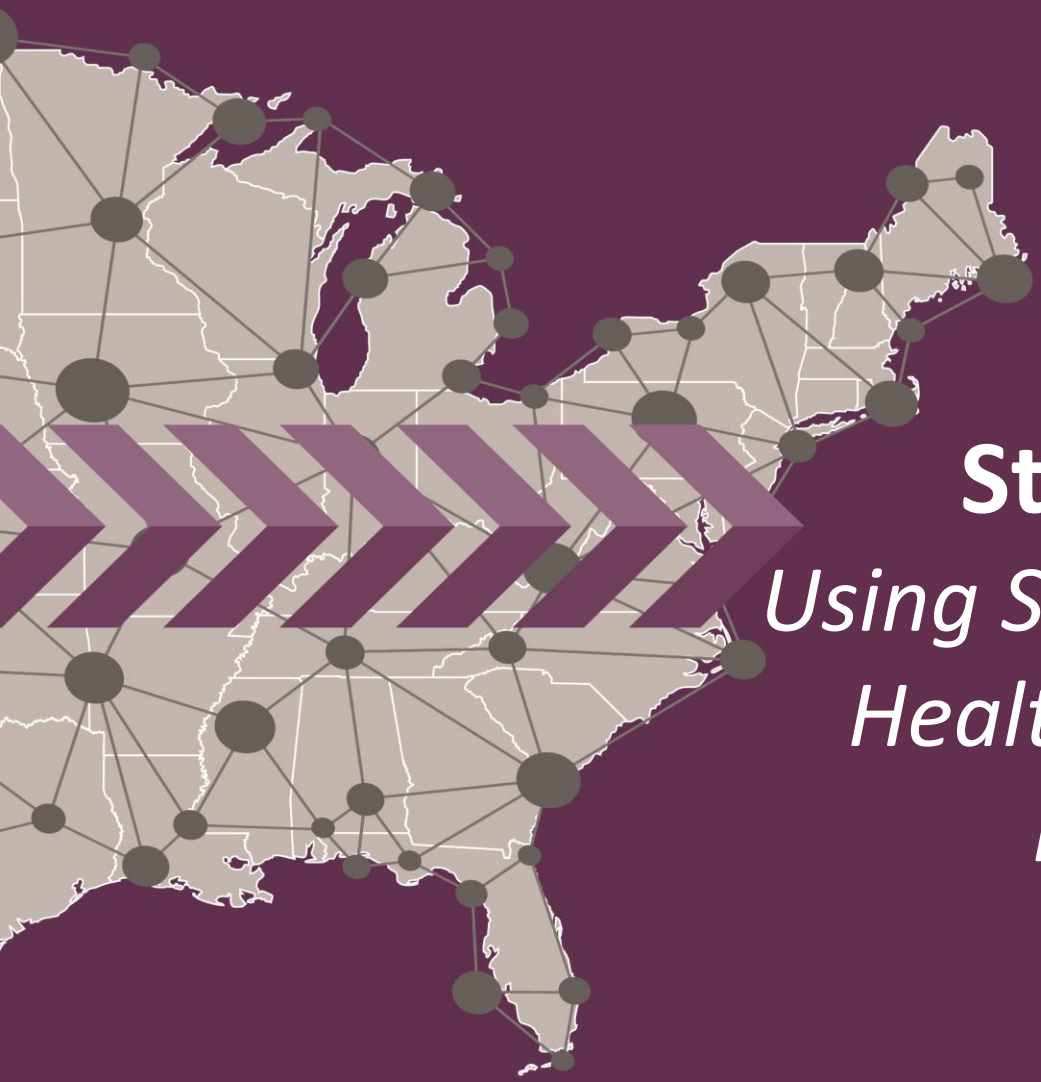


State Strategies:

Using Social Determinants of Health Data in Medicaid Managed Care

Robert Wood Johnson Foundation

WOODROW WILSON SCHOOL of Public & International Affairs

June 21, 2017

Webinar Presenter:
State Health and Value Strategies

Dan Meuse

Deputy Director

dmeuse@princeton.edu

The Robert Wood Johnson Foundation's State Health and Value Strategies Program

- Supports state efforts to **enhance the quality and value** of health care by improving population health and reforming health care delivery.
- **Works directly with states**—including Medicaid agencies, governors' offices, and more—to promote peer-to-peer learning.
- **Connects states with technical assistance experts** to develop tools for new quality improvement and cost management initiatives.
- **Collaborates with other funders and stakeholders** to produce issue briefs and host convenings, focusing on best practices for states.

