Oregon Needs Assessment Framework Development

January 2021
Final Report

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Executive Summary

Oregon Support Needs Assessment Framework

Oregon's Office of Developmental Disabilities Services (ODDS) contracted with the Human Services Research Institute (HSRI) and its partner Burns & Associates to develop a framework to translate support need assessment results from the Oregon Needs Assessment (ONA) to 'service groups' to which individuals are assigned. These service groups are associated both with hour allotments and with the rate that providers are paid for certain services.

The service group framework developed is valid and reliable across all residential types and age groups. It was developed to be transparent and explainable to anyone receiving services or providing supports. The development process was responsive to policy intentions and integrated stakeholder feedback throughout. The framework allows for multiple defensible avenues for service recipients to access needed services, including those with unique support needs.

To develop the framework, HSRI used a six-step approach:

1. Use valid and reliable ONA data to conduct analyses that inform preliminary service groups and write service group descriptions
2. Conduct record review #1 to confirm that service group criteria assigned individuals to the right service group
3. Conduct additional data collection and analyses to refine service group criteria

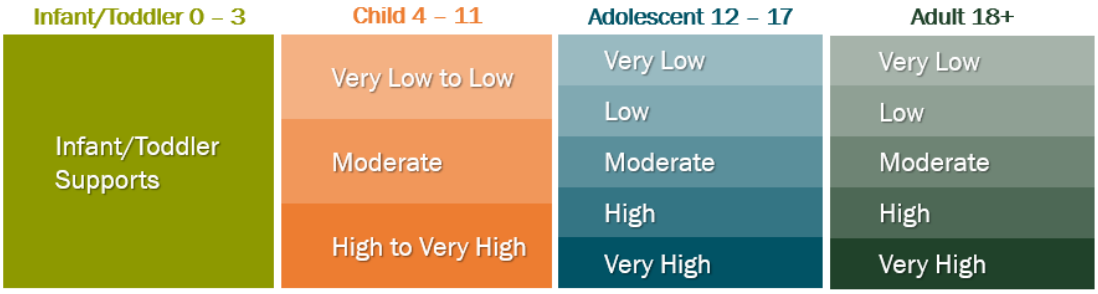
4. Conduct analyses to determine hour allotments and payment categories for each age cohort and service group
5. Conduct record review #2 to explore hour allotments and recommend changes to the exceptions process
6. Finalize the service group framework and communicate it to the field.

Framework Overview

The process outlined above resulted in the following framework for assigning individuals to service groups with associated hour allotments or payment categories. The framework is composed of 14 service groups across 4 age groups:

Figure 1

Service Group Framework



Individuals are assigned to one of the service groups based on their age and their responses to ONA items. Three areas of the ONA are used to determine service group: General Support Need, Behavioral Support Need, and Medical Support Need. The exact method for assigning service groups is detailed in this report.

Each of the service groups has an associated service group description. The service group description provides information about what a typical person's support needs are in that service group. The descriptions were developed by exploring ONA data, by service group, and incorporating feedback from stakeholders at multiple points throughout the development process. Figure 2 offers an example service group description for Adults with High Support Need.

Figure 2

Service Group Description - Adult High Support Need

> Generally, adults in the service group for individuals with **High** support need require moderate support for ADLs. They require substantial/maximal support for most IADLs, particularly more complex activities.
>
> While most of these individuals walk or wheel independently, some do need supervision or moderate assistance moving around, or while eating. These adults require moderate support for dressing, putting on footwear, and using the toilet. They need substantial support for activities such as bathing, oral hygiene, other general hygiene, laundry, shopping, preparing a meal, housework, and money

management. Some individuals in this service group depend on complete support for some of these activities.

Adults in this group vary widely in their communication needs. Some require extensive support with communication and rely on having support people who know them well for effective communication. Health and safety needs is generally an area where individuals in this group require significant support, and some individuals in this group may require extensive targeted support. Some individuals in this group have high medical needs, but these needs do not rise to the level requiring extraordinary support. Similarly, some individuals in this group may have high behavioral support needs which require regular and focused support to address behaviors that could result in harm to one's self or others.

As was mentioned, each service group is associated with an hour allotment. The hour allotment is offered as a range of available hours and displayed as both hours per week and hours per month to assist in interpretability. In practice, hours are authorized on a monthly basis. For school-age individuals, the hour allotment changes based on the time of year—school months or summer months. Figure 3 displays the hour allotments for all service groups.

Figure 3

Hour Allotments by Service Group

INFANT/TODDLER

SERVICE GROUP	Hours per week	Hours per month
Infant/Toddler Supports	11 to 14	48 to 61

CHILD

SERVICE GROUP	SCHOOL YEAR		SUMMER	
	Hours per week	Hours per month	Hours per week	Hours per month
Very Low to Low	15 to 19	65 to 83	17 to 21	74 to 91
Moderate	20 to 22	84 to 96	22 to 25	92 to 109
High to Very High	23 to 35	97 to 152	26 to 40	110 to 174

ADOLESCENT

SERVICE GROUP	SCHOOL YEAR		SUMMER	
	Hours per week	Hours per month	Hours per week	Hours per month
Very Low	10 to 13	43 to 56	14 to 17	61 to 74
Low	14 to 20	57 to 87	18 to 24	75 to 104
Moderate	21 to 24	88 to 104	25 to 28	105 to 122
High	25 to 39	105 to 169	29 to 46	123 to 200
Very High	40 to 55	170 to 239	47 to 65	201 to 282

ADULT

SERVICE GROUP	Hours per week	Hours per month
Very Low	13 to 16	56 to 70
Low	17 to 23	71 to 100
Moderate	24 to 42	101 to 183
High	43 to 85	184 to 369
Very High	86 to 118	370 to 513

Information About The Framework

The service group framework was developed to identify the hour allotment and payment category that is appropriate for most service recipients. We recognize that some individuals with unique support needs may require more than their assigned service group allotment. The framework is intended to work alongside a robust service planning process and accessible exceptions process to ensure individuals receive the person-centered supports they need. We also recommend future evaluation of the framework to identify potential improvements as the framework is implemented.

Oregon Needs Assessment Framework

Framework Overview

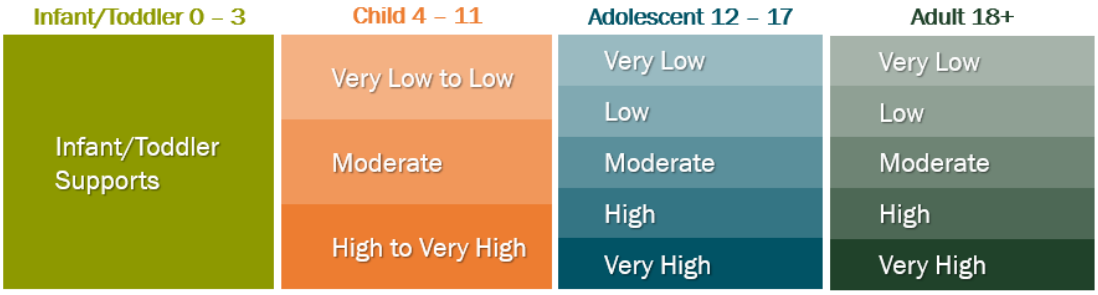
ODDS contracted with HSRI to develop a method for translating the support need information collected in the ONA into the number of hours of support to which individuals would have access. HSRI's approach was to develop a series of 'service groups' to which individuals are assigned and group together people of similar ages and similar support needs. HSRI, with the support of its subcontractor Burns & Associates, then developed hour allotments associated with each service group. This framework overview describes the service groups, the method for determining a service group based on ONA data, and the hour allotments associated with service groups. Information on the background, approach, and development of the framework are in the next sections of this report.

The framework is composed of 14 service groups across 4 age groups. The figure below displays the service groups.

Individuals are assigned to one of the service groups based on their age and their responses to ONA items for individuals over the age of 3. The exact method for assigning service groups considering these support needs from the ONA is described next.

Figure 4

Service Group Framework



Using the ONA to Determine Service Group Membership

HSRI developed the criteria for using age and ONA responses to determine service group membership over the course of the project through an iterative process. The development involved analysis of ONA data as well as additional data collection and analysis, consideration of ODDS policy intentions, and multiple opportunities for stakeholder input. The resulting framework utilizes responses to specific items from the ONA to determine which service group a person belongs to using a set of standard criteria, meaning individuals who answer applicable questions in the same way will be assigned to consistent service groups. The framework criteria consider support in three categories: General Support Need, Behavioral Support Need, and Medical Support Need. Specific items in the ONA, detailed below, form the way each of these categories of support need are measured.

This section describes in detail the steps required to use ONA data to determine service group membership. Each subsection describes the items used for the criteria and/or how they are summed to create total scores. The criteria across all three categories of support need are explained at the end of this section.

General Support Need

The ONA asks about many different activities of daily living, specifically how dependent or how much support a person needs for completing activities. The responses to specific questions within Section III (ADLs and IADLs) of the ONA are used to create one overall score called the General Support Need score (GSN). The items that are used to calculate the GSN are displayed in the following figure.

