

Strengthening the No Wrong Door Business Case by Using Medicare and Medicaid Data

DECEMBER 9, 2021

2021 HOME & COMMUNITY-BASED SERVICES
CONFERENCE

Agenda

1. NWD Business Case Development and ROI Charge
2. Overview of Virginia's NWD Initiative
3. Overview of Wisconsin's NWD Initiative
4. Key Takeaways and Resources

What is a No Wrong Door System?

Prior to NWD System Implementation



After NWD System Implementation



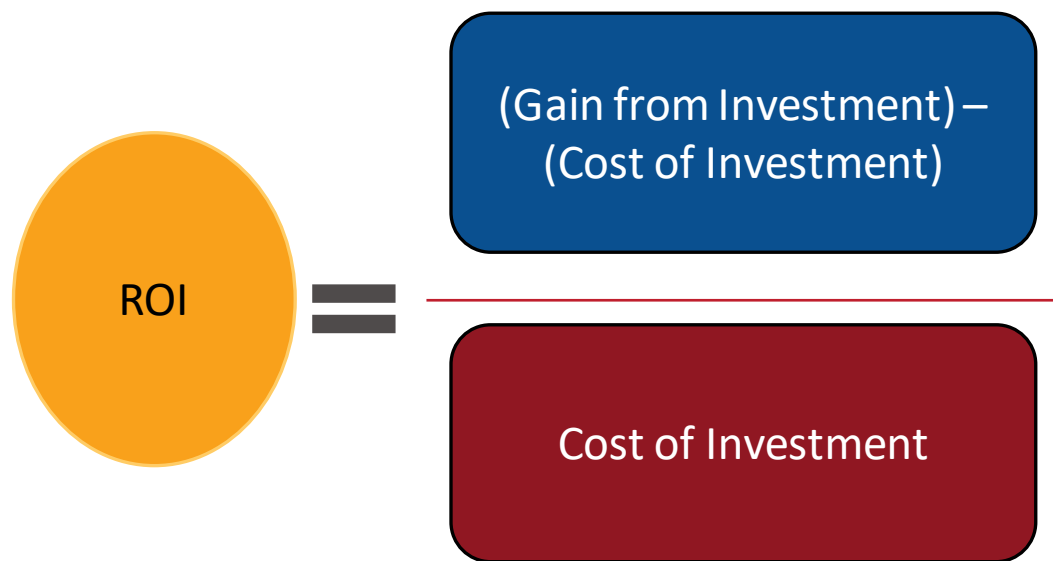


What is the Business Case? What is its Value?

- Designed to demonstrate how NWD Systems empower individuals to access health and social services and supports in ways that meet their preferences and needs while also contributing to cost savings for payers
- Measuring core outcomes and illustrating return on investment (ROI) can lead to the advancement and sustainability of NWD Systems
- A strong business case creates the foundation for transforming a state's access system and addressing the challenge of sustainability
- Ensures state- and community-based organizations can more effectively market their services, compete in a changing marketplace, ensure funding for services, leverage resources, and help payers achieve quality goals and cost savings

What is Return on Investment?

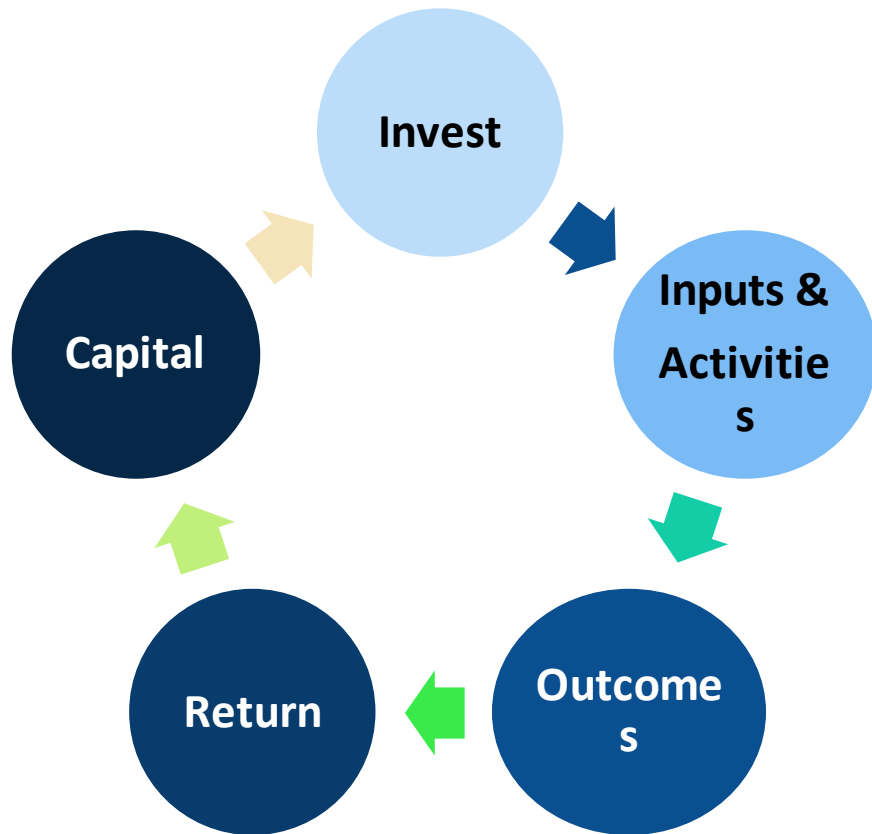
- Measures the dollars gained or saved for each dollar invested
- Used to show the advantages of a program
- Can be used to assess options and recommend solutions/next steps



The diagram illustrates the Return on Investment (ROI) formula. On the left, an orange circle contains the text "ROI". To its right is an equals sign. Further right, a blue rounded rectangle contains the text "(Gain from Investment) – (Cost of Investment)". Below this, a red rounded rectangle contains the text "Cost of Investment". A horizontal red line is positioned between the two boxes on the right, indicating that the blue box is divided by the red box.

$$\text{ROI} = \frac{(\text{Gain from Investment}) - (\text{Cost of Investment})}{\text{Cost of Investment}}$$

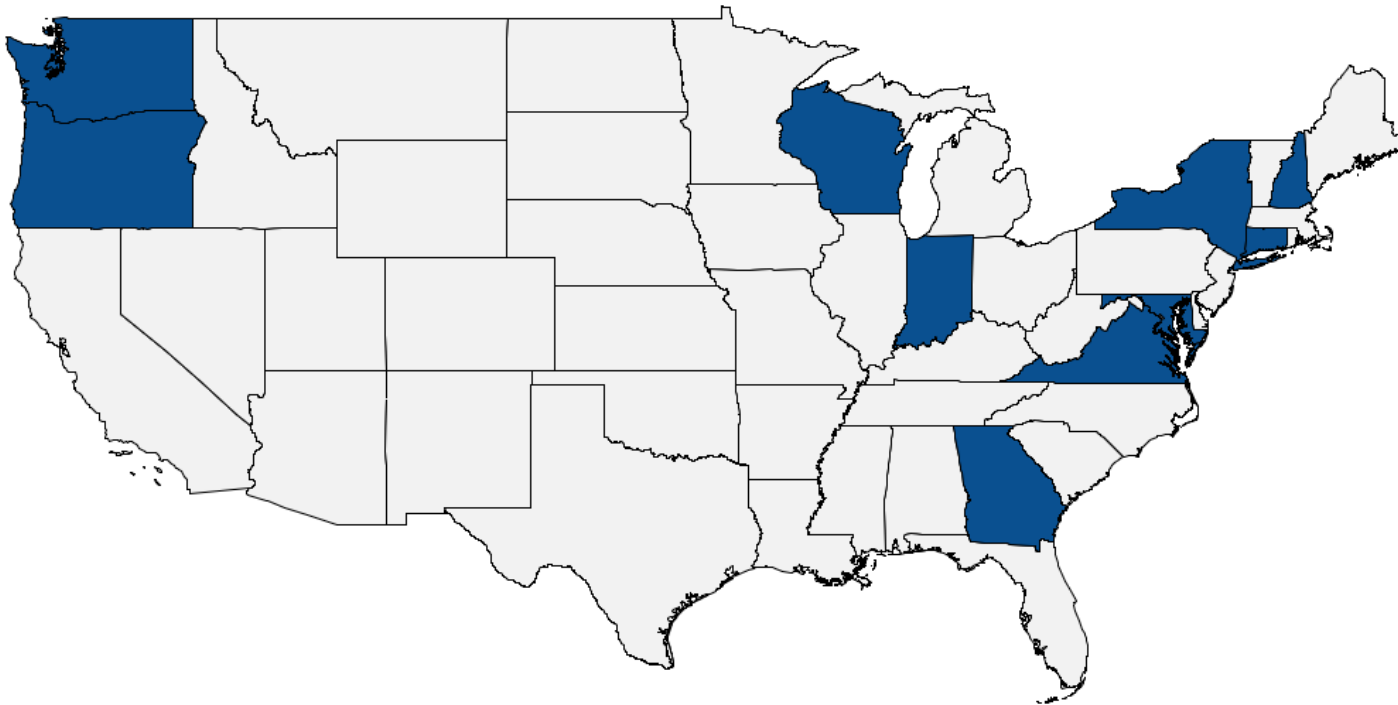
How does ROI fit into the NWD BC?