Robert Wood Johnson Foundation

Webinar Presenters

Amy Lischko
Bailit Health Purchasing

Ellen Breslin
Health Management Associates

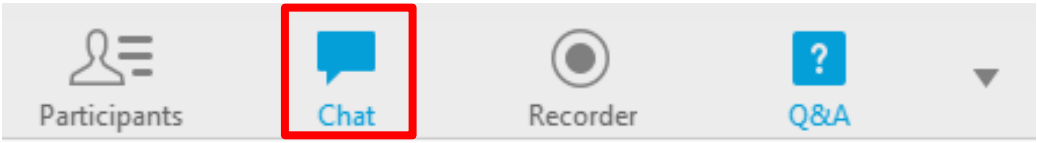
Arlene Ash
Dept. of Quantitative Health Sciences
UMass Medical School

Logistics

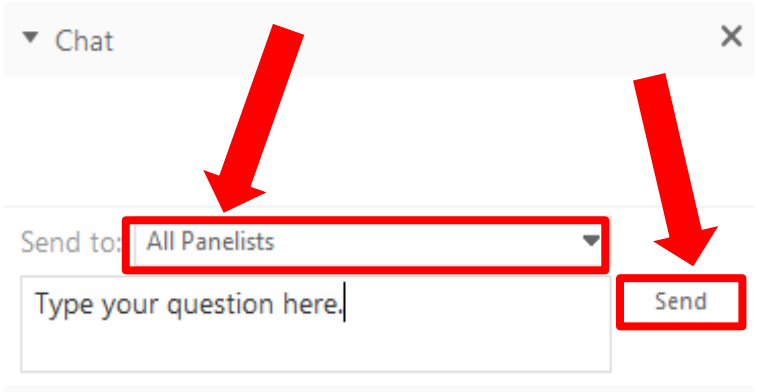
- This webinar is being recorded.
  - The recording and slides will be available following the webinar.
- Telephone lines will remain muted.
  - We want everyone to be able to hear our presenters!
- Questions can be submitted electronically at any time.

Asking Questions Electronically

- Right click on the Chat button in the top right of the WebEx program.



- Type your question in the chat box. Select “All Panelists” and click “Send.”
- The Q&A function can also be used in a similar way.



Overview

- Overview of methods for gather Social Determinants of Health (SDOH) data
- Factoring SDOH into improved payment models and quality measurement
  - State spotlight: Minnesota
  - State spotlight: Massachusetts

Using Social Determinants of Health Data in Medicaid Managed Care: Setting the Stage

Amy Lischko
alischko@Bailit-health.com

bailit health

What are Social Determinants of Health?

Social Determinants of Health – Five Domains				
Economic Stability	**Education**	**Health and Health Care**	**Neighborhood & Built Environment**	**Social and Community Context**
❖ Poverty ❖ Employment ❖ Food Security ❖ Housing Stability	❖ High school graduation ❖ Language and literacy ❖ Early childhood education	❖ Access to health care ❖ Access to primary care ❖ Health literacy	❖ Access to healthy food ❖ Quality of housing ❖ Crime and violence ❖ Environmental conditions	❖ Social cohesion ❖ Civic participation ❖ Incarceration ❖ Discrimination

Source: Centers for Disease Control and Prevention, *Healthy People 2020 Midcourse Review,* Chapter 39, page 39-2. Click here to access

Why is it Important to Consider SDOH?

Original research

Health and social services expenditures: associations with health outcomes

Research

Association between household food insecurity and annual health care costs

Valerie Tarasuk, PhD, Joyce Cheng, MSc, Claire de Oliveira, PhD, Naomi Dachner, MSc, Craig Gundersen, PhD, Paul Kurdyak, MD PhD

Symposium Article

Influence of Race, Ethnicity and Social Determinants of Health on Diabetes Outcomes ☆

Rebekah J. Walker PhD, Joni Strom Williams MD, MPH, Leonard E. Egede MD, MS

Variation In Health Outcomes: The Role Of Spending On Social Services, Public Health, And Health Care, 2000–09

Research Article

County Health Rankings: Relationships Between Determinant Factors and Health Outcomes

Carlyn M. Hood MPA, MPH, Keith P. Gennuso PhD, Geoffrey R. Swain MD, MPH, Bridget B. Catlin PhD, MHSA

Show more

LEVERAGING THE SOCIAL DETERMINANTS OF HEALTH: WHAT WORKS?