Figure 5

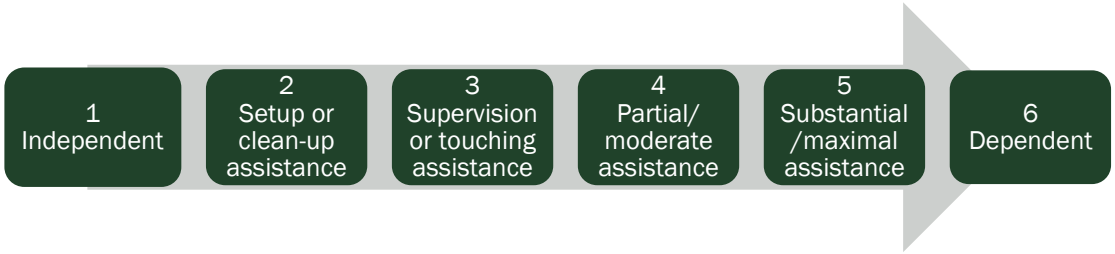
Items used to calculate GSN

Item #	ONA Item Name	ONA Item Description
3c	Putting on/taking off footwear	The ability to put on and take off socks and shoes or other footwear that are appropriate for safe mobility.
6b	Eating	The ability to use suitable utensils to bring food to the mouth and swallow food once the meal is presented on a table/tray. Includes modified food consistency.
7a	Toilet hygiene	The ability to maintain perineal hygiene, adjust clothes before and after using the toilet, commode, bedpan, or urinal.
8a	Shower/bathe self	The ability to bathe self in shower or tub, including washing, rinsing, and drying self. Includes transferring in/out of tub/shower.
9a	Oral hygiene	The ability to use suitable items to clean teeth.
10a	Other general hygiene	The ability to perform other hygiene maintenance tasks, such as hair brushing, shaving, nail care, and applying deodorant.
12a	Housework	The ability to safely and effectively maintain cleanliness of the living environment by washing, cooking, and eating utensils; changing bed linens; dusting; cleaning the stove, sinks, toilets, tubs/showers, and counters; sweeping, vacuuming, and washing floors; and taking out garbage.
13a	Make a light meal	The ability to plan and prepare all aspects of a light meal such as a bowl of cereal or a sandwich and cold drink or reheat a prepared meal.
14a	Laundry	Includes all aspects of completing a load of laundry using a washer and dryer. Includes sorting, loading, and unloading, adding laundry detergent, and folding laundry.
15a	Use public transportation	The ability to plan and use public transportation. Includes boarding, riding, and disembarking from transportation.
16a	Money management	The ability to manage finances for basic necessities (food, clothing, shelter), including counting money and making change, paying bills/writing checks, making budgeting and other financial decisions, and balancing checkbooks.
17a	Light shopping	Once at store, can locate and select up to five groceries and personal care items, take to check out, and complete purchasing transaction.
3a	Upper body dressing	The ability to put on and remove shirt or pajama top. Includes buttoning, if applicable.
3b	Lower body dressing	The ability to dress and undress below the waist, including fasteners. Does not include footwear.
5b	Walks 150 feet	Once standing, the ability to walk at least 150 feet in a corridor or similar space.
5f	Wheels 150 feet	Once seated in wheelchair/scooter, the ability to wheel at least 150 feet in a corridor or similar space.

For each item, the responses are on a scale from 1 to 6. The scale for each item is:

Figure 6

ONA Item Response Scale



The ONA is used across all ages, but not all of the items above are applicable to younger children. The following table displays the minimum age required for having a response to each ONA item factored into the GSN. If a child is under the minimum age for the item, the item is automatically scored as a "6" (the highest amount of need for that type of support). Note that the ONA may contain information on a child's needs in a specific area for planning purposes regardless of rescoring for framework purposes.

Figure 7

Minimum Response Age for Items Used to Calculate GSN

ONA item	Age
Putting on/taking off footwear	4
Eating	4
Toilet hygiene	4
Shower/bathe self	5
Oral hygiene	5
Other general hygiene	5
Housework	12
Make a light meal	12
Laundry	12
Use public transportation	12
Money management	12
Light shopping	12
Upper body dressing	4
Lower body dressing	4
Walks 200 feet	3
Wheels 200 feet	3

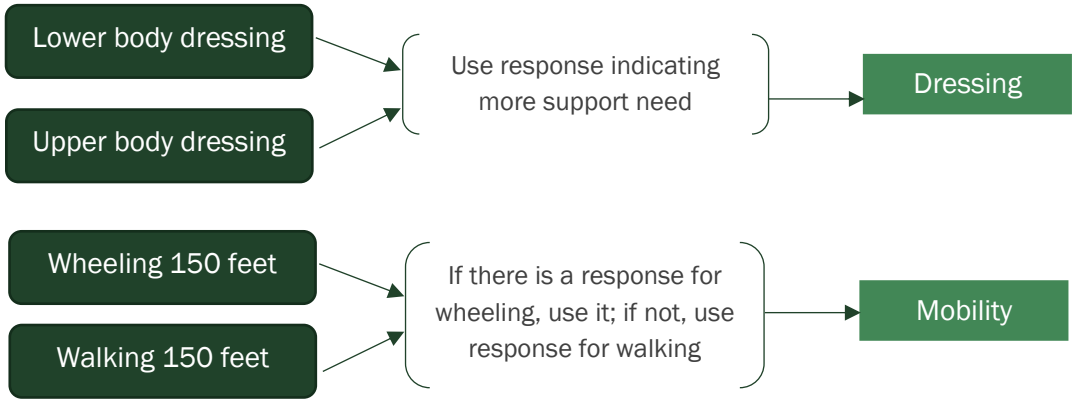
Sometimes questions are not answered with the responses outlined in Figure 6 or imputed based on the age of the individual as detailed in Figure 7. Within the ONA there are three response codes available when the activity in the GSN was not attempted. If "Person refused" or "Not applicable" was indicated, that response is scored as a 1–Independent for purposes of calculating GSN. If "Not attempted due to medical condition or safety concern" was indicated, that response is scored as a 6–Dependent for the purposes of calculating the GSN. If an item with a required

response is left blank, a GSN will not be calculated, and a service group will not be assigned. The data system where the ONA is housed has been built specifically to prevent missing scores that would result in a service group not being assigned to an individual.

Once all GSN items are scored, the GSN can be calculated. First, two composite items are created using two ONA items which speak to Dressing (Lower body dressing, Upper body dressing) and two items which speak to Mobility (Wheeling 150 feet, Walking 150 feet). The scoring guidelines are shown in the following figure.

Figure 8

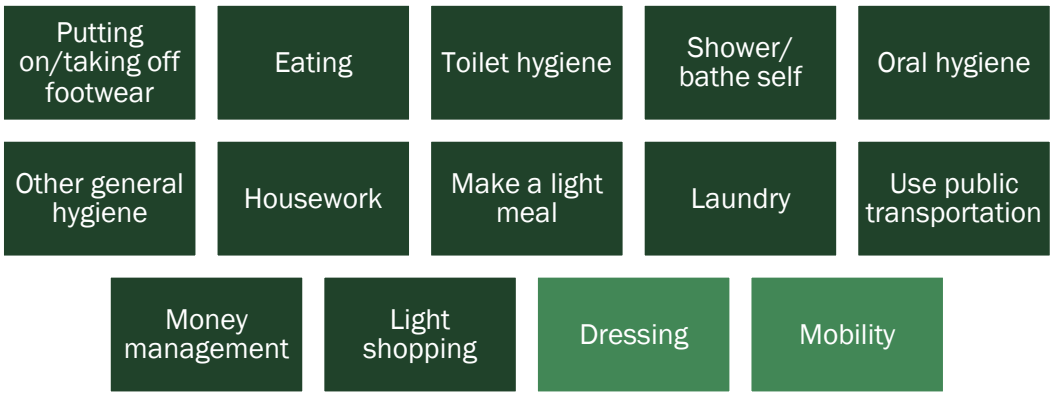
Scoring Guidelines for Composite GSN Items



The 14 responses that are added together to calculate the GSN are shown in Figure 9.

Figure 9

Responses Comprising GSN



The sum of these responses is the GSN. Due to the scoring guidelines, specifically the mechanism for scoring items not applicable to younger children, the range of possible GSN scores vary by age group. For both adults and adolescents, GSN scores can range from 14 to 84, for children (aged 4-11) the range is 44 to 84, and for infants/toddlers (aged 0-3) the range is 79 to 84.

Medical Support Need

In Question 46b, the ONA asks about various medical treatments and therapies, specifically how often a person needs each treatment or therapy. A total of 28 treatments and therapies, outlined in Figure 10, are included in the Medical Support Needs score (MSN). The framework takes into consideration the responses to two items asked for each treatment or therapy:

- Current need
- Whether a support person performs

Figure 10

Treatment and Therapy Items Included in MSN

Respiratory therapy	Chest percussion	Postural drainage	Nebulizer	Tracheal aerosol therapy	Oral suctioning: oral cavity only
Airway suctioning	Tracheal suctioning	Nasopharyngeal suctioning	Other suctioning	Tracheostomy care	Care for central line
Intravenous injections	Subcutaneous injection	Jejunostomy tube	Nasogastric or abdominal feeding tube	Indwelling or suprapubic catheter monitoring	Insertion of catheter (intermittent)
CPAP/BiPAP	Mechanical ventilator	Oxygen therapy	Colostomy, urostomy	Peritoneal dialysis	Hemodialysis
	Active cerebral shunt monitoring	Baclofen pump	Wound care	Treatment for stage III or IV ulcers	

For each treatment and therapy, the response to "amount of need" is scored on a scale from 0 to 3:

0 – Does not receive
1 – Receives less than weekly
2 – Receives weekly but not daily
3 – Receives daily

To calculate the MSN, responses to the 28 ONA items shown in Figure 10 are scored and then added together. The sum score is the MSN, which ranges from 0 and 84.

Information about who performs the applicable treatments or therapies is also included in the framework. For each treatment or therapy a participant utilizes respondents are asked whether it is performed by a support person. The response to

this item is used to determine whether a person has at least one daily need that is performed by a support person.

Behavioral Support Need

The ONA collects information about various behavioral challenges and the support and interventions used to address and mitigate them. For the purposes of assigning individuals to a service group, the framework uses responses to nine ONA items on behaviors and supports. Responses to four of these items, detailed in Figure 11, are added together to become the Behavioral Support Need Score (BSN).