ROI is a thread throughout the components of a business case:

- Aligned with goals
- Measures cost and benefits supporting analysis and contributing to change
- A key element of managing the investment through a continuous quality cycle

10 NWD Business Case Grantees



ROI Calculator Objectives

Developing national ROI calculations that:

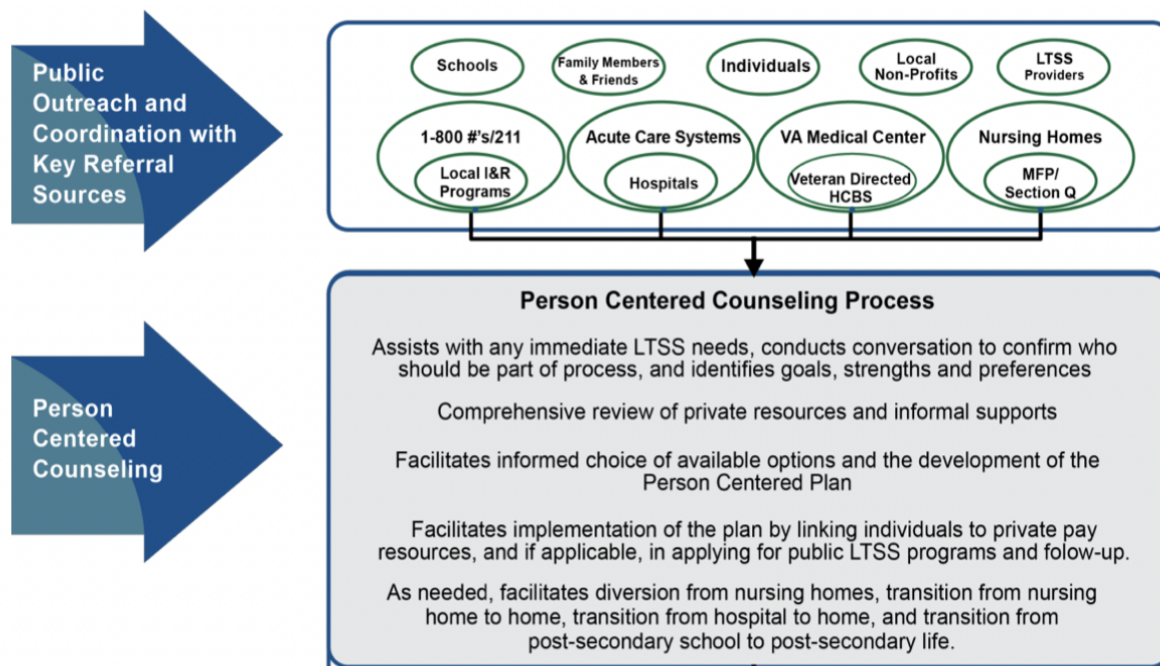
- A focus on key interventions that enables measurement of both the consistent and unique state features
- Is variable and allows for changing data
- Enables the collection and storage of data
- Supports the national and unique state's business case
- Offers a tool to states for enhancing business acumen
- Creates the foundation for transforming a state's access system and provides information to address the challenge of sustainability

With this evidence in hand, state and community-based organizations will be able to more effectively market their services, compete in a changing marketplace, ensure funding for services, and help payers achieve quality goals and cost savings.

Four ROI Calculators

- Person-Centered Counseling
- Institutional Care Transitions
- Hospital Care Transitions
- Veteran Directed Care

NWD System Key Elements Schematic:



Person-Centered Counseling (PCC)

While anecdotal data reveals many benefits to person-centered counseling aside from fiscal benefits associated with living settings, this calculator focused on those benefits because they were most easily quantifiable in a fiscal sense.

Savings (Gain)

Savings associated with individuals' **living settings** (e.g., nursing home vs. assisted living vs. home)

Cost

Cost of providing person-centered counseling services, including staff cost, overhead, etc.

Institutional Care Transitions

In 2018, AARP's survey on community preferences found nearly 80% of adults over 50 prefer living in community settings, and the successful transition of individuals from institutions back to the community is a key element of NWD Systems. This calculator focused on savings accrued by providing care outside of institutional settings.

Savings (Gain)

Savings associated with individuals' **living settings** (e.g., nursing home vs. assisted living vs. home)

Cost

Cost of providing institutional care transitions services, including staff cost, overhead, etc.

Hospital Care Transitions

According to MedPAC, 12% of hospital readmissions are potentially avoidable and associated with unfavorable outcomes and high financial costs. This calculator focused on savings accrued from prevented hospital readmissions as a result of providing hospital care transitions services.

Savings (Gain)

Savings associated with individuals' **prevented hospital readmissions** (e.g., prevented all-cause 30-day non-elective)

Cost

Cost of providing hospital care transitions services, including staff cost, overhead, etc.



Veteran-Directed Care (VDC)

This calculator focused on savings accrued by empowering veterans to seek the right combination of supports by quantifying veterans' utilization of healthcare services and the associated costs. It estimates the impact of veteran-directed care (VDC) services by comparing utilization and costs for individuals who receive VA Homemaker/Home Health Aide (H/HHA) services against those who receive veteran-directed care (VDC) services.

**Savings
(Gain)**

Savings associated with **investment in VDC** (e.g., difference in cost of VDC vs. H/HHA)

Cost

Costs associated with the impact of VDC (difference in cost savings associated with VDC vs. H/HHA)