AMERICAN JOURNAL OF Preventive Medicine

EDITORIAL

Advancing the Science of Health Disparities Through Research on the Social Determinants of Health

May 15, 2013

Addressing the Social Determinants of Health Within the Patient-Centered Medical Home

Lessons From Pediatrics

Arvin Garg, MD, MPH; Brian Jack, MD; Barry Zuckerman, MD

Methods for Assessing SDOH

- Extract elements from claims data.
- Extract elements from EHR using natural language programming.
- Use State and Federal Databases to assess SDOH at population level (county, city, hospital referral region, territory, census track).
- Obtain via patient self-reported instruments.

Selected Patient Assessment Instruments

Instrument	Measures
Accountable Health Communities Screening Tool	Housing instability, food insecurity, transportation, utility, interpersonal safety. Optional: family and social supports, child care, education, employment and financial strain, health behaviors, mental health, and disabilities.
Health Leads	Food insecurity, housing instability, utility, financial resources, transportation, exposure to violence. Optional: childcare, education, employment, health behaviors, social isolation, behavior/mental health.
Monterry County ViaCare's MIHRA tool	Medical conditions, psychosocial risk factors, mental health, smoking, substance use, ability for self-management, health literacy, support system.
Patient Centered Assessment Method (PCAM)	Health status, mental well-being, lifestyle behaviors, social environment, health literacy, service coordination.
Patient-reported Outcomes Quality of Life (PROQOL)	Personal relationships, monitoring health, emotional health, money, health behaviors, medicine, getting health care, work, physical health.
Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE)	Demographics, SDOH including family dynamics social and emotional health, socioeconomic status.

State Medicaid Agency Uses of SDOH

$

Adjust Rates of payment to MCOs and ACOs to account for additional SDOH needs.

Structure performance metrics to account for differences in patient populations regarding SDOH.

Improve health and reduce **health care disparities** for certain populations.

Determine additional community supports, benefits and care coordination required by certain populations.

Accounting for the Social Determinants of Health in Medicaid Payment Models and Quality Measurement

Ellen Breslin, MPP, HMA

Health Management Associates

Presentation Overview

- Action Steps for States using SDOH Data
- Minnesota: An Approach for Identifying Medicaid Populations with Health Disparities

Five Potential Action Steps for States

Using SDOH data

1. Identify and work with partners
   - *including sister state agencies*
2. Use literature and qualitative data to identify leading SDOH and their impact
3. Assess existing sources of SDOH data
4. Analyze risk factors predictive of costs and health outcomes
5. Establish goals and get started using SDOH
   - *more details noted in the upcoming SHVS issue brief*

The Minnesota Project

Minnesota's data-intensive examination of Medicaid populations to identify groups of people with poor health outcomes.

- **Legislature's Role | To ask the questions**
  - Which Medicaid populations have the greatest health disparities?
  - What are the costs to Medicaid of serving these populations?
- **Minnesota's Role | To identify populations with health disparities**
- **HMA's Role | To team with DHS on the work**
  - Multi-disciplinary team and comprehensive process
  - Determine which risk factors are most predictive of poor health outcomes and costs, develop an analytic plan, and produce the results
  - Department of Human Services plans to post project findings to their website

How did the state identify those with the worst health outcomes?

Steps to examine relationship between health outcomes and risk factors:

- Step 1. Establish conceptual framework and identify methods of analysis
- Step 2. Create an analytic plan
- Step 3. Build a data set to support the analytic plan
- Step 4. Conduct the analyses
- Step 5. Interpret the results
- Step 6. Report on the populations with poor health outcomes

Stay focused on the goal – to improve health outcomes.
Don't get lost in a sea of data.

Step 1. Conceptual framework and methods of analysis.