Figure 11

Items Used to Calculate BSN

Item #	ONA Item Name	ONA Item Text
18	Injurious to self	Individual displays, or would without intervention, disruptive or dangerous behavioral symptoms not directed toward others, including self-injurious behaviors (e.g., hitting or scratching self, attempts to pull out IVs).
19	Aggressive or combative	Individual displays physical behavior symptoms, or would without intervention, directed toward others (e.g., hits, kicks, pushes, or punches others, throws objects, spitting).
23	Sexual aggression/assault	Individual displays, or would without intervention, behaviors that are sexually aggressive (e.g., grabbing, thrusting) or assaultive (e.g., pushing up against wall and groping) toward others.
24	Property destruction	Individual engages in behavior, or would without intervention, that disassembles or damages public or private property or possessions. The individual is intentionally engaging in acts that lead to damage, though may not have intent to cause damage.

For each of the four behavior items detailed above respondents can select one of five responses which speak to the history of that behavior or concern it may occur. Items are scored as a "1" if the respondents selected, "Yes, present in past year." For all other responses, the item is scored as a "0." The four items are then summed to create the BSN, which can range from 0 to 4.

In addition to the BSN, five items regarding the supports required to address or mitigate behaviors are part of the behavior support need service group criteria; these are detailed in Figure 12.

Figure 12

Items Used for Behavior Support Need Criteria

Item #	ONA Item Description	ONA Item Text
36b	Proactive strategies/physical prompts	How often does the individual require proactive strategies and physical prompts due to any behaviors issue?
36c	Safeguarding interventions	How often does the individual require safeguarding interventions (also known as PPIs) due to any behaviors issue?
39f	Emergency/crisis services two times in past year	Has the individual required emergency services, crisis intervention services or protective services to address a dangerous behavior 2 or more times in the past 12 months?
39a	PBSP created	Has a Positive Behavior Support Plan (PBSP) been created for the individual?
39b	PBSP implemented	Is the PBSP currently being implemented by support persons?

Service Group Criteria

The first step in determining a person's service group is to determine their appropriate age group. A person is assigned to an age group based on their age at the time of assessment plus 60 days. This helps to account for individuals who are receiving a new assessment in preparation for an upcoming birthday and transition into a new age cohort.

The five service groups that adults 18+ may score into are displayed in Figure 13, which also shows the criteria for each group. While adults can be assigned to one of five service groups, there are three separate avenues for scoring into the 'Very High' group: a GSN in the highest range possible, due to significant medical support needs and/or due to significant behavioral support needs.

Figure 13

Adult Service Group Criteria

Adult (18+) Service Group	Criteria
Very Low	GSN score = 14–22
Low	GSN score = 23–33
Moderate	GSN score = 34–53
High	GSN score = 54–73
Very High	GSN score = 74–-84; OR Any GSN Score with an MSN of 5 or more **and** at least 1 daily need that is performed by a support person; OR Any GSN Score with a BSN at least 2 **and** PBSP created **and** PBSP implemented **and** [Proactive strategies/physical prompts at least daily **or** PPIs at least monthly **or** emergency/crisis services 2x in past year]

The service group criteria for adolescents ages 12 to 17 is displayed in Figure 14. The criteria for this age group mirror the adult service group criteria.

Figure 14

Adolescent Service Group Criteria

Adolescent (12-17) Service Group	Criteria
Very Low	GSN score = 14–22
Low	GSN score = 23–33
Moderate	GSN score = 34–53
High	GSN score = 54–73
Very High	GSN score = 74–84; OR Any GSN Score with an MSN of 5 or more **and** at least 1 daily need that is performed by a support person; OR Any GSN Score with a BSN at least 2 **and** PBSP created **and** PBSP implemented **and** [Proactive strategies/physical prompts at least daily **or** PPIs at least monthly **or** emergency/crisis services 2x in past year]

The service group criteria for children ages 4 to 11 is displayed below. Participants in this age group may access one of three service groups. This is due to the reduced range of GSN scores applicable to this age group based on question skip patterns within the ONA.

Figure 15

Child Service Group Criteria

Child (4 – 11) Service Group	Criteria
Very Low to Low	GSN score = 44–53
Moderate	GSN score = 54–73
High to Very High	GSN score = 74–84; OR Any GSN Score with an MSN of 5 or more **and** at least 1 daily need that is performed by a support person; OR Any GSN Score with a BSN at least 2 **and** PBSP created **and** PBSP implemented **and** [Proactive strategies/physical prompts at least daily **or** PPIs at least monthly **or** emergency/crisis services 2x in past year]

The final age group, for individuals under age 4, has only one service group referred to as Infant/Toddler Supports. All children age 0-3 are assigned to this service group. While there is limited variability in the measured general support need of children in this age group, ONA item responses for this group do indicate who has significant medical support needs and behavioral support needs as defined by the criteria set out

for the other three age groups. However, as only one service group exists, all children within this age range are automatically assigned to this group.

Figure 16

Infant/Toddler Service Group Criteria

Infant/Toddler (0-3) Service Group	Criteria
Infant/Toddler Supports	Any GSN score, any MSN score, any BSN score

Service Group Descriptions

Associated with each of the service groups is a service group description. This description provides information about the typical support needs of members of this service group. The descriptions were developed by exploring ONA data by service group and incorporating feedback from stakeholders at multiple points throughout the development process. An example service group description for Adults with High Support Need is below. All service group descriptions can be found in the Appendix.

Figure 17

Service Group Description - Adult High Support Need

Generally, adults in the service group for individuals with **High** support need require moderate support for ADLs. They require substantial/maximal support for most IADLs, particularly more complex activities.

While most of these individuals walk or wheel independently, some do need supervision or moderate assistance moving around, or while eating. These adults require moderate support for dressing, putting on footwear, and using the toilet. They need substantial support for activities such as bathing, oral hygiene, other general hygiene, laundry, shopping, preparing a meal, housework, and money management. Some individuals in this service group depend on complete support for some of these activities.

Adults in this group vary widely in their communication needs. Some require extensive support with communication and rely on having support people who know them well for effective communication. Health and safety needs is generally an area where individuals in this group require significant support, and some individuals in this group may require extensive targeted support. Some individuals in this group have high medical needs, but these needs do not rise to the level requiring extraordinary support. Similarly, some individuals in this group may have high behavioral support needs which require regular and focused support to address behaviors that could result in harm to one's self or others

Hour Allotments

Each of the service groups is also associated with an hour allotment. This hour allotment is provided as a range of hours. For school-age individuals, the hour allotment changes based on the time of year—school months or summer months. The figure below displays the hour allotments in two ways to assist in interpretability: hours per week and hours per month.

Figure 18

Hour Allotments by Service Group

INFANT/TODDLER

SERVICE GROUP	Hours per week	Hours per month
Infant/Toddler Supports	11 to 14	48 to 61

CHILD

SERVICE GROUP	SCHOOL YEAR		SUMMER	
	Hours per week	Hours per month	Hours per week	Hours per month
Very Low to Low	15 to 19	65 to 83	17 to 21	74 to 91
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SERVICE GROUP	SCHOOL YEAR		SUMMER	
	Hours per week	Hours per month	Hours per week	Hours per month
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ADULT

SERVICE GROUP	Hours per week	Hours per month
Very Low	13 to 16	56 to 70
Low	17 to 23	71 to 100
Moderate	24 to 42	101 to 183
High	43 to 85	184 to 369
Very High	86 to 118	370 to 513

Additional Framework Information

The Oregon Needs Assessment Service Group Framework will also impact the rate that providers are paid for some services. Services such as Adult 24-Hour Residential, Small Group Supported Employment, Day Support Activities, Employment Path Services, Job Coaching, and Discovery have rates that vary based on the assessed support need of the participant accessing that service. See Figure 19 for a crosswalk detailing how Service Groups correspond to the four available payment categories.

Note that many services with tiered reimbursement are not applicable for non-Adult age groups.

Figure 19

Service Group to Payment Category Crosswalk

INFANT/TODDLER

SERVICE GROUP	Payment Category
Infant/Toddler Supports	4

CHILD

SERVICE GROUP	Payment Category
Very Low to Low	2
Moderate	3
High to Very High	4

ADOLESCENT

SERVICE GROUP	Payment Category
Very Low	1
Low	1
Moderate	2
High	3
Very High	4

ADULT

SERVICE GROUP	Payment Category
Very Low	1
Low	1
Moderate	2
High	3
Very High	4

Background and Approach

Project Background

Oregon's Office of Developmental Disabilities Services (ODDS) has historically used a variety of assessment instruments to determine the amount of service that an individual may receive. These tools also determine the rates that providers are paid for some of these services. These assessments include the Supports Intensity Scale (SIS), the Adult Needs Assessment (ANA), the Children In-Home Needs Assessment (CNA), and the Support Needs Assessment Profile (SNAP). To standardize the assessment process across services and programs, the 2013 Oregon Legislature (under SB 5529) directed ODDS to implement a single, uniform needs assessment tool that is evidence-based and considers broad stakeholder input. The tool is intended to serve several purposes, including:

- Determining whether an individual meets the intermediate care facility for individuals with intellectual disabilities (ICF-IID) level of care criteria to receive services through Oregon's 1915(c) waiver or Community First Choice program (K plan)
- Informing the development of individual support plans
- Determining the number of hours of support that an individual receives
- Determining the payment category to which an individual is assigned for services with 'tiered' rates

In 2016, ODDS contracted with Mission Analytics Group ('Mission') to develop the new assessment instrument, which would be known as the Oregon Needs Assessment (ONA). Mission conducted pilot testing of the newly developed tool with a sample of approximately 520 individuals and found generally acceptable inter-rater reliability while offering recommendations for improvement. After adopting recommendations from Mission's pilot, ODDS contracted with the University Center for Excellence in Developmental Disabilities (UCEDD) and the Biostatistics Design Program (BDP) at the Oregon Health & Science University (OHSU) in 2019 to collect additional ONA data, conduct inter-rater reliability analysis, and provide quality assurance recommendations. OHSU's analyses found that most items in the ONA and scales from ONA items have acceptable to excellent reliability for adults and children. They also offered several recommendations to bolster the quality assurance procedures for the ONA.