CMS Analysis Research Questions

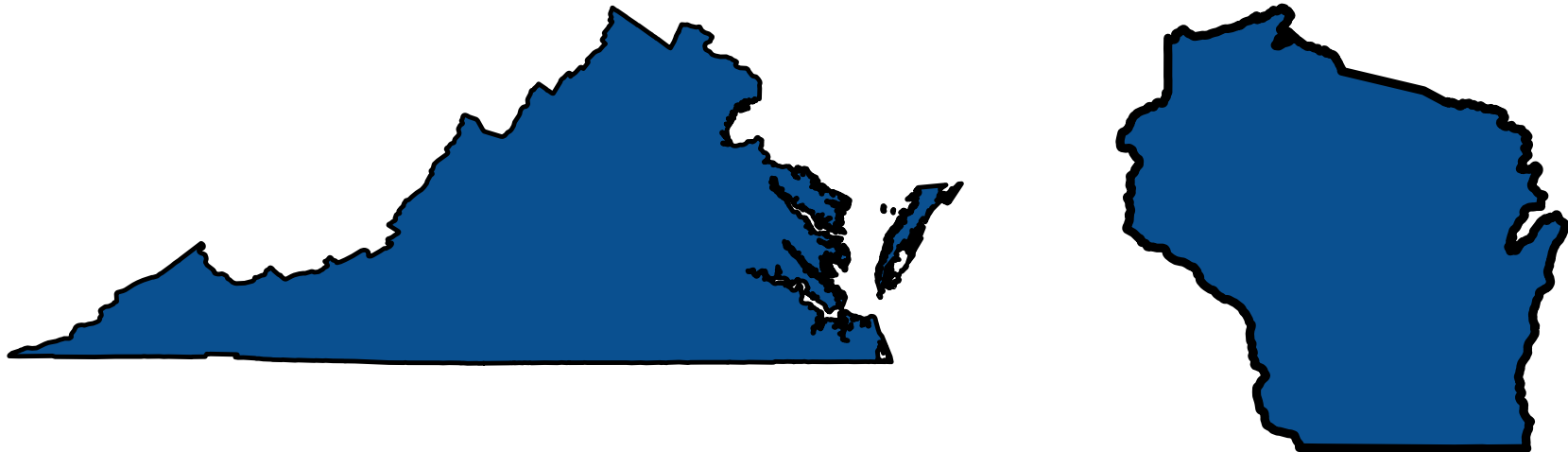
Virginia and Wisconsin participated in a pilot to demonstrate the value of using Medicare and Medicaid data to strengthen the NWD Business Case

1. Do individuals who receive NWD System intervention use fewer health care resources from Medicare/Medicaid following NWD implementation compared to those who do not?
2. What is the association between the number of chronic conditions and the impact of the NWD System on health care utilization?
3. To what extent do people who participate in NWD have fewer adverse health events after participation?





Overview of Virginia and Wisconsin's NWD Initiatives



Virginia and Wisconsin, and their respective analytic consultants, share lessons learned from the experience of using Medicare, Medicaid, and NWD data to conduct ROI on outcome measures including community tenure.





Virginia NWD Initiative

Sara Link

*Virginia Department for Aging
and Rehabilitative Services*

**Jessica Kasten &
Brian Goodness**
IBM Watson

VIRGINIA

No Wrong Door

ACCESS. OPTIONS. ANSWERS.



Virginia NWD Analysis Results



What it is:

No Wrong Door Systems **support individuals to make informed decisions**, to exercise control over their long term care needs, and to achieve their personal goals and preferences.

A single system where anyone can be seamlessly connected to the full range of community-based options available. Through its network of partner agencies, NWD expands access to services and supports, helping individuals and their caregivers navigate resources they need with a person-centered approach.



When did it start?

2005 - Legislative study identifies the benefits of establishing a “No Wrong Door” philosophy in Virginia.

Rich History in Virginia



No Wrong Door has a deep rooted, rich history and infrastructure in Virginia – to provide better service delivery to individuals in obtaining the supports and services they need- through programs that include I,R&A and Person Centered Options Counseling.

Federal Initiative

Driven by the Administration for Community Living in partnership with CMS- Center for Medicare and Medicaid Services along with Veterans health Administration. It exists in 56 states and territories- and the ACL provides states like Virginia on going funding- revenue streams coupled w/ federal guidance for monitoring and reporting on our work- specific in the areas specific of I&R and A and Options Counseling and now with COVID-19 funds.



Robust Statewide Governance Structure



NWD Virginia also has a robust governance structure that includes our NWD Resource Advisory Council which meets quarterly (and for which you've participated) represents Health and Human Service Agencies and statewide networks of public and private providers of long term services and supports, as well as self advocates.

Locally Led Initiative

No Wrong Door is locally led by a network of 25 area agencies on aging statewide, written into the code of Virginia for doing this work- who each have Local No Wrong Door Advisory Councils that meet with their network of community partners/providers- these local networks bring new partners onto the system/technology and determine process for improving their supports both through the technology and directly to individuals. Local networks extent to our Centers for Independent Living who also are critical partners on the system doing the work of Options Counseling.



Secure Technology, Full Case Management System



It includes a full case management system for our network of Area Agencies on Aging and some partners- and the case management service is tied directly to our State Unit on Aging requirements for the federal government in tracking our Older Americans Act funds by funding sources, service types and service units. This more robust case management system is also available to the 230 on our system. Our system also has an array of reports, designed and customized by our AAAs and network of partners.

Secure System with Consent

Our system also includes a secure and standard process and annual training for security and to ensuring the requirements of obtaining individual consent are met.



Bi-Directional and Closed Loop Referrals



Our system pushes bi-directional referrals between providers/partners. Individuals can also directly access system via No Wrong Door Direct Connect.

Two Statewide Resource Databases

Our technology builds off existing public utilities like 2-1-1 Virginia with 18,000+ resources and supports via 24/7 livechat with trained operators, and VirginiaNavigator with 27,000+ resources and supports.



Professional Network of Specialist and Certified Options Counselors



No Wrong Door Virginia has a dedicated help desk and trainers who understand the philosophy of person-centered practices that drives our work. This included 650+ professionals all using the same tech platform. We also have 92 Certified Options Counselors and Virginia No Wrong Door -- through our statewide training -- monitors the work and develops an annual refresher. These are the professionals doing important direct service work across the state.

NWD Virginia Strengths

Person
Centered
Options
Counseling

Strong
Network of
Partner
Agencies

Statewide
Standards

Options
Counseling
Reimbursement

NWD Virginia PC-OC

Person-Centered Options Counseling



Virginia Options Counseling Statewide Standards Training

Options Counseling is an interactive decision support process whereby individuals are supported in making long-term support choices in the context of their unique preferences, strengths, needs, values, and circumstances. Options Counseling is provided by individuals trained and practicing according to **Virginia's Statewide Standards**.

This webpage provides training modules, annual refresher training, and resources for practicing Options Counseling according to **Virginia's Statewide Standards**. The following chart provides an overview of Options Counseling Statewide Standards Training Requirements in Virginia.

Training Requirements

Staffing Roles	Module 1	Module 2	Module 3	Module 4	Module 5	Annual Refresher
Staff Who Determine The Need	☑	☑				Recommended
Options Counselors	☑	☑	☑	☑		☑
Supervisors of Options Counselors	☑				☑	Recommended
Executive Directors	☑				☑	Recommended

[Return to top](#)

Training Modules

Modules should be reviewed in ascending order, beginning with Module 1, and each Module should be viewed in its entirety prior to taking the corresponding Post-Quiz.

Registration and Log-in

Agency staff can access all posted resources and modules at any time without a log-in. However, only your "username" and "password" will provide you access to post-quizzes, enable the system to track your progress, and provide you with certification based upon your staff role. Staff new to the system must create a username and password prior to taking your first quiz. Staff already registered with the system should use your existing username and password and **not create new ones**.

OC training curriculum

Statewide Standards

OC reimbursement

Broad OC Partners

- <https://www.nowrongdoortraining.dars.virginia.gov>

Welcome to the No Wrong Door Training Platform.

No Wrong Door (NWD) Systems empower individuals to make informed decisions, to exercise control over their long term care needs, and to achieve their personal goals and preferences.

We hope this site is easy for you to navigate and find the information you need.

If you have any feedback or questions, please email us at nowrongdoor@dars.virginia.gov.

CURRENT COURSE OFFERINGS

- NWD Direct Connect
- VATS Online Food Ordering
- PC-OC – Overview and Reimbursement
- PC-OC Module 1 – Statewide Standards
- PC-OC Module 2 – Who Can Benefit from Person Centered Options Counseling

No Wrong Door Virginia: Connecting Individuals to Services

Mrs. T had come to rely on her daily meal delivery service for nutrition and social contact. COVID-19 meant those daily visits became monthly.



Prince William AAA reports that a daily checking program was implemented targeting people who lived alone. Mrs. T. enrolled, and she remains enrolled.

She says the call gives her a chance to talk about her health, her dog, and keep up with what is going on in the world. She waits for the call every day and says they are important to her and keep her connected.