Identify Target Populations	Select Measures of Health	Use Methods of Analysis
• Minnesota developed a number of target populations (for children and for adults separately) to examine, based on an array of medical and social risk factors.	• Minnesota selected a set of measures to examine health disparities and costs for each age group.	• Minnesota used a number of methods to analyze the relationship between health and risk.
• What social risk factors are you most concerned about? Do you want to examine adults in deep poverty, adults by homeless status, adults with prior history of incarceration? Do you want to examine all groups?	• Do you want to examine rates of mortality, prevalence rates for morbidities, and measures of health care use such as potentially preventable emergency department visits?	• What methods will you use? Univariate, bivariate (cross tabulations) or regressions? All will be helpful.

Health outcomes for populations defined by risk

The project purpose is to identify populations with the greatest health disparities. For each target group, health outcomes of those with the risk factor were compared to those without the risk factor.

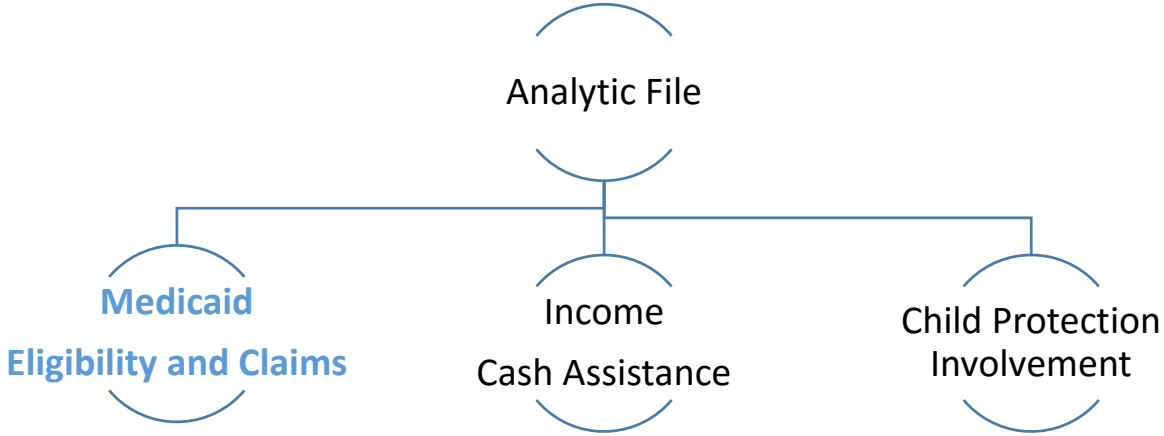
EXAMPLE: Cross Tabulation Group	Adult with Social Risk Factor	All Other Adults	All Adults
Health Disparity Measures			
Mortality rate	x%	y%	z%
Morbidity Ex: Type 2 diabetes prevalence rate			
Disability			
Health care access, use and quality Ex: Potentially preventable emergency department visits, dental visit			
Health Care Cost Measures			

Notes:

- Many adult population groups were examined; plus many children groups.
- Over 20 health disparity measures were examined, and 2 cost measures.

Step 2. Create an analytic plan.
Step 3. Build a data set to support the analytic plan.

In fairness, the analytic plan reflects the data that is available.



- Demographics (age, gender, race geography)
- Enrollment (length, disability status)
- Medical & behavioral health (diagnoses)
- Social risk factors (child/adult)
  - Language
  - Several parental risk factors
- Outcomes:
  - Mortality
  - Morbidity
  - Disability
  - Health care use
  - Health care access
  - Health care quality, HEDIS
  - Health costs