ODDS contracted with the Human Services Research Institute (HSRI) and its partners Burns & Associates to develop a framework to translate assessment results to 'service groups' to which individuals are assigned. These service groups are associated with hour allotments and with the rate providers are paid for certain services.

Approach

The overarching goal of the project was to design and develop the framework for determining hour allotments using the ONA. Our approach to the development of the framework was guided by five principles. The service group framework must:

Be valid and reliable across all residential types and age groups. Our approach included testing the soundness of the framework across a broad representation of the population of service recipients to ensure that all groups of individuals receive equitable treatment with the resulting framework.

Have multiple defensible avenues for service recipients to access needed services, including those with unique support needs. We sought to create a framework that correctly assigns individuals to a service group as often as possible. Yet, we understand the limitations of any assessment in identifying unique needs. Therefore, we consider the service group framework as only part of an equitable system that allows all service recipients to seek out the supports they need even if they fall outside the developed service group criteria.

Be transparent and explainable to anyone receiving services or providing supports to service recipients. We sought to create a framework that removes unnecessary complexity. While all framework aspects remain valid and reliable, we constantly revisited ways in which we can make the framework easier to understand. We developed products to be open and transparent about our process and the resulting framework.

Be responsive to policy intentions. We worked with ODDS throughout the project to ensure the framework met the expectations ODDS holds for the future of their system. For example, ODDS sought a single framework across all ages that

considered a spectrum of needs. We met this expectation with the resulting framework.

Integrate stakeholder feedback. Throughout the process, we regularly met with stakeholder groups to integrate their feedback into the framework. We conducted three data collection activities that directly involved stakeholders in the process. We also regularly presented updates to and received feedback from the Vision Advisory Committee for ways to improve how we communicate our findings, our interpretation of analyses, and next steps in throughout the development process.

The approach described here resulted in a multi-phase development process described next. We built the preliminary framework and crafted adjustments to that framework with all of these goals in mind. Each step in that process took into account the need for statistical rigor, understandability, transparency, adherence to policy intentions, and consideration of stakeholder feedback.

Framework Development

Framework Development Overview

This section describes the process HSRI and Burns & Associates undertook in collaboration with ODDS and stakeholders to develop the service group framework. HSRI completed a series of six overarching tasks:

1. Use valid and reliable ONA data to conduct analyses that inform preliminary service groups and write service group descriptions
2. Conduct record review #1 to confirm that service group criteria assigned individuals to the right service group
3. Conduct additional data collection and analyses to refine service group criteria
4. Conduct analyses to determine hour allotments and payment categories for each age cohort and service group
5. Conduct record review #2 to explore hour allotments and recommend changes to the exceptions process
6. Finalize the service group framework and communicate it to the field

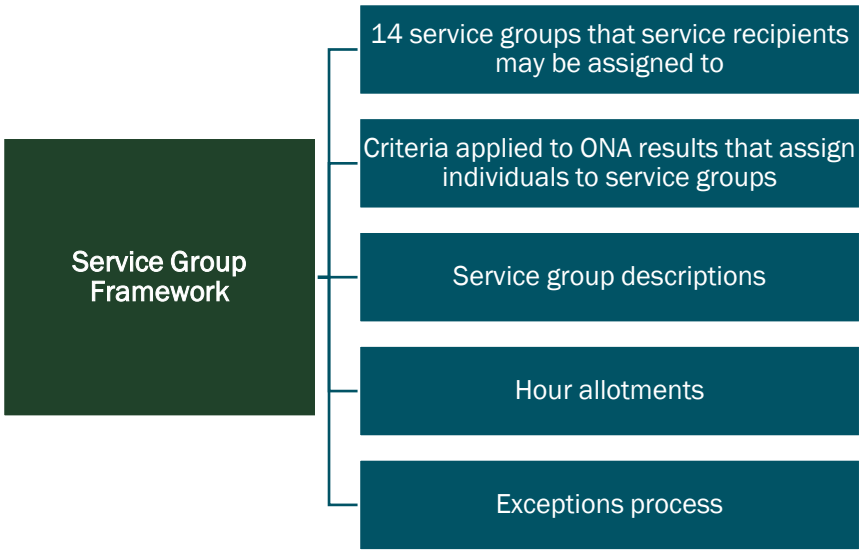
These tasks guided the overarching process of developing the framework while still allowing the project team to respond to challenges as they arose and the flexibility to address the concerns and needs of ODDS and its stakeholders within this

collaborative process. Additionally, the project goals of the framework being valid, reliable, transparent, and understandable were kept in mind and revisited throughout the project.

The product of all the tasks described is the service group framework. The service group framework, which we refer to throughout this report, has multiple components, as displayed in the following figure.

Figure 20

Components of the Service Group Framework



Each task provided information, materials, or methods for ensuring a sound framework. In this section, we describe the purpose of the task, what we did, how we collaborated with ODDS and stakeholders, and the findings or results.

Framework Terms

This report introduces a number of terms for describing components of the framework. We developed terms to be as clear and understandable as possible with improvements made throughout the development of the framework based on feedback from ODDS and stakeholders.

Periodically within this section, we refer to service groups in varying ways. Both due to changes in our naming conventions over time and due to

TERMS

The ***framework*** refers to the service groups and associated criteria for assignment, service group descriptions, hour allotments, and payment categories.

Service group is the identifier for the amount of service a person needs as calculated by their ONA. The term "service group" evolved over the course of this project, as well as the labels used for individual service groups.

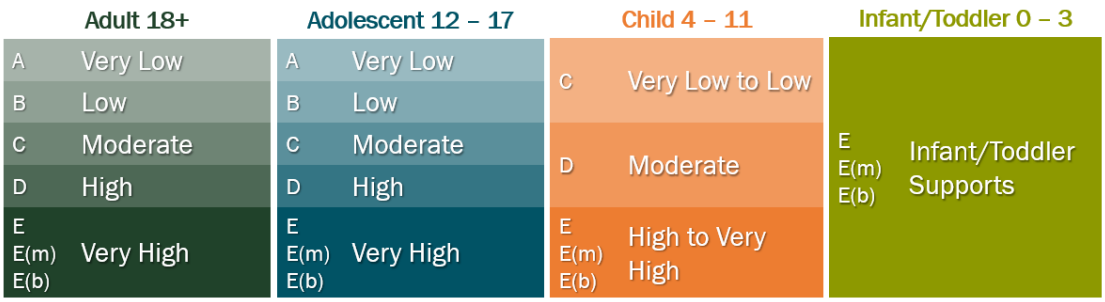
Service group criteria are the data-based rules for assigning a person to a service group based on responses to ONA items.

Hour allotment refers to the range of hours a person has access to based on their service group (prior to any exceptions).

the need to truncate or adjust service group names to display the data, we use terms other than final service group names displayed in Figure 4 During the subsection detailing record review #1 you may see the term "SGL," which stands for "Service Group Level" and was later amended to the shortened "service group." Early in the development process we referred internally to each of the service groups with a shorthand of letters (A, B, C, D, E). We also referenced the varying ways by which an individual could obtain membership into the service group later labeled "Very High" by using the terms E(b) and E(m) to stand in for entry based on behavioral support need criteria and medical support need criteria, respectively. While this labeling does not conform to the naming convention of the final framework, we use it in this section to catalog the historical development process and to ensure this report accurately represents the information and findings as they were shared with ODDS and stakeholders during the process. Please refer to the figure below for a crosswalk of the terms used to describe service groups.

Figure 21

Service Group Terms with Associated Letter Shorthand



Task 1

Use valid and reliable ONA data to conduct analyses that inform preliminary service groups and write service group descriptions

The first task was to develop preliminary criteria for assigning service groups using the ONA data. To that end, we explored ONA data to answer:

1. What items can be used in combination to determine scores that reflect relative support need?
2. What is the most appropriate number of service groups for the framework?
3. What criteria, when applied to items and scores from the ONA, create service groups that contain individuals similar to one another and different than individuals in other service groups?
4. What is the most appropriate way to group individuals into age groups?

The preliminary criteria developed in this task served as a basis to be tested and improved upon throughout the next project tasks. This first task was driven primarily by analysis of ONA data, in addition to input from ODDS on the practicality of each

decision. For example, we found multiple statistical solutions for the number of service groups possible for adults. ODDS determined that, of the viable solutions for a framework for adults, five service groups would best fit the needs of the population.

Additionally, HSRI identified that the age groupings must be not only consistent with the questions in ONA but must also make sense in the context of receiving services across the lifespan. ODDS and the Vision Advisory Committee weighed in on the age groupings that made sense within the context of the actual service system.

Policy also drove some decisions for items to be included in the criteria. For example, to score into the Very High group due to behavioral support needs, a person must have an implemented positive behavioral support plan in place. This criterion was included not for its innate strength in identifying individuals with very high behavioral needs but more as a means to ensure individuals with very high behavioral support needs were afforded tools specifically developed to address those needs. All decisions made in tandem with ODDS were in alignment with data-driven recommendations and/or later confirmed by additional data collection and stakeholder input.

Once preliminary service groups were developed, we created service group descriptions. These descriptions were adapted to reflect the unique qualities of members within each of the 14 service groups. They were based on ONA data, and further refined throughout the project, particularly based on stakeholder input. The development of the service group descriptions is detailed in this section after discussion of the preliminary service group development.

Collecting ONA data

During the kickoff meeting for this project, HSRI and Burns & Associates presented to ODDS the initial plan for developing preliminary criteria for assigning service groups with ONA data. For the planned statistical analyses, HSRI determined that ODDS needed to collect ONAs from a sample of 800 to 900 individuals across all ages and living settings. For the pilot study conducted by Mission Analytics to test the validity of the ONA, ODDS conducted ONAs with 468 individuals. Since the criteria for the pilot study sample match the criteria for the current study, HSRI determined that those individuals could be included in the analysis sample. Therefore, approximately 400 additional ONAs were conducted with the express purpose of supplementing the pilot sample.

