Improving Service Delivery for High Need Medicaid Clients in Washington State Through Data Integration and Predictive Modeling
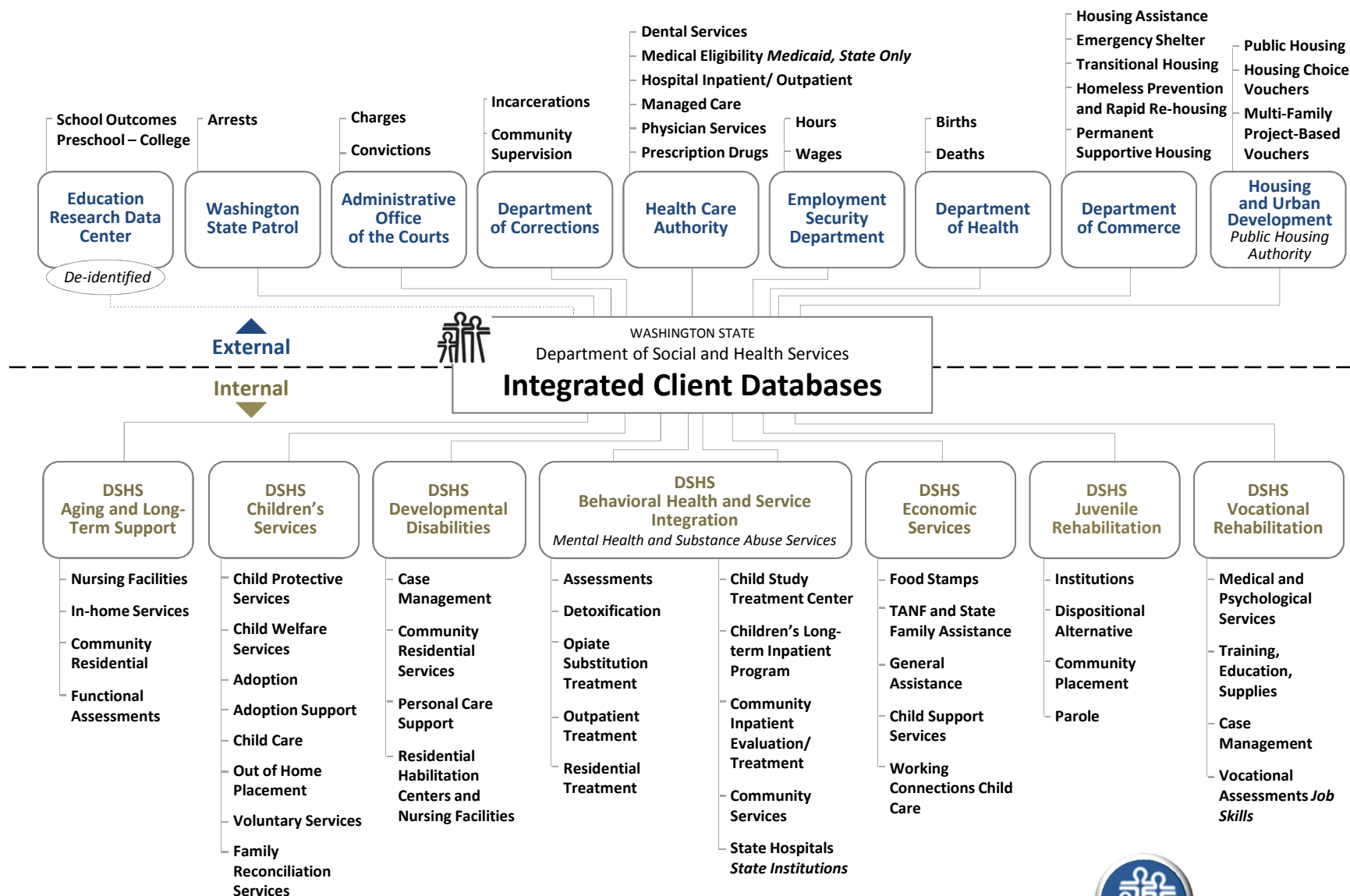
Getty Images, iStock