Medicare Data Pilot ROI Objective

The DARS/IBM team sought an ROI outcome measure that both aligned closely with Options Counseling principles and standards and that could be measured with Medicare and Medicaid claims and enrollment data.

The team decided to develop and test a claims-based measure of community tenure.

Community tenure outcome measure: percent of beneficiary's Medicare enrolled days that were not institutional days, with institutional defined as Medicare inpatient hospital, Medicare SNF, and Medicaid NF

ROI Study Design: Community Tenure Measure

Case-control pre-post analysis of a community tenure outcome measure with propensity score matching (PSM) techniques to identify a NWD comparison (control) group

3 Qualifying NWD encounters: 1) Standard Communication, Referral, Information, and Assistance (CRIA), 2) Care Transitions, 3) Options Counseling

Study Period

Anchor date

First qualifying NWD
encounter in CY 2017

“Pre” Period

“Post” Period

365 days before
anchor date

365 days after
(and including)
anchor date

ROI Data Sources

NWD Virginia (PeerPlace)	Medicare (CCW Research Identifiable Files)	Medicaid (CCW T-MSIS Analytic Files)
NWD tracking (encounters, demographics)	Enrollment	Enrollment
	Claims (fee-for- service only)	Claims/managed care encounters

- CMS CCW identifiable data made available to project in the CMS Virtual Research Data Center (VRDC) through ACL data use agreement (DUA) with CMS
- Virginia and Wisconsin and their analytic partners identified as Data Custodians in the DUA

Data Linkage & Analysis

Linking NWD Virginia & Medicare Data

- NWD Virginia data does not have beneficiary identifiers such as SSN
- CMS CCW contractor linked the NWD finder file and Medicare enrollment data using a strict deterministic match on last name, gender, date of birth, and ZIP code
- Led to 21,205 / 34,882 potential matches (61%)

Linking NWD-Medicare Sample and TAF

- Used the CCW common beneficiary ID to link the NWD finder file and TAF
- CMS prohibits use of Medicaid beneficiary last name for match process, only dual-eligible beneficiaries could be matched
- Nearly 100% match between Medicare dual status and TAF

Analytic Environment & Tools

- CMS Virtual Research Data Center (VRDC), SAS[®] statistical software, claims-based chronic condition and frailty algorithms

Study Samples

NWD sample:

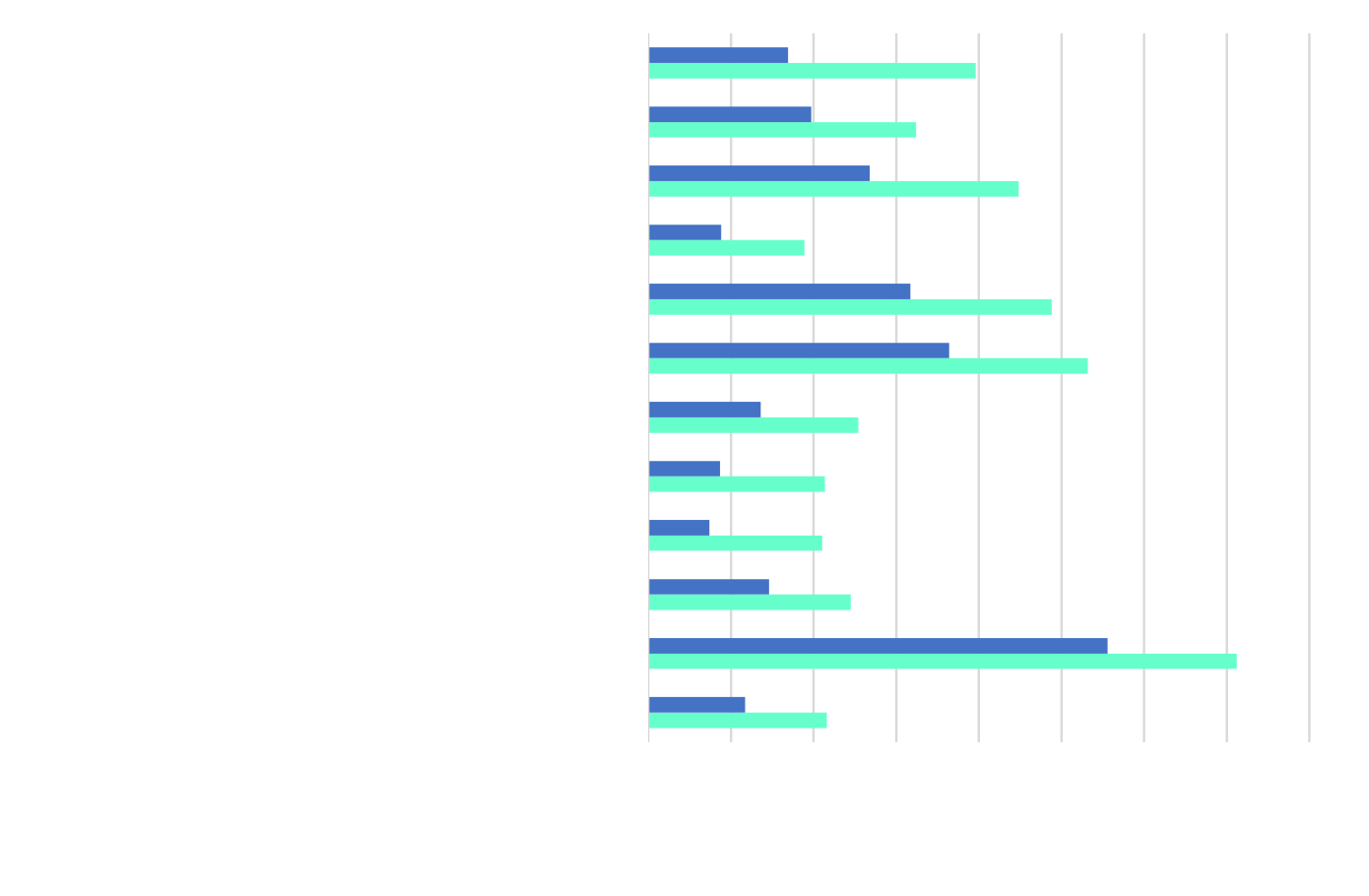
Sample of 11,134 individuals who had “full or nearly full” (FNF) Medicare fee-for-service (FFS) coverage in calendar years (CYs) 2017 and 2018 and had any of the 3 types of qualifying NWD encounters (CRIA, Care Transitions, or Options Counseling)

We were particularly interested in the subgroup that received NWD Options Counseling (n = 405) because it is the NWD “intervention” most closely associated with the outcome of community tenure

Control sample:

Random sample of 120,000 individuals enrolled in Medicare in Virginia during the study period who had FNF FFS coverage and who were not found in our NWD data extract (i.e., did not have a qualifying NWD encounter)