As ONAs were completed, ODDS shared the data from these assessments. Data were extracted on a regular basis from eXPRS and sent via secure FTP to HSRI. The ONA datasets being transmitted were created by ODDS to contain all variables, variable labels (i.e., the exact text in the ONA item), and clearly coded responses. In November 2017, the threshold number of assessments needed to conduct analysis was reached. At that time, HSRI had received ONA data for 889 individuals. Collection of additional ONAs paused following completion of the sample and recommenced in June 2018. HSRI has received regular data transfers of ONA data since that time and will continue to do so while under contract with ODDS. Note that the specific method

of data transmission changed to an automatic extraction from eXPRS in early 2019 as described in the section entitled "Conduct analyses to determine hour allotments and payment categories for each age group and service group" (pg. 88).

Development of preliminary framework criteria

Once the analysis sample was finalized, HSRI began with initial exploratory analyses to determine the possible items for inclusion in criteria and the best way to use items to create a framework. While a great deal of information is collected in the ONA, some of that information is not well suited for inclusion in a standardized framework for measuring support need. Items that had open-ended responses, were optional to complete, or were focused primarily on support preferences or planning were removed from consideration. Since different sections of the ONA use different question formats, it became clear that, to capture the fullest picture of support need possible while being true to the intention of each ONA item, we would need to separate our measurement of and the criteria for determining support need.

We determined that three overarching areas of support need would be used for the criteria: general support need, behavioral support need, and medical support need. The ONA contains items relevant to each of these areas. Due to differences in how each of these areas are measured within the ONA, the methods used to develop each support need area are unique to each area. Additionally, we note early in analyses that few individuals have numerous and/or extensive needs as measured in the medical and behavioral sections of the ONA. While this aligns with our intention of identifying individuals with very high needs in these areas, it supported an approach of separating these three sections for analysis. For these reasons, this report section is organized to provide information about the development of each separate support need area, in line with our analytic approach.

Once the preliminary framework criteria were determined, further testing of the validity of the criteria took place and resulted in adjustments to the criteria. Below we outline the process undertaken to create the preliminary criteria, elements of which were later refined. For the final criteria, see page 6. Since preliminary analyses included a substantially smaller number of ONAs than the amount later collected, and because quality assurance and increased training and experience for assessors resulted in better quality data as time went on, all initial analyses were replicated and confirmed. Original analyses were conducted on the sample of unique ONAs for 889 participants, while analyses were replicated on unique ONAs for 28,442 participants. The following section details any minor differences found between the analyses. Overall, the findings confirmed what was found during the preliminary analysis.

Figure 22 displays, by age group, the number of individuals in the preliminary sample and the replicated 2020 sample. By replicating the analyses, we not only are more confident in the quality of the data and statistical power of the sample size, but the age groups under 18 years old are better represented with substantially higher numbers.

Figure 22

Preliminary and Replicated Analysis Sample Sizes by Age Group

Age group	Preliminary analysis dataset n (%)	Replicated analysis dataset n (%)
0 to 3	7 (1%)	443 (2%)
4 to 11	69 (8%)	4,135 (15%)
12 to 17	101 (11%)	3,655 (13%)
18+	712 (80%)	20,209 (71%)
Total	**889 (100%)**	**28,442 (100%)**

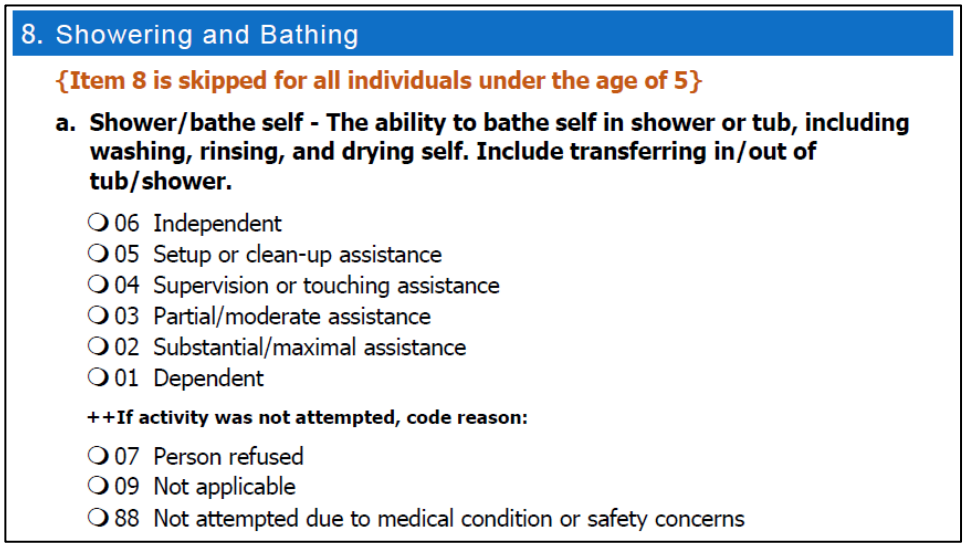
Throughout the process of the analyses, we continually revisited how analyses, decisions, and findings could differently impact different age groups. Because we sought to create a unified framework that works seamlessly across age groups, each analysis was conducted with individuals across all age groups. Since we know that support needs vary across the lifespan, however, we did seek to validate all criteria within each age group separately. Differences by age group were carefully explored, particularly during Record Reviews #1 and #2.

General Support Need Scale Development

General support needs are those needs a person has to carry on daily life tasks, such as eating, dressing, moving around, and going places. The ONA refers to general support needs as activities of daily living (ADLs) and instrumental activities of daily living (IADLs). The ONA contains questions on eight overarching ADLs and six overarching IADLs, each with multiple sub-questions. For each ADL and IADL, at least one question is asked and answered using a standard response option. Figure 23 shows an example item that uses this response format.

Figure 23

ADL/IADL ONA Item Example



We determined that these items—due to their consistency across all ADLs/IADLs, range in response options, and documented reliability—could potentially compose the

general support need area of the framework criteria. However, we first were required to make decisions with ODDS about how to handle responses which did not specifically detail the amount of support a participant needs to complete a given ADL/IADL. Using findings from descriptive analyses of the data to inform the policy discussion, we determined in collaboration with ODDS a standard scoring policy for responses of "Person refused", "Not applicable", and "Not attempted due to medical condition or safety concern" as described on page 8. Note that preliminary analyses were conducted in tandem with ODDS quality assurance and training measures, including correcting all instances of missing data. Any missing data that were imputed at the time of the preliminary analyses were later corrected, and (as described later in this report) analyses were repeated to ensure findings hold with improvements to the data and a larger dataset.

Additionally, descriptive analyses indicate clear relationships between upper body dressing and lower body dressing as well as wheels 150 feet and walks 150 feet. Few individuals require a different amount of support for dressing the upper body than the lower body. While there are implications for service planning and types of support provided between the two types of dressing, for the purposes of determining the amount of support needed for the framework, we combined these two items into one composite score for dressing. Regarding items on mobility, while some participants both walk and use a wheelchair or scooter many individuals do one or the other. Due to the applicable skip patterns on items related to these modalities of mobility not all items were answered by participants. We determined, after exploring the responses to these items, that a composite mobility score more accurately reflects a person's support needs for getting around. For information on how these items are combined, see the summary of determining a service group on page 6.

To have a general support need score that summarizes the ADL and IADL items from the ONA into one composite score, we must first determine whether the items work together to measure the same construct. We used exploratory factor analysis to determine which ONA items to include in a general support need score and the underlying relationships between the variables. Then, using confirmatory factor analysis, we measured the extent to which the variables work in the structure determined and formulated during the exploratory factor analysis.

Exploratory factor analysis (EFA) is the most appropriate analysis since no psychometric testing to establish scales had been done on the general support need items. Psychometric tests are statistical analyses that provide support for the validity or reliability of an assessment or use of parts of an assessment to create scores, such as a score of general support need. To sum the items to create a composite score, they must not only appear to be measuring the same construct (general support need) but must statistically demonstrate that they are measuring the same construct. EFA allows exploration of a general support need scale structure, including which items may best be removed from the scale due to their lack of correlation with the construct of general support need. EFA also demonstrates whether any underlying structure exists in the scale, such as individual factors or subscales that occur in the items.

First, we conducted principal components extraction using maximum likelihood with no fixed number of factors and examined the Eigenvalues and a Scree test to determine the number of factors. The test indicated a clear 2-factor structure. Next, we assigned each item to the factor it loaded highest onto according to the pattern and structure matrices. Literature on EFA describes the rule of identifying significant loadings when an item loads on a factor greater than .40, which we used for our interpretation of factor loadings. The figure below displays the items input into this initial EFA and their loadings on the two-factor solution in the rotated factor matrix. Note that while the ONA consists of 14 overarching ADL and IADL questions, some of these have multiple components which conform to the response option structure detailed in Figure 23. Therefore, 21 items were available for this initial EFA.