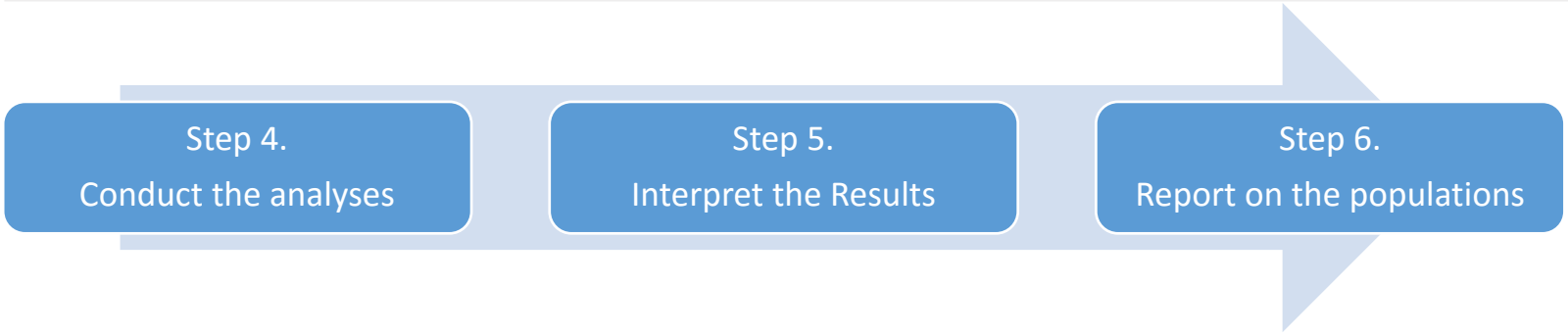
- Social risk factors:
- Income & poverty levels

- Social risk factors:
- Children with involvement from child protection

The data set includes more than 100 variables, both independent and dependent variables.

Disability as a population group should be further examined.

Steps 4-6. Analyze the data.



- Analyses have been conducted.
- Results have been interpreted and populations identified.
- Report will be provided to the Legislature in July.
- Minnesota is currently researching interventions and strategies to best address the health disparities of several population groups.

The Minnesota Project: Conclusion

The real accomplishment: improving health outcomes.

- Past, Present and Future
  - Minnesota engaged providers, consumers, and consultants.
  - Minnesota developed a baseline understanding of health outcomes for its Medicaid population.
  - Minnesota is better able to measure improvement in health and cost outcomes for its Medicaid managed care population.
  - Minnesota is now researching interventions and strategies to improve outcomes.

Thank you!

Project

This project was carried out under the direction of Justine Nelson, PhD of the Minnesota Department of Human Services' (DHS) Health Care Administration.

Project team:

Presenter: Ellen Breslin, HMA | ebreslin@healthmanagement.com
Anissa Lambertino, HMA
Dennis Heaphy, Disability Policy Consortium (DPC)
Tony Dreyfus, Independent consultant
Data vendor: JEN Associates, Inc.

MassHealth's SDH Payment Model

Arlene S. Ash, PhD

Department of Quantitative Health Sciences
University of Massachusetts Medical School

Using SDH Data in Medicaid Managed Care

June 21, 2017

Presentation Overview

- What did Massachusetts Medicaid do related to using social determinants of health data in their managed care program?
- Why did they do it?
- What did they find?

MassHealth MCO Payment Models

- MassHealth had been using a claims-based medical-risk model (the DxCG-HCC RRS)
- Our charge: Improve the RRS model
  - Find and add new variables (especially SDH)
  - Test new “SDH model” performance
  - Interact regularly with stakeholders to identify and address concerns

New MassHealth SDH Payment Model

- In use since October 2016
- Uses SDH as well as age, sex, and diagnoses
  - Purpose - recognize extent to which SDH contribute to need for extra resources to sustain health
  - MassHealth is separately working to ensure that resources are used for those purposes
- A constraint was to use readily available data
- Our goal was to make sure there was enough money for vulnerable subgroups
- We did not look at other outcomes

What we were able to add to RRS

- Use claims and enrollment files (MMIS)
  - Address data: Neighborhood Stress Score (NSS) and unstable housing
  - ICD code for “homeless” (with caveats)
- Stratify the disabled population using data from DMH and DDS
- “Tune” for age/sex (right amount “for kids”)
- Separately recognize SMI and SUD

Some things we couldn't address

- Identify "very low income"
- Limited English proficiency
- Child protection, incarceration
- Need for LTSS
- Food insecurity
- Transportation/access problems
- Social isolation/poor acculturation
- Race/ethnicity

Building the SDH model

- Data are from 2013 MassHealth records
  - Claims from the (FFS) Primary Care Clinician (PCC) program and "dummy claims" from MCOs
  - Administrative records
- We only modeled members enrolled for 183+ days
  - Because it takes time to "manage" care
- "Cost" ≠ *total* cost of care
  - No long-term support services (LTSS)
    - Because we cannot reliably measure the *need* for such services; fixing this is important future work
  - No costs over $125,000 for a single person-year