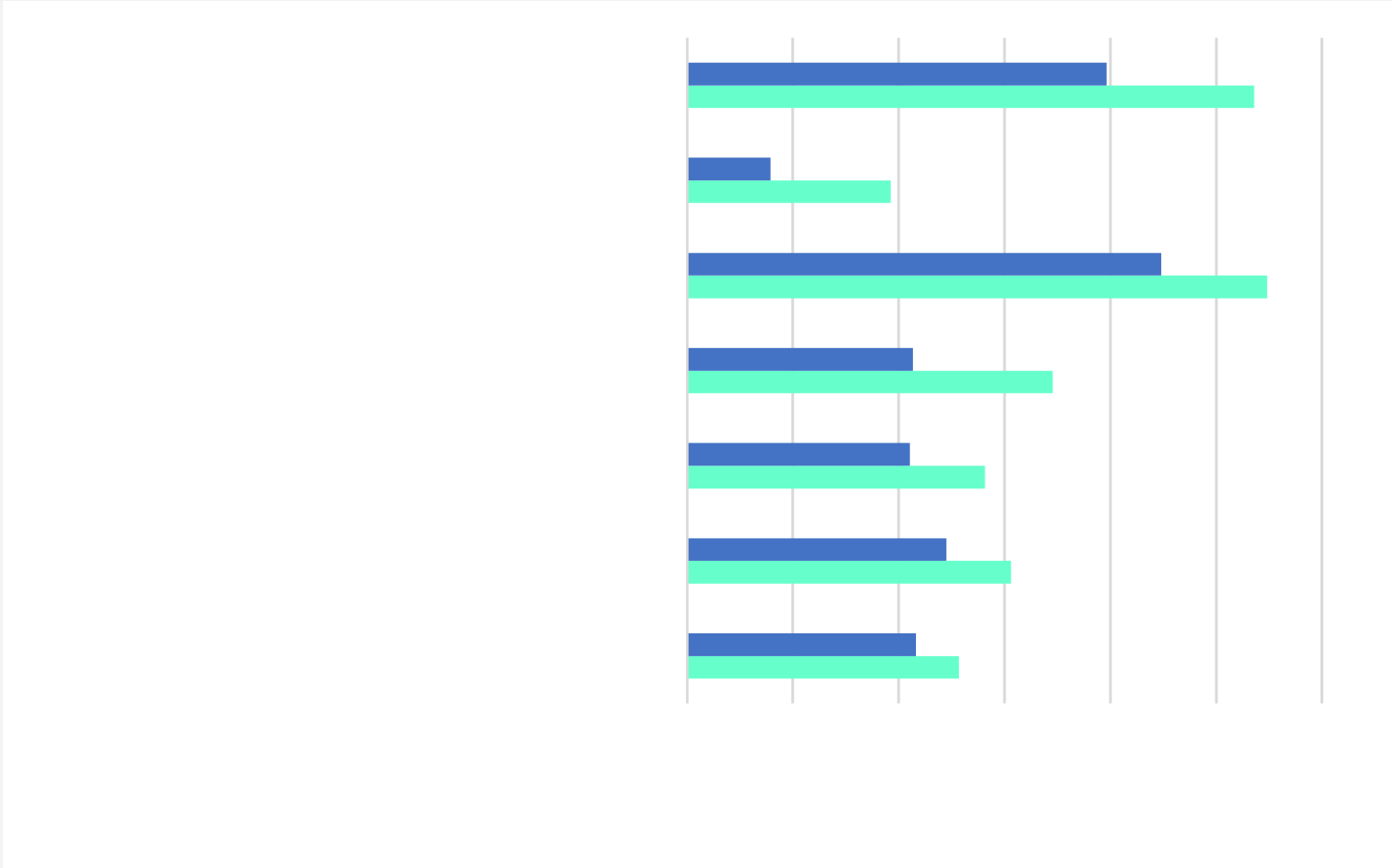
Comparison of Medicare FFS Control Sample and NWD Full Sample and on Select Beneficiary Characteristics



Statistical Matching

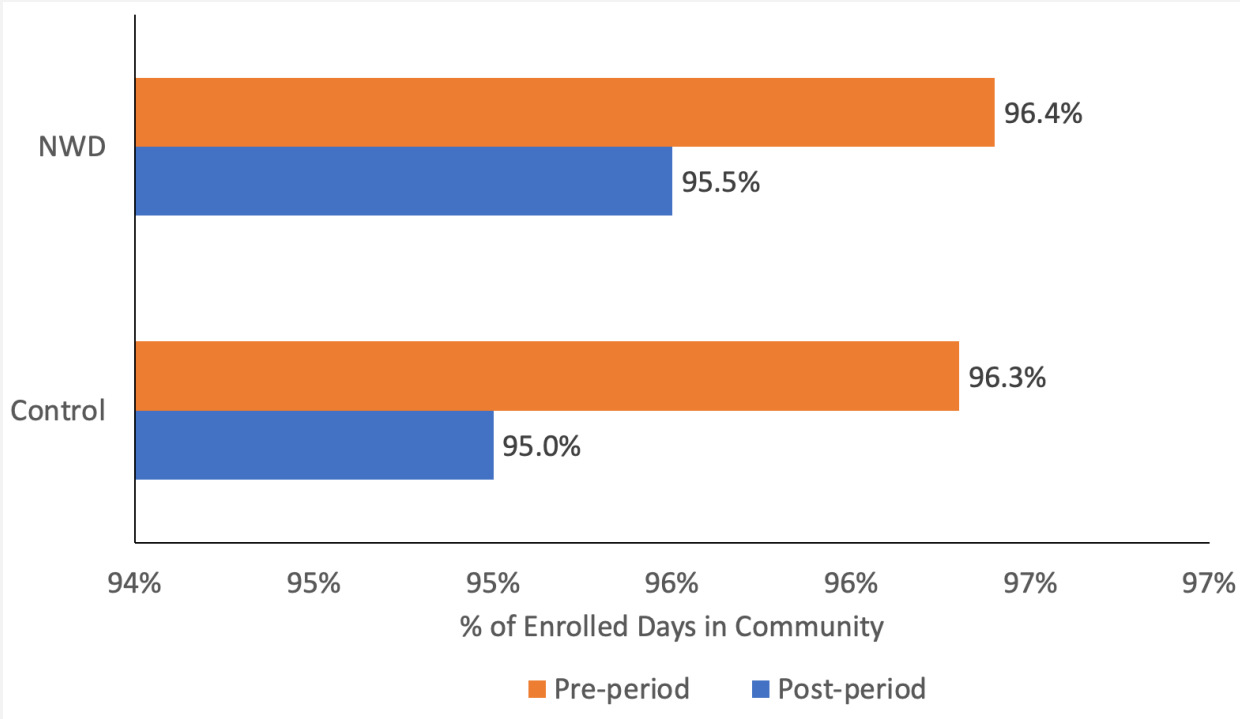
- Given the differences between the NWD and Medicare FFS control samples, we needed a method to control for the effects of covariates (confounding factors) that predict NWD participation. We used a statistical technique (propensity score matching) to create more balanced samples, with the following variables: age, gender, race/ethnicity, dual eligible status, rural-urban residence, chronic conditions, and frailty.
 - rural-urban: USDA/ERS county-based rural-urban continuum codes
 - chronic conditions: CMS CCW claims-based algorithms
 - frailty: published, validated claims-based index developed by Dae Hyun Kim, et al.
 - all other variables: Medicare enrollment data

Comparison of Full NWD Sample and Options Counseling Subsample on Select Beneficiary Characteristics



Community Tenure Results: Options Counseling

The NWD options counseling group had higher community tenure in the post-period and a lower decline between the pre- and post-period compared to the control group: % pre-post group difference : -0.4, $p < 0.01$



n: 405 NWD participants; 405 controls

Putting ROI Results into Practice in Virginia

- **Ideal world:**

- Virginia NWD has data necessary to measure savings across all Virginians who interact with NWD regardless of payer and uses these data to calculate ROI on an ongoing basis for public-facing dashboard