Figure 24

Initial Factor Loadings of the 21 General Support Need Items

Item	Factor	
	1	2
Chair/bed to chair transfer	.22	.95
Sit to stand	.20	.93
Toilet transfer	.28	.85
Car transfer	.40	.80
Roll left and right	.14	.78
Step onto/off a curb	.41	.78
Mobility: walks or wheels 150 feet	.38	.76
Take 12 steps	.40	.71
Eating	.56	.60
Shower/bathes self	.83	.40
Oral hygiene	.81	.36
Other general hygiene	.80	.33
Laundry	.80	.26
Light shopping	.78	.23
Make a light meal	.77	.25
Housework	.74	.28
Use public transportation	.74	.20
Toilet hygiene	.71	.54
Dressing upper or lower body	.68	.59
Putting on/taking off footwear	.67	.56
Money management	.65	.10

The first 9 items input into the EFA loaded on factor 1, while the next 12 items load on factor 2. Some items load onto both factors, suggesting a more complex scale structure whereby items may be considered as contributing to the measurement of more than one latent variable. Upon examining the factors, the factor 1 seems to be overwhelmingly measuring a latent variable of mobility and movement-related supports. While these supports are extremely important in determining the amount of support a person needs, the inclusion of all these items would create a sum score that

is largely driven by mobility and movement-related needs. Support needs requiring different fine motor, memory, communication, critical thinking, and/or other skills (e.g., hygiene or shopping) will be of little significance if this scale was adopted for use. As it was the intention of ODDS to support individuals across all of these daily life skills, we determined that items should be removed to create a more balanced general support needs scale.

After this initial EFA, we continued the exploration of the scale by removing items by themselves and various groups of items to determine the impact. The resulting exploration ended when we converged on agreeing that the list of items included in the scale covered the range of support needs that theoretically are included in the concept of general support need, while also having a factor structure that was statistically sound. The scale was narrowed down to the 14 ONA items displayed in the figure below, which shows the factor loadings of the items on two factors.

Figure 25

Factor Loadings of the Preliminary General Support Need Scale Items

Item	Factor	
	1	2
Light shopping	**.76**	.37
Laundry	**.75**	.43
Housework	**.71**	.41
Make a light meal	**.70**	.43
Use public transportation	**.70**	.36
Money management	**.66**	.22
Other general hygiene	.65	**.56**
Dressing: upper or lower body	.43	**.83**
Putting on/taking off footwear	.42	**.80**
Toilet hygiene	.47	**.77**
Mobility: walks or wheels 150 feet	.23	**.73**
Eating	.40	**.69**
Shower/bathe self	.64	**.66**
Oral hygiene	.61	**.63**

As with the original EFA, all factor loadings are above the significance threshold of .40. Using these 14 items (noting that 2 items in Figure 25 are the composite items "eating" and "mobility"), the factors are clearly distinguished by ADLs and IADLs, following the intention of the items in the ONA. All of the items that primarily load onto factor 1 are IADLs, while the items that primarily load onto factor 2 are ADLs. The 7 items that were removed include only mobility and movement-specific items. However, the mobility item that is a combined measure of support needed for walking and/or wheeling is still included. Factor loadings indicate that multiple items may load onto both of the factors, which was further explored in a confirmatory factor analysis (CFA) that was conducted after the EFA step was complete to determine whether a single factor is more appropriate for explaining the factor structure.

Note that these analyses were first conducted in 2017 with the original sample of 889 individuals. Since that time, the format of the data has evolved, ODDS has engaged in

extensive quality assurance for improvements to the ONA, and thousands of additional ONAs have been conducted. To ensure the ongoing accuracy of the findings, we replicated and confirmed our 2017 findings with a 2020 dataset containing ONAs from 28,442 individuals. The following figure displays the factor loadings with the 2020 dataset. While the factor loadings are slightly different, the replicated analysis confirms that the original analysis findings remain supported, including that some items load onto both the ADL factor and the IADL factor.

Figure 26

Factor Loadings of the Final General Support Need Scale Items

	Factor	
Item	ADL (factor 1)	IADL (factor 2)
Footwear	**0.90**	0.66
Eating	**0.75**	0.55
Toilet	**0.90**	0.70
Bathing	**0.89**	0.77
Oral hygiene	**0.83**	0.73
General hygiene	**0.84**	0.77
Mobility	**0.65**	0.39
Dressing	**0.93**	0.68
Transportation	0.55	**0.76**
Money	0.53	**0.75**
Shopping	0.63	**0.87**
Laundry	0.68	**0.86**
Meal preparation	0.65	**0.85**
Housework	0.65	**0.83**

After the EFA was conducted, we performed a CFA to confirm the factor structure of the general support need scale. The EFA indicated that multiple items load onto more than one of the factors, suggesting a more complex scale structure that may not clearly be explained by naming the subscales as ADLs and IADLs. Because of this, we conducted two CFAs to explore two models using the 14 items selected based on the EFA in different structures:

1. A single-factor model with all items on one "support need" latent variable
2. Two-factor model with items loading onto two latent variables "ADLs" and "IADLs"

The purpose of conducting both CFAs is to determine whether a two-factor solution is statistically appropriate, particularly over a single-factor structure. The table below displays the fit indices from the two CFAs. We evaluated model fit by examining the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), standardized root mean squared residual (SRMR), Root Mean Square Error of Approximation (RMSEA), and item loadings. Under the fit indicator, a row labeled "cut off" displays the accepted criteria that indicates good model fit. For both CFAs, the chi-square was significant

which may be an indicator of poor model fit. However, the literature often discusses chi-square significance in CFAs as an inadequate measure of model fit that should only be considered among additional indices. Similarly, the RMSEA for both models indicate a poor model fit since both are over the cutoff score of .10. However, the CFI and TLI do indicate model fit for the two-factor model (over .90) but not the single-factor model. Similarly, the SRMR indicates model fit for the two-factor model (less than .08) but not the single-factor model. Overall, the two-factor model seems to demonstrate good model fit, but the single-factor model does not. This supports considering the scale of general support need as containing two dimensions: ADLs and IADLs, which aligns with the intentions of the ONA.

Figure 27

Fit Indices of Two Tested CFA Models

Fit indicator	χ^2	RMSEA	CFI	TLI	SRMR
Cut off	*Not sig.*	<.10	>.90	>.90	<.08
Single factor	6506.14*	.20	.70	.66	.11
Two factors (ADL, IADL)	841.91*	.11	.93	.92	.04

**indicates significance at p<.01.*

After confirming the two-factor structure, we explored the factor loadings of each of the items on their associated factor (ADL or IADL), correlations among items and subscales, and error variance. Literature commonly recommends that a CFA factor loading of .6 or higher is acceptable for a good fit model. As displayed in the figure below, all items except one have loadings over .6. One item, money management, loads onto IADLs at .44, which is insufficient. Despite this loading, we determined money management to be an important daily life skill that should be included in the measure. Additionally, the overall model shows good model fit, and the loading may be due to quality assurance issues or small sample size. As indicated next, the loading improves within the replicated analysis dataset, which offers a larger sample and data with more rigorous quality assurance performed.

Figure 28

Preliminary Sample Analysis CFA Factor Loadings

	Item	Factor loading
ADL	Footwear	.97
	Eating	.71
	Toilet	1.02
	Bathing	1.00
	Oral hygiene	.94
	General hygiene	.85
	Mobility	.77
	Dressing	.92

	Item	Factor loading
IADL	Transportation	.90
	Money	.44
	Shopping	.88
	Laundry	1.00
	Meal preparation	.95
	Housework	.71

As with the EFA results, we replicated the CFA findings with a recent expanded dataset of ONAs that have undergone all quality assurance measures by ODDS. In this dataset of 28,442 individuals, we confirmed the findings from the preliminary CFA. While the chi-square remained significant, all other fit indices examined indicate good model fit or were within .01 of the cutoff indicating good model fit (RMSEA = .09, CFI = .95, TLI = .94, SRMR = .04, RMSEA = .09). Factor loadings in the replicated CFA indicate even better fit than the preliminary CFA, with all items loading onto their respective factors at .61 or higher. The figure below displays the factor loadings of each of the items on their respective factors. Findings here further confirm the factor structure of the 14-item general support needs scale.

Figure 29

Replicated CFA factor loadings

	Item	Factor loading
ADL	Footwear	1.00
	Eating	0.68
	Toilet	1.01
	Bathing	1.01
	Oral hygiene	0.97
	General hygiene	0.97
	Mobility	0.61
	Dressing	0.95
IADL	Transportation	1.00
	Money	0.73
	Shopping	1.17
	Laundry	1.30
	Meal preparation	1.26
	Housework	1.08

Lastly after the factor structure of the scale was confirmed, we tested the internal consistency reliability (Cronbach's alpha) of the scale. This test measures the extent to which items in the scale are measuring the same overarching construct (i.e., general support need). We found that the overall scale shows excellent internal consistency reliability ($\alpha = .96$). The subscales individually were tested for internal consistency reliability as well. Both subscales show excellent internal consistency reliability (ADLs $\alpha = .95$; IADLs $\alpha = .96$). The psychometric testing of the general support need scale, in summary, provides evidence to support the use of 14 ONA items for the framework criteria.

General Support Need Framework

After the creation of the general support need scale, we next turned to determining the number of service groups and the general support need scores associated with each service group. We considered behavioral support need and medical support need outside of the basic structure of the framework to be used to identify individuals with very high needs in those areas. Therefore, we determined the preliminary structure of the framework using only general support need as a starting point. This section discusses the analyses we conducted and interpretations of them that resulted in the service group structure and criteria.

To statistically determine the best number and composition of service groups for the framework, we conducted a series of latent class analyses in MPlus Version 7.4. Latent class analysis[1] (LCA) is a statistical analysis for identifying class (or group) membership among individuals. LCA uses measured data (i.e., the general support need items of the ONA) to find groups of similar individuals. LCA tests whether the data support a predetermined number of groups that exist in the data, and which individuals belong to each group.

We conducted LCAs to test the fit of a series of models using the GSN items of the ONA. These LCAs indicate what number of classes is the best representation of the data (which in turn indicates the best number of service groups), and who is in each of the classes. The LCAs indicate, based on the model used in the analysis, which class each person belongs to using the ONA GSN data. The way in which individuals are assigned to classes in the LCA does not follow a linear sum scale, which would be our intention with creating clear and understandable criteria for assigning service groups. Instead, the analysis considers the range of scores possible for each person on the GSN items separately. To create a framework that used the GSN total, service groups are determined by using ranges in GSN scores that create groups that best match the class membership from the LCA model. Note the distinction between *class* and service group in this analysis: *class* is the group an individual is assigned to by the LCA, and service group is the group an individual is assigned to in the framework we created based on the LCA class data.