SDH Model Predictors

- A medically-based relative risk score (RRS) +
- Age-sex indicators +
- Markers for: unstable housing, disability, serious mental illness, substance use disorder +
- A summary measure of neighborhood stress, based upon census data that describe where you live

Model Details (1 of 2)

- **DxCG v4.2 concurrent Medicaid relative risk score (RRS)**
- **Age/Sex Indicators**
  - 10 age categories each for male and female
  - Ages: 0-1, 2-5, 6-12, 13-17, 18-24, 25-34, 35-44, 45-54, 55-59, 60+
- **Disability**
  - Client of Department of Mental Health (DMH)
  - Non-DMH, Client of Department of Developmental Services client (DDS)
  - All others entitled to Medicaid due to disability

Model Details (2 of 2)

- **Behavioral Health**
  - Serious mental illness, substance use disorder
- **Housing Issues**
  - People with 3 or more addresses in a single calendar year **OR** with an ICD code for homeless indicated on a claim or encounter record
- **Neighborhood Stress Score (NSS)**
  - A composite measure of "financial stress" from 7 census variables (based on addresses geocoded to the census block group or tract)

Neighborhood Stress Score (NSS)

- 7 census variables:
  - % of families with incomes < 100% of FPL
  - % < 200% of FPL
  - % of adults who are unemployed
  - % of households receiving public assistance
  - % of households with no car
  - % of households with children and a single parent
  - % of people age 25 or older who have no HS degree
- Set NSS = 0 when address cannot be geocoded (<5%)
- NSS is standardized (Mean = 0; SD = 1)

MassHealth started using the new formula October 1, 2016

- MassHealth listened to stakeholders and explained the model and its logic in multiple venues
  - Public meetings and posted details at the Mass Innovations website
- So far the model has been well received
- Too early to know its effect on health plan behaviors and beneficiary health

SDH Model Illustrative MCO Dollars

	% of MCO members in this group (CY13)	Dollar increment for members in cohort	Mean overall dollars predicted
All Managed Care	100.00	-	$5,000
NSS, per SD unit		$50	-
DxCG RRS, per unit		$3,300	-
Risk Group			
DMH client	0.4	$13,650	$29,700
DDS client (not DMH)	1.1	$2,550	$11,450
All other disabled	10.7	$1,400	$13,650
Homeless, by ICD code	0.02	$550	$29,050
3+ addresses in a year	11.5	$550	$7,400
Serious mental illness	10.2	$2,250	$16,900
Substance use disorder	6.2	$2,000	$15,300

New dollars *could* support innovations

- Paying ~$50 per unit increase in "neighborhood stress" gives providers with 2,000 patients in a distressed neighborhood ≥ $100,000/year to address social complexity
- Paying $600 annually for coded homelessness may be less than needed, but it will
  - Support useful services now
  - Encourage the more comprehensive coding needed to accurately price homelessness in the future
- Could lead to *health care* system/community partnerships
- Could facilitate cooperation across state agencies

Read more about the model at:

- http://www.mass.gov/eohhs/gov/commissions-and-initiatives/healthcare-reform/masshealth-innovations/

- Under "Previous meetings – 2016"
  - October
    - UMASS Modeling SDH Summary Report

2013 MassHealth Population: Detail

Only includes people with at least 183 days of MassHealth enrollment

	Fee-For-Service			MCO		
Members	357,660			524,607		
Member years (11.2 mos. PMPY in each program)	326,501			480,389		
The population	Mean	SD	Median	Mean	SD	Median
Age in years	26.1	18.6	22.0	21.6	17.0	22.0
Cost	5,590	11,684	1,719	4,694	10,395	1,475
Relative Risk Score	1.16	2.29	0.42	0.89	1.88	0.33

THANK YOU

Arlene.Ash@umassmed.edu
on behalf of the UMass Medical School research team

Arlene Ash PhD
Eric Mick ScD
Randall Ellis PhD
Catarina Kiefe PhD MD
Jeroan Allison MD MS
Melissa Clark PhD

Discussion and Questions

Dan Meuse

Amy Lischko

Ellen Breslin

Arlene Ash

Resources

- Webinar materials will be emailed to participants and made available on the SHVS website
  - http://statenetwork.org/resource/?tag=shran,shvs&topic=&type=