- **Real world:**

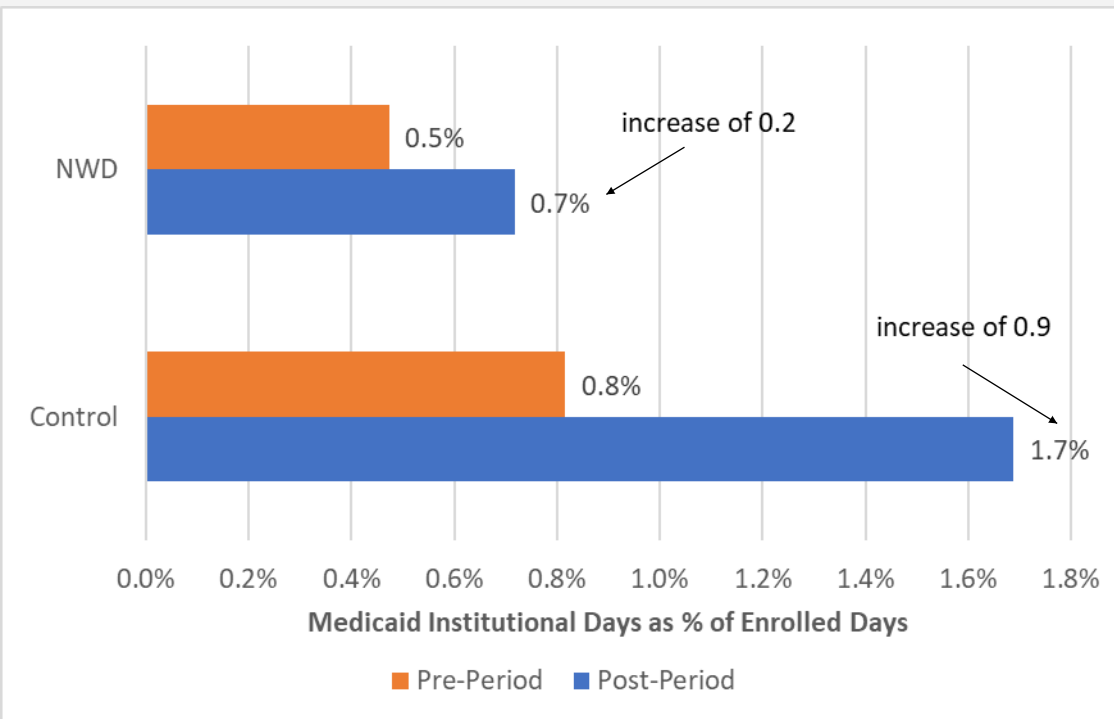
- Virginia NWD is currently working on access to Medicare or Medicaid data
 - ACL pilot provides Medicare and Medicaid (TAF) data access for a one-year in the CMS VRDC (ends December 2021) – not a viable option for continued ROI calculation
 - Level of effort to acquire, store, and use Medicare enrollment and claims data is very high
- Data sources for private pay expenditures on long-term services & supports limited to regional cost surveys

- **Near-term solution:**

- Acquire & use Medicaid data from sister agency and focus on Medicaid savings
- Virginia DARS executed

Community Tenure Results: Options Counseling, Medicaid Stays

The NWD options counseling group had fewer Medicaid institutional days as a percentage of enrolled days in the post-period and a smaller increase between the pre- and post-period compared to the control group: % pre-post group difference: 0.7, $p < 0.0001$. We will translate this into \$ savings.



n: 405 NWD participants; 405 controls

Main Study Limitations

- Although there are statewide standards for Options Counseling (OC), Virginia agencies vary in how they provide these services
- Medicaid data were only available for dual eligible beneficiaries due to limitations in matching between NWD and TAF data (Medicaid-only population is likely small)
- Unable to control for other factors that influence community tenure such as family caregivers and other supports because this information was not available for the control group
- Institutional stays were limited to those that could be identified using Medicare and Medicaid data
- Exclusion of the Medicare Advantage population due to lack of encounter data (~19% of Virginia Medicare beneficiaries were enrolled in Medicare Advantage during the study period)

Lessons Learned

- **Data Linkage Challenges:** linking state NWD data to other data sources such as Medicare and Medicaid is challenging due to lack of a common beneficiary identifier
- **LOE Associated with Data Use:** requesting, receiving, storing, and using Medicare and Medicaid data for ROI analysis requires significant LOE and skill sets
 - Data use/sharing agreements require buy-in from Medicaid agency (if not the same as NWD agency), strong data-sharing champions, time and expertise to determine which data elements to request
 - Large file sizes (30 GB), secure data transfer & ongoing transmission process, data storage
 - Steep learning curve to use these sources
- **Measuring Diversion and Community Tenure is Complex:** requires data on population characteristics associated with institutional use and quantitative expertise
- **Federal Support:** federal agencies can support efforts by funding or providing:
 - technical assistance on data linkage and tools to standardize data analysis
 - “use cases” to demonstrate how NWD programs can use Medicare and/or Medicaid data to calculate ROI
 - facilitation of peer-to-peer learning

No Wrong Door Actionable Items

Prevention/ Intervention



Create earlier points for assessing frailty (i.e prevention and/or intervention alert)

Predictive Analytics



Develop standard predictive analytics in the technology for intake process in providing Information & Referral and Assistance and/or Options Counseling.

Develop Training Scripts



Develop and deploy a standard training and scripts for "navigators" to understand the importance of data and how it is entered into the technology.

Expand PC-OC



Continue to expand Person Centered Options Counseling beyond Area Agencies on Aging to include Brain Injury programs and other key providers.

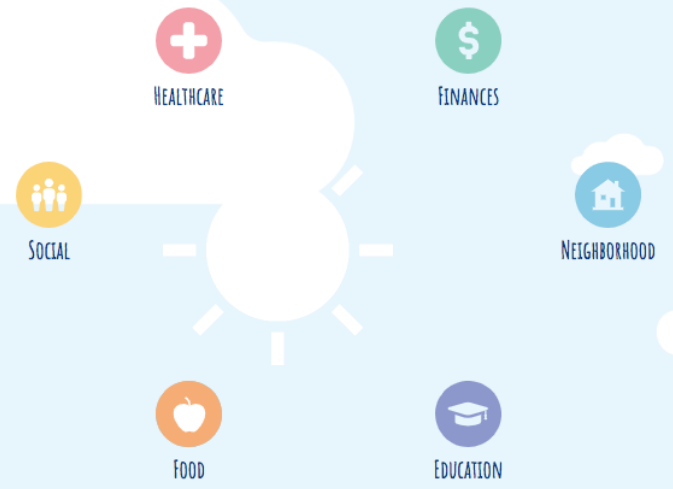
How Can NWD Person-Centered Portal and Direct Connect...

...helping Mrs. T navigate a solution to her identified issues?

CORONAVIRUS (COVID-19) RESPONSE
Have you downloaded COVIDWISE, Virginia's COVID-19 exposure notification app?
Add your phone to the fight [here](#). For up-to-date information, assistance, and resources from across state government, click [here](#).

WELCOME TO VIRGINIA EASY ACCESS

Life's challenges can feel so heavy.
When we support each other, the load is lighter.
When we share ideas, our minds open.
When we light the way for someone else, hope shines like the sun.
Remember, you're not alone. You're right where you need to be.
This is about making a better life. Let's get started.



OUR LOCATION

VIRGINIA NO WRONG DOOR
VIRGINIA DEPARTMENT FOR AGING AND
REHABILITATIVE SERVICES
1610 FOREST AVENUE,
SUITE 100
HENRICO, VA 23229

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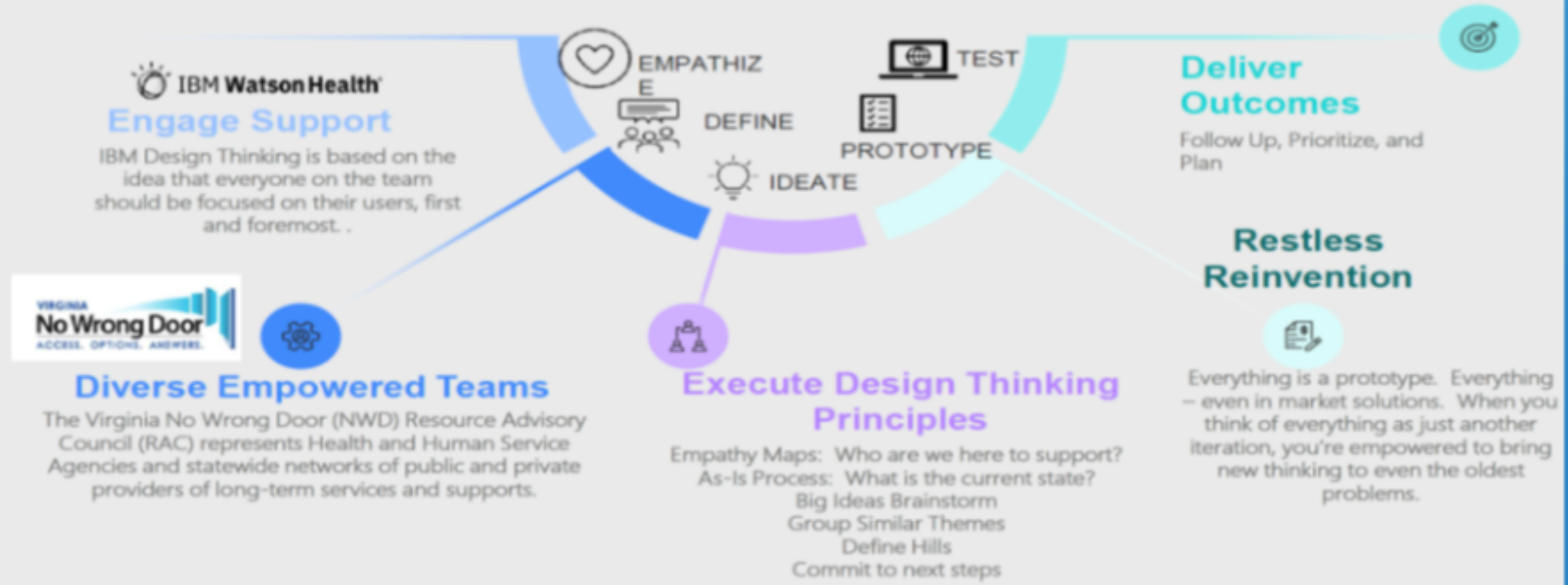