David Mancuso, PhD

Analytics in the Social and Health Service Environment

▸ **Program costs are often driven by a small proportion of patients with multiple health conditions,** often exacerbated by mental illness, substance use disorders, cognitive limitations or functional impairments

▸ **High-cost clients are often served in multiple Medicaid-funded delivery systems** (medical, long-term care, mental health, substance abuse, developmental disabilities)

▸ **High-cost clients often have significant social support needs** such as the need for housing or employment support, or interventions to reduce the risk of criminal justice involvement

▸ **Persons dually eligible for Medicare and Medicaid comprise a disproportionate share** of high-risk, high-cost Medicaid beneficiaries

▸ **Increased emphasis on quality/outcome measurement and performance-based payment structures**

▸ **States need analytic capability that goes beyond traditional data warehousing and business intelligence applications**

Washington's RDA Integrated Client Databases

Education Research Data Center
- School Outcomes Preschool – College

De-identified

Washington State Patrol
- Arrests

Administrative Office of the Courts
- Charges
- Convictions

Department of Corrections
- Incarcerations
- Community Supervision

Health Care Authority
- Dental Services
- Medical Eligibility *Medicaid, State Only*
- Hospital Inpatient/ Outpatient
- Managed Care
- Physician Services
- Prescription Drugs

Employment Security Department
- Hours
- Wages

Department of Health
- Births
- Deaths

Department of Commerce
- Housing Assistance
- Emergency Shelter
- Transitional Housing
- Homeless Prevention and Rapid Re-housing
- Permanent Supportive Housing

Housing and Urban Development *Public Housing Authority*
- Public Housing
- Housing Choice Vouchers
- Multi-Family Project-Based Vouchers

External

Internal

WASHINGTON STATE
Department of Social and Health Services
Integrated Client Databases

DSHS Aging and Long-Term Support
- Nursing Facilities
- In-home Services
- Community Residential
- Functional Assessments

DSHS Children's Services
- Child Protective Services
- Child Welfare Services
- Adoption
- Adoption Support
- Child Care
- Out of Home Placement
- Voluntary Services
- Family Reconciliation Services

DSHS Developmental Disabilities
- Case Management
- Community Residential Services
- Personal Care Support
- Residential Habilitation Centers and Nursing Facilities

DSHS Behavioral Health and Service Integration
Mental Health and Substance Abuse Services
- Assessments
- Detoxification
- Opiate Substitution Treatment
- Outpatient Treatment
- Residential Treatment
- Child Study Treatment Center
- Children's Long-term Inpatient Program
- Community Inpatient Evaluation/ Treatment
- Community Services
- State Hospitals *State Institutions*

DSHS Economic Services
- Food Stamps
- TANF and State Family Assistance
- General Assistance
- Child Support Services
- Working Connections Child Care

DSHS Juvenile Rehabilitation
- Institutions
- Dispositional Alternative
- Community Placement
- Parole

DSHS Vocational Rehabilitation
- Medical and Psychological Services
- Training, Education, Supplies
- Case Management
- Vocational Assessments *Job Skills*

Using integrated data in predictive modeling for care management

▶ PRISM

Getty Images, iStock

PRISM Screens

Risk Factors	Key medical and behavioral health risk factors
IP Risk Model	Prospective hospital admission risk model
Adherence	Medication adherence dashboard
Eligibility	Detailed eligibility and demographic data
Claims	All medical claims and encounters
Office	Office visits
Rx	Prescriptions filled
IP	Inpatient admissions
ER	Outpatient emergency room visits
LTC	Long term care services
SNF	Skilled nursing facility services
Lab	Laboratory
Providers	Provider list with links to contact information
SUD	Substance use disorder treatment
MH	Mental health services

Uses of PRISM

▸ **Triaging high-risk populations** to more efficiently allocate scarce care management resources

▸ **Intuitive and easily accessible source of patient health and social service data for clinicians and case managers**

▸ **Informing care planning and care coordination for clinically and socially complex persons**

▸ **Identification of child health risk indicators for high-risk children** (mental health crisis, substance abuse, ED use, nutrition or feeding problems)