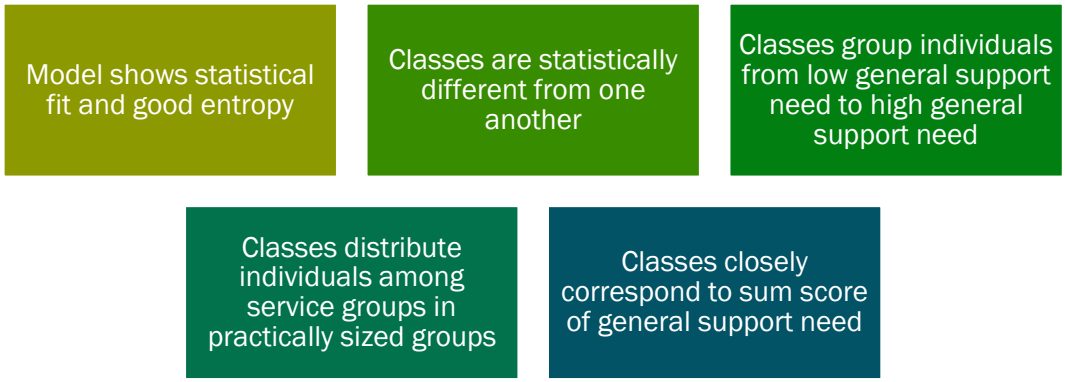
We tested models with 3, 4, 5, 6, and 7 classes to determine which number of classes creates a statistically and practically sound framework. We did not test models with just 1 and 2 classes because a framework with only one or two service groups, while potentially a good statistical model fit, does not provide sufficient distinctions in the service population to allow for adequately variable hour allotments. A framework containing many groups may be too granular compared to the hour allotments or rates they are meant to be associated with. Further, any small differences in support needs over time or issues with the assessment become more pronounced if they result in group membership change. From this practical standpoint and with ODDS' input,

[1] Muthén, B. (2004). Latent variable analysis: Growth mixture modeling and related techniques for longitudinal data. In D. Kaplan (Ed.), Handbook of Quantitative Methodology for the Social Sciences (pp. 345–368). Newbury Park, CA: Sage.

we identified that the framework should include between 3 to 7 service groups. Hence, the models tested contain 3 to 7 classes of measurement for general support need.

We then tested all models with adequate statistical fit with univariate general linear modeling (GLM) to determine whether statistically significant differences exist among the classes. In addition to GLMs, we explored the classes with descriptive statistics, including mean, median, and range subscale and total scores within classes.

Once all models were tested with LCA and differences among classes were explored, we examined the findings. In order to be considered for informing the support level framework, the model was required pass each of these five requirements:



While these analyses were conducted both in 2017 with the preliminary dataset and again in 2020 with the expanded dataset, we present the detailed findings from only one analysis for conciseness and clarity. The LCA, supplemental analyses, and resulting findings are more complex than the factor analyses, which we were able to succinctly present with both the preliminary and replicated dataset analyses. The LCA analyses conducted both in 2017 and 2020 show and confirm the soundness of the model selected.

Statistical Fit and Entropy. The LCA provides statistics about the model fit, including the chi-square test, Akaike Information Criterion (AIC[2]), Bayesian Information Criterion (BIC[3]), Sample-size adjusted BIC (SSABIC[4]), and Lo-Mendell-Rubin Adjusted Likelihood Ration Test (LMR-LRT[5]). These statistics provide information about whether the model may be supported as having good fit. The LCA also provides information on entropy[6], a measure of classification certainty. That is, a higher entropy indicates that classes contain individuals that are more similar to each

[2] Akaike, H. (1974). A new look at the statistical model identification. IEEE Transactions on Automatic Control, 19, 716–723.
[3] Schwartz, G. (1978). Estimating the dimension of a model. The Annals of Statistics, 6, 461–464.
[4] Sclove, L. (1987). Application of model-selection criteria to some problems in multivariate analysis. Psychometrika, 52, 333–343.
[5] Collins, L. M., & Lanza, S. T. (2013). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences* (Vol. 718). John Wiley & Sons.
[6] Granado, E.A., (2015). Comparing three effect sizes for latent class analysis (Doctoral dissertation). Retrieved from Google Scholar.

other than to individuals in other classes. This model requirement provides the statistical grounding for the level framework.

The figure below displays the goodness-of-fit indices for the LCA models. The LMR-LRT was statistically significant in models with 4, 5, 6, and 7 classes. The entropy was above .80 for all tested models. When comparing the LCA models, the fit indices decrease with each added class. While sharp decreases occur between the 3-class and 4-class models and the 4-class and 5-class models, the decreases between the models with 5 or more classes are less substantial.

Figure 30

LCA Goodness-of-Fit Indices for All Tested Models (n=21,781)

	AIC	BIC	SSABIC	Entropy	LMR-LRT
Better fit if value is	*Smaller*	*Smaller*	*Smaller*	*Over .80*	*Sig.*
3 class model	1,214,119.75	1,214,598.59	1,214,414.26	.94	79,680.48
4 class model	1,168,926.61	1,169,529.27	1,169,297.28	.94	44,931.08*
5 class model	1,145,310.27	1,146,036.77	1,145,757.11	.93	23,493.62*
6 class model	1,131,770.50	1,132,620.84	1,132,293.51	.94	13,482.13*
7 class model	1,122,376.67	1,123,350.84	1,122,975.84	.94	9,362.97*

Note: ** p <.01

In summary, these results show that the models with 5 or more classes have better fit. While the 7-class model shows the best goodness of fit of the models explored, the differences among the 5-class, 6-class, and 7-class models was slight. Therefore, all three models (5-class, 6-class, and 7-class) warranted consideration as a basis of the framework when factoring in other class requirements.

Differences Among Classes. Next, classes were required to be statistically different from one another. That is, a general linear modeling analysis must show statistical significance among classes. This model requirement provides support for grouping support levels based on ONA data, and justification for providing different rates and/or support hours to each group.

We conducted univariate general linear models to determine whether statistically significant differences exist among the classes on the subscales of the GSN (ADLs and IADLs). Statistical differences among classes indicate that the classes are distinct from one another and therefore warrant separate groups in the framework. Since the comparison of LCA models indicated that the 3-class or 4-class models had worse fit than the models with 5, 6, or 7 classes, we only conducted GLMs with models with 5, 6, and 7 classes.

For the purpose of this analysis, the most important findings from the GLMs were whether the tests supported significant differences and the effect size (strength of the difference, if significant). Effect size in GLMs is measured with partial eta squared, η^2_p. The η^2_p values range from 0 to .99 with larger values indicating greater effect size. While a universal rule of thumb does not exist for what is an adequate partial eta

squared value, a value over .30 typically indicates strong effect size, or a high level of confidence in the statistical difference between two groups.

See the figure below for the results of the GLMs. All models under consideration resulted in statistical differences among classes. Partial eta squares (η^2_p) range from .84 to .93 for the 5-class model, .85 to .93 for the 6-class model, and .85 to .94 for the 7-class model, indicating very strong effect sizes across all models.

Figure 31

General Linear Model Results of SNI Subscales by LAC Model Classes (n=21,781)

LCA Model		R^2	*df*	M^2	F	η^2_p
5-class model	ADLs	.92	4	939,253.35	76,729.35	.91
	IADLs	.84	4	389,564.16	38,117.97	.84
	GSN	.93	4	2,367,444.92	97,306.83	.93
6-class model	ADLs	.92	5	752,643.91	62,598.76	.92
	IADLs	.85	5	312,234.98	30,860.69	.85
	GSN	.93	5	1,894,978.16	78,465.50	.93
7-class model	ADLs	.92	6	628,960.33	53,974.24	.92
	IADLs	.85	6	262,861.22	27,511.00	.85
	GSN	.94	6	1,585,478.65	69,498.74	.94

The GLM findings support the use of any number of classes between 5 and 7 to best fit the data. That is, the GLM does not provide support for one model's number of classes over another model; all models exhibited strong effect size.