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NWD Virginia

DESIGN THINKING AT WORK



ROI Analysis



Social Isolation Index

Data Visualization





Wisconsin NWD Initiative

Christine See & Jennifer Speckien

Wisconsin Department of Health Services



WISCONSIN DEPARTMENT
of **HEALTH SERVICES**

Wisconsin's ADRCs

- Wisconsin has 48 ADRCs serving 72 counties and 11 tribes.
- ADRC services include:
 - Information and Assistance
 - Options Counseling
 - Benefits Counseling
 - Dementia Care Specialist
- Consistency of services statewide
 - Implementation of options counseling national standards and training curriculum
 - Implementation of client tracking standards

Data Sources

Three data sources were used to complete the research:

1. Unique number of ADRC customers reported through the Long-Term Care Encounter system
2. Medicare claims data for ADRC customers and the control group
3. Medicaid claims data for ADRC customers and the control group

Experiment Group

- MetaStar matched people who received ADRC services to their Medicare or Medicaid claims.
- ADRC customers in the study visited an ADRC in 2017.
- Medicare and Medicaid claims were analyzed for 12 months pre-ADRC visit and 12 months post-ADRC visit.

Control Group

- ADRC customers and non-ADRC customers were matched based on similar demographic and diagnostic information.
- A control group was created using a technique called propensity score matching.
- 66.36% of ADRC customers had a match, meaning there was another Medicare beneficiary with similar demographic, diagnostic, and claim activity.

Final Sample Size

The final sample size was 21,465 in the control group and 21,465 in the experiment group.

Focus Areas

- The research analysis focused on four areas:
1. 30-day hospital readmissions
 2. Emergency department visits
 3. Length of stay in a skilled nursing facility
 4. Community tenure

30-Day Hospital Readmission Results

- The group that visited the ADRC had a 22% decrease in 30-day readmissions in the 12 months following their ADRC visit.
- The group that did not visit the ADRC had an 11% increase in 30-day readmissions in the same 12-month period.

30-Day Hospital Readmission Results

- The results are statistically significant.
- For every 1,000 ADRC customers, 61 hospital readmissions are prevented.
- The average cost per hospital readmission is \$14,400, based on a [study](#) by the Agency for Healthcare Research and Quality (AHRQ).

Emergency Department Visit Results

- The group that visited the ADRC had a 2% decrease in emergency department visits in the 12 months following their ADRC visit.
- The group that did not visit the ADRC had a 4% increase in 30-day readmissions in the same 12-month period.

Emergency Department Visit Results

- The results are statistically significant.
- For every 1,000 ADRC customers, 101 emergency department visits are prevented.
- The average cost per emergency department visit is \$530, based on a [study](#) published by the Agency for Healthcare Research and Quality (AHRQ).

Length of Stay in a Skilled Nursing Facility and Community Tenure

- Research analysis was done for these two focus areas.
- Additional research is needed due to complexities with these data sets.
- At this time, these focus areas are not included as part of the ROI calculator application.

ROI Calculator Application

- MetaStar developed a web-based return on investment (ROI) calculator.
- The calculator uses the results of the research study to determine ADRC savings and ROI.
- There are two versions of the calculator, an estimator and one that tracks and saves actuals.
- Anyone can utilize the estimator.

ROI Calculator Application

- The version that tracks and saves actual data requires a login.
- The login version allows ADRCs to enter their actual monthly data.
- The login version saves the data entered so ADRCs can track their ROI over time.

ROI Estimator

- This version of the calculator does not require a login.
- It is designed to estimate ROI based on cost and customer data inputs.

The screenshot shows the web application interface for the "WI DHS No Wrong Door NWDROI Calculator". The page title is "The Return on Investment Calculator". The navigation menu includes "Home", "ROI Calculator", and "Resources". The "Purpose" section states that the application calculates ROI for Wisconsin ADRC services. The "Methodology" section explains that the calculator uses two measures to determine ROI. The "Return on Investment" section defines ROI as the ratio of net savings to cost, with the formula $ROI = (Savings - Cost) / Cost$. The "Measure Definition" section lists three measures: 1. Hospital 30 Day Readmissions (non-risk-adjusted), 2. Hospital Emergency Department Visits (using the Yale definition), and 3. Overall ROI (aggregating the two individual ROI measures). A red arrow points to a blue "Enter Data" button.

Home WI DHS No Wrong Door NWDROI Calculator

Home ROI Calculator Resources

The Return on Investment Calculator

Purpose

This web application calculates return on investment (ROI) associated with Wisconsin ADRC services to streamline access to long-term services and supports that allow older adults and people with disabilities to live independently in the community, in support of the Administration for Community Living (ACL) No Wrong Door Grant. The methods and data generated through this grant will help sustain state and national momentum for system change that increases access to community living and reduces unnecessary healthcare utilization.

Methodology

The calculator uses two measures to determine the ROI of Wisconsin ADRCs. The results are presented for each of these outcome variables and finally an overall ROI is calculated. A study (coming soon) conducted by DHS in collaboration with MetaStar calculated the average savings on each measure for each person contacting an ADRC at least once. The dollar value associated with savings in each measure is determined through studies referenced in the details page.

Return on Investment

The ratio of dollars spent to net savings/profit (savings minus expenses). In other words, the net savings for every dollar spent on running a NWD system.

$$ROI = (Savings - Cost) / Cost$$

An ROI is also calculated as a percentage. In this case it is the net savings (savings minus expenses) as a percentage of expenses. The overall ROI result in this application is presented as a dollar amount.

Measure Definition

1. Measure 1 – Hospital 30 Day Readmissions
 - a. Non risk-adjusted readmissions for Medicare FFS beneficiaries age 65 or older who were hospitalized at a short-stay acute-care hospital and experienced an unplanned readmission for any cause to an acute hospital within 30 days of discharge.
2. Measure 2 – Hospital Emergency Department Visits
 - a. The [Yale definition](#) is applied, which uses both facility-based and provider-based claims, and was developed after extensive clinical review of codes for exclusion and inclusion.
3. Overall ROI
 - a. An overall ROI calculated by aggregating the results of the two individual ROI measures.

[Enter Data](#)

Basic Return on Investment Calculation

To calculate a general return on investment (ROI) for ADRC services, select the timeframe from the drop down box below and enter both the number of ADRC customers and cost of ADRC operations during that time period. The Number of ADRC staff field is optional. When entering data in this field, enter the total FTE providing I&A and Options Counseling. Since ADRCs have different organizational structures, interpretations of this field may vary. You will then be directed to another page detailing the ROI for each of the two measures, as well as an overall ROI calculation.