▸ **Identification of behavioral health needs** (redacting information where required by state or federal law)

Getty Images, iStock

Uses of PRISM *continued*

▸ **Identification of other potential barriers to care:**

- Patient's housing status (e.g., whether they are homeless)

- Hearing impairment

- Non-English primary language

▸ **Access to treating and prescribing provider contact information for care coordination**

▸ **Creation of child health summary reports for foster parents and pediatricians**

▸ **A source of regularly updated contact information from the medical eligibility determination process** to support patient outreach and engagement efforts

Uses of PRISM *continued*

▶ Medication adherence monitoring

▶ Identification of potential narcotic drug-seeking behavior

▶ Identification of psychotropic medication polypharmacy patterns associated with overdose risk

▶ Monitoring health plan compliance with contractual requirements

▶ Plan- and provider-level quality improvement program support

▶ Service authorization and utilization review

▶ Medical evidence gathering for determining eligibility for disability programs
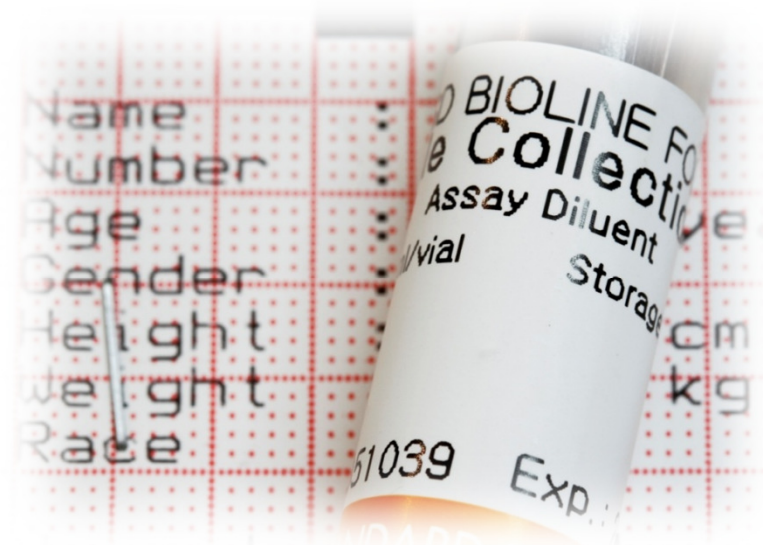
Early returns show promise

▸ **Chronic Care Management evaluation**
- Modest net savings
- Driven by reduced Hospital IP and SNF costs
- Reduced mortality
- Increased patient satisfaction

http://publications.rda.dshs.wa.gov/1396/
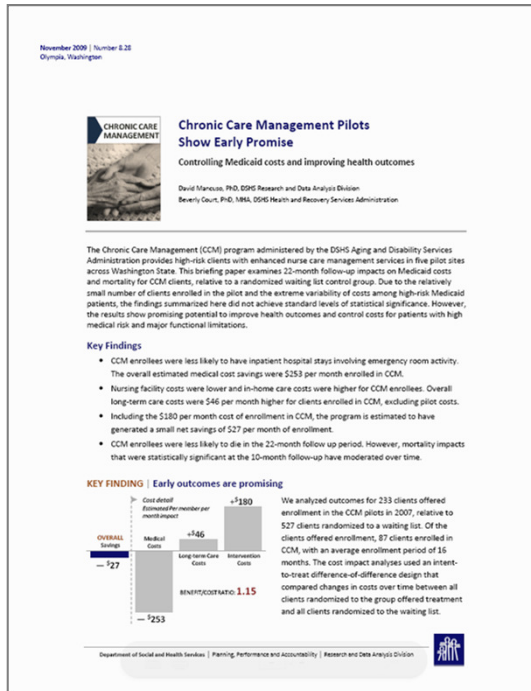
▸ **Cost Detail**
Estimated per member per month impact

OVERALL
Savings

− $27

Medical Costs

Long-term Care Costs

+ $46

Intervention Costs

+ $180

− $253

Questions?

http://www.dshs.wa.gov/rda/