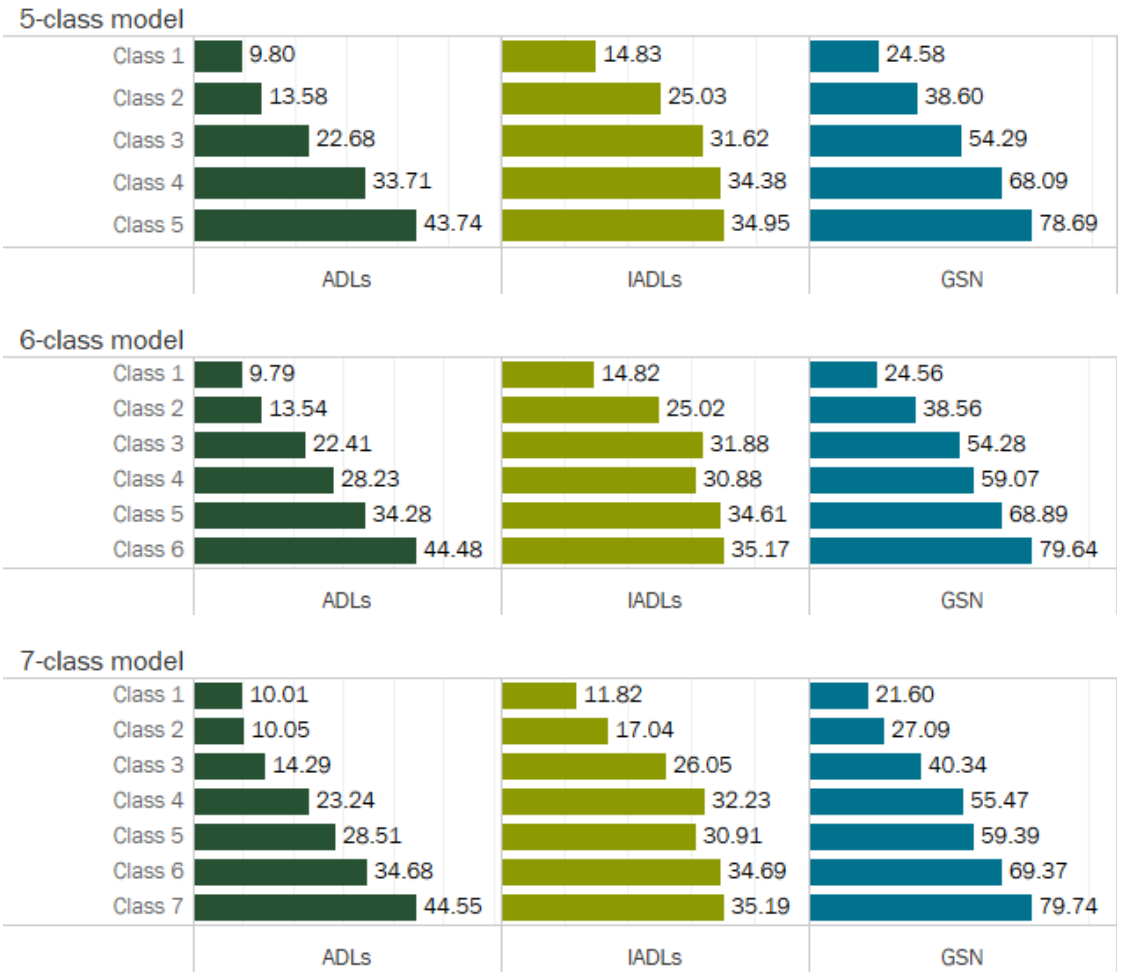
Low to High General Support Need. LCA uses an iterative process to determine class membership to latent, or unmeasured, variables. Observed or measured variables are caused by unobserved or latent phenomena. Applied to this analysis, the GSN measures support need. The LCA tests the patterns of interrelationships among observed variables (ONA items) to understand, characterize, and classify the underlying latent variable (support need). We tested each model by forcing the variables included and the number of classes, so the LCA could determine fit and class membership. However, LCA does not use additional information on the desired group membership. LCA uses the measured data to form groups. Therefore, the classes may not logically group into low to high support need, but instead form classes composed of variations on the subscales in the analysis. The LCA may find the greatest statistical fit in a model containing groups that are differentiated by particular subscales. For example, the greatest fit model may comprise one class having high ADL support needs and low IADL support needs, another class with both high ADL and IADL support needs, and a third class of individuals with both low ADL and IADL support needs. While the statistically significant fit of such groupings may be theoretically interesting, such a model is impractical for use in identifying general support needs. Therefore, such a model could be applied to the framework. We considered only models that display general support needs ranging from low to high for a service group framework.

As the 5-class, 6-class, and 7-class models appeared to make an adequate model for use in developing a framework, we next looked at the descriptives of the individuals

comprising the classes to identify whether the classes effectively group individuals from low to high general support need. For the three models still under consideration, the figure below shows the mean ADL, IADL, and GSN for each class.

Figure 32

Mean Score of Subscales by Class (n = 28,442)



The figure illustrates that the 5-class model gradually increases in support need for ADLs, IADLs, and GSN (total score across both subscales). Even though the difference in IADL score between class 4 and class 5 is very small (34.38 to 34.95), the combined GSN score clearly displays a model in which the total scores increase with each class. While less evenly increased between classes than the 5-class model, the 6-class and 7-class model ADLs and GSN means also increase with class. However, both models have IADL means that do not increase in the same way as the ADLs. In the 6-class model, class 3 has a mean IADL score of 31.88 and class 4 has a mean IADL score of 30.88. This means if implemented, individuals in the higher service group may potentially have slightly lower IADL needs than individuals in the lower service group. Even though overall GSN scores in the higher class indicates higher need, this discrepancy would make the 6-class model have an overly complex way of assigning individuals to groups that may not be practically evident or understandable. Further, this model may be unbalanced with ADLs driving overall service group assignment.

Similarly, in the 7-class model class 4 IADL mean is 32.23, while the class 5 IADL mean is 30.91. The overall GSN appears to be associated with the more linear ADL mean scores, creating the same complexity described for the 6-class model.

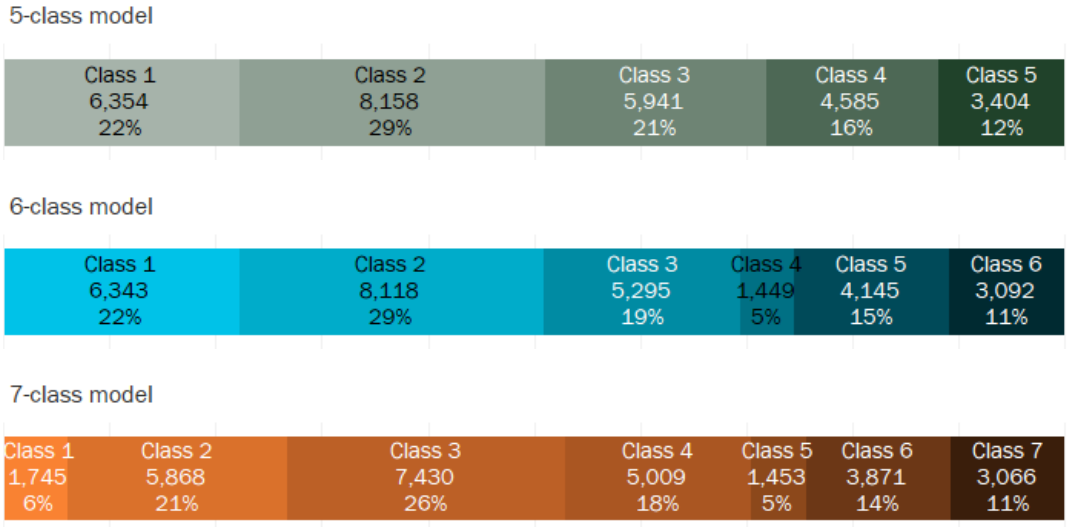
Distribution across Practically Sized Groups. While this methodology uses a data-driven approach to determine a framework, practical limitations are considered throughout. In addition to only considering models with a practical number of service groups (three to seven) and whose service groups correspond to increasing general support need, we also considered the practical implications of size of the classes. LCA assigns class membership without regard to the proportion of individuals within classes. A model may have adequate statistical fit, but if classes are vastly disproportionate or do not correspond to what is known about the population's support needs, the implications for a jurisdiction may make the model infeasible. For example, if the highest service group comprises an overwhelming percent of the population, the cost implications for a jurisdiction may be impractical. For this reason, we next considered the proportion of class sizes when determining the final framework.

We examined the proportion of individuals in each class to the overall analysis sample. To be distributed across practically sized groups, the classes should be distributed in a way that mirrors the support needs of waiver service recipients in most states (most individuals reside in the middle or moderate support need groups). The model also should not have any class with a proportion of individuals too small or too large to make practical sense for implementing a system for hour allotments and payment categories.

The figure below displays the distribution of classes within the analysis sample by model. The 5-class model contains the fewest individuals in the highest classes, and a large proportion of the population in the lowest two classes, which mirrors the distribution of groups in other jurisdictions. While the 6-class model has proportionally similar amounts of individuals in the lowest two classes and highest two classes, the new class introduced in the 6-class model seems to be in the middle of classes 3 and 4. The 7-class model has a similarly large proportion of individuals in the middle of the distribution (classes 2 and 3). However, the 7-class model has a group containing 6% of the population and a group containing 5% of the population.

Figure 33

Distribution of Classes by Model (n = 28,442)



These distributions do not take into consideration individuals with extraordinary support need for medical conditions or behavioral challenges, which will impact the proportion of individuals across all groups, regardless of model.

Correspond to Sum Score of General Support Need. The framework must be transparent and comprehendible. For this reason, we require the most accurate and effective yet simplified model with clear and consistent criteria. While the LCA and subsequent analyses effectively grouped individuals into classes, those classes do not neatly correspond to cutoffs for subscale means. Instead, the classes consider all variables to group individuals most similar to one another, which may mean slightly higher or lower scores on one or some items within the group. We used these groupings to determine which scores across all items in total best identified group membership. We use the LCA findings to inform a service group framework and develop the criteria for group membership, not as a methodology for assigning service groups.

Since we used class membership to determine how a sum score may inform service group membership, classes must closely correspond to a sum score of general support need. That is, after we determined the appropriate items and subscales to include in the GSN, those items are summed to create a general support need score. We examined general support need scores by class membership to determine which scores are associated with each class. If classes do not correspond to a somewhat clear range of GSN scores, the model cannot inform the level framework in a clear and consistent way. If the general support need scores overlap between classes, other factors were considered for determining the general support need cut-off scores, including class size and relationships among levels and individual items. That is, we examined items from individual assessments in the overlapping ranges of scores to consider whether common specific needs seem more aligned with the lower service group or the higher service group to which the individual may be assigned.

To explore this model requirement, see the following figure (Figure 34). The first column on the left is the GSN total score. GSN total scores in the sample range from 14 to 84. Across the top of the figure is each model (5-class model, 6-class model, 7-class model) and the classes within each model generated by the LCA labeled as "C 1," "C2," etc. Each colored cell of the figure contains the number of individuals in the sample with the specific GSN total score within the class and LCA model. For example, 100 individuals have a total GSN score of 14 in class 1 of all three models. The darkness of the cell color increases with higher numbers of individuals in those cells.