Number of Months *

Number of ADRC Customers *

Cost of ADRC Operations *

Number of ADRC Staff (optional)

[Calculate ROI](#)

Select the number of months. Enter estimate of customers and costs.

Click 'Calculate ROI'.

Hospital 30 Day Readmissions

ED Visits

Overall ROI

According to a [study conducted by the Agency for Healthcare Research and Quality](#), an unnecessary readmission at a hospital costs \$14,400 in 2016. Services provided by Wisconsin ADRCs can lead to a reduction in the number of unnecessary readmissions to a hospital. A study conducted by the Wisconsin DHS examines the change in number of readmissions in a 12-month period before and after contact. Readmissions for a control group similar to the ADRC visitor group are also examined and compared to the ADRC group. The study found that the number of readmissions decreased for the ADRC group in the period post contact, while it increased for the group that did not visit an ADRC. The difference between the change in readmissions between the two groups was found to be 0.061 per visitor with a confidence interval of 0.1003 to 0.0213. We will use this number to identify the savings from an ADRC visit.

Savings Calculation

1. Readmissions Saved = Number of ADRC Customers * Readmissions Saved Per Customer
2. Savings from ADRC = Readmissions Saved * Cost of unnecessary hospital readmission

Savings

1. Readmissions Saved = $5000 * 0.061 = 305.000$
2. Savings from ADRC = $305.000 * \$14,400.00 * (12 / 12) = \$4,392,000.00$

3 results are provided:

1. Savings from hospital readmissions
2. Savings from emergency department visits
3. Overall return on investment

Hospital 30 Day Readmissions

ED Visits

Overall ROI

This tab calculates the overall ROI of ADRCs in the state of Wisconsin. It calculates the ROI by aggregating the savings for each of the two utilization measures.

Return on Investment Calculation

1. Savings from ADRC = Savings from 30 Day Hospital Readmissions + Savings from ED Visits
2. Cost of ADRC = Cost of ADRC operations.
3. Return on Investment = $(\text{Savings from ADRC} - \text{Cost of ADRC}) / (\text{Cost of ADRC})$

Return on Investment

1. Savings from ADRC = \$4,659,650.00
2. Cost of ADRC = \$2,000,000.00
3. Return on Investment = $(\$4,659,650.00 - \$2,000,000.00) / \$2,000,000.00 = 1.330$

This ROI indicates that every dollar spent providing ADRC services to people in the community produces an estimated net savings of \$1.33.

Calculator Application

[WI DHS No Wrong Door NWDROI Calculator](#)
[\(metastar.com\)](#)

ROI Tools and Materials

- [ROI Calculator Application](#)
 - [User Guide](#)
 - [Interpretation Guide](#)
- Infographic with statewide results

Aging and Disability Resource Centers A Meaningful and Impactful Investment for Wisconsin



Every \$1 invested into Wisconsin ADRCs leads to a savings of \$2.39.



\$14,400 = average cost per hospital re-admission

\$530 = average cost per emergency room visit

ADRCs prevent...

61 hospital re-admissions per 1,000 served
101 emergency room visits per 1,000 served

ADRCs save...

Nearly \$1,000,000 per 1,000 served



Wisconsin ADRC Facts

- Serving older adults and people with disabilities throughout Wisconsin.
- ADRCs had over half a million contacts in 2020.
- There has been a 22% increase in ADRC customers and growth is expected to continue.
- ADRCs have local community professionals providing individualized resource counseling so customers can make informed decisions about their needs.

- ❖ ADRCs are the only provider of local, unbiased decision support.
- ❖ ADRCs have local offices in every county throughout Wisconsin.
- ❖ The mission of the ADRC is to help people prevent or prolong the need for costly services.

- ❖ There are no income or asset requirements to use ADRC services.
- ❖ Phone calls made to an ADRC are answered by a live, local person.
- ❖ Two out of five ADRC customers meet face-to-face with ADRC professionals in their home.



Options Counseling: The Power of a Personalized Experience

Susan contacted the ADRC of Portage County on behalf of her parents. Her mother needed care during the day, and Susan was looking for an assisted living facility where both her parents could move to remain together. Through options counseling, the ADRC informed Susan about their options, which included adult day services. They decided to try this option first because it was not only the least restrictive but also the least costly. They discovered it was an excellent option for their needs. **Because of options counseling, moving to assisted living was delayed for not one, but two people.**



Mary called the ADRC of Washington County on behalf of her elderly parents. Her father was in a nursing home for rehabilitation and expected to return home soon. Her mother had mild to moderate dementia. Mary was the primary caregiver for her parents. It was important to her and her parents that they remain in their own home. An options counselor at the ADRC helped connect Mary and her parents to a variety of community services like home-delivered meals, supportive home care for lawn care and other home maintenance, a medication machine, respite, and more. Options counseling helped connect her family with the assistance needed. **This helped empower Mary to continue to care for her parents in their home.**



By receiving options counseling at a local ADRC, people are 89% more likely to access privately paid resources rather than utilizing services through Medicaid-funded long-term care programs.



Key Takeaways

Business case as key to sustainability of the NWD System:

- Developing a business case that reports the impact NWD Systems have on multiple populations, healthcare utilization, and the state/federal return on investment.
- Building communication and marketing tools to inform other state and federal government leaders and policy makers about the impact of high performing, streamlined NWD Systems.

ROI demonstrates impact/value:

- Demonstrating the value of evidence-informed interventions and person-centered counseling by producing core outcomes and data inputs for ROI calculations.

Three elements of a successful ROI implementation:

1. Follow up
2. Consistency
3. Clear definitions





Future Analytics – Expected 2022

ACL and its partners work to further strengthen the NWD Business Case at the national level through ongoing Medicare and Medicaid claims data.

1. What is the association between states with strong NWD Systems and nursing facility admissions and overall health care costs to Medicare and Medicaid?
2. What state-level factors are associated with NWD System strength?





Resources (1 of 3)

➤ ACL

NWD System Business Case Toolkit, a document that serves as a guide to support states in their development of a NWD business case

<https://www.ta-community.com/category/nwd-system-business-case-toolkit>

NWD System Sustainability – beyond ROI and Business Case, states have leveraged comprehensive strategies to blending various funding streams to support NWD infrastructure

https://nwd.acl.gov/pdf/State_Examples_of_NWD_System_Funding_4.26.21.pdf





Resources (2 of 3)

➤ Virginia

- **No Wrong Door Person Center Portal**

A Virginia website for finding access to long-term services and supports.

<https://easyaccess.virginia.gov/>

- **No Wrong Door Virginia**

A website that provides more details about the No Wrong Door statewide system and participating providers.

<https://nowrongdoorvirginia.org/>

- **No Wrong Door Training Platform**

A training platform for accessing Options Counseling, VATS consultation and other educational opportunities.

<https://www.nowrongdoortraining.dars.virginia.gov>

- **CMS Chronic Conditions Data warehouse**

CMS Chronic Conditions Data Warehouse (CCW) claims-based Chronic Conditions and Other Chronic or Potentially Disabling Conditions algorithms:

<https://www2.ccwdata.org/web/guest/condition-categories>





Resources (3 of 3)

➤ Virginia, continued

- Kim et al frailty index citation and software:

Kim DH, Schneeweiss S, Lipsitz LA, Glynn R, Rockwood K, Avorn J. Measuring Frailty in Medicare Data: Development and Validation of a Claims-Based Frailty Index. *J Gerontol A Biol Sci Med Sci*. 2018; 73: 980-987. doi: 10.1093/gerona/glx229. PMID: 29244057; PMCID: PMC600188

<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/HM8DOI>

➤ Wisconsin

[ROI Calculator Application](#)

Calculates return on investment (ROI) associated with Wisconsin ADRC services to streamline access to long-term services and supports

[User Guide](#)

Instructions for how to access the 2 versions of above calculator, enter data, and interpret results for both calculator versions

[Interpretation Guide](#)

A guide to what ROI is, and what assumptions are made.





Thank you!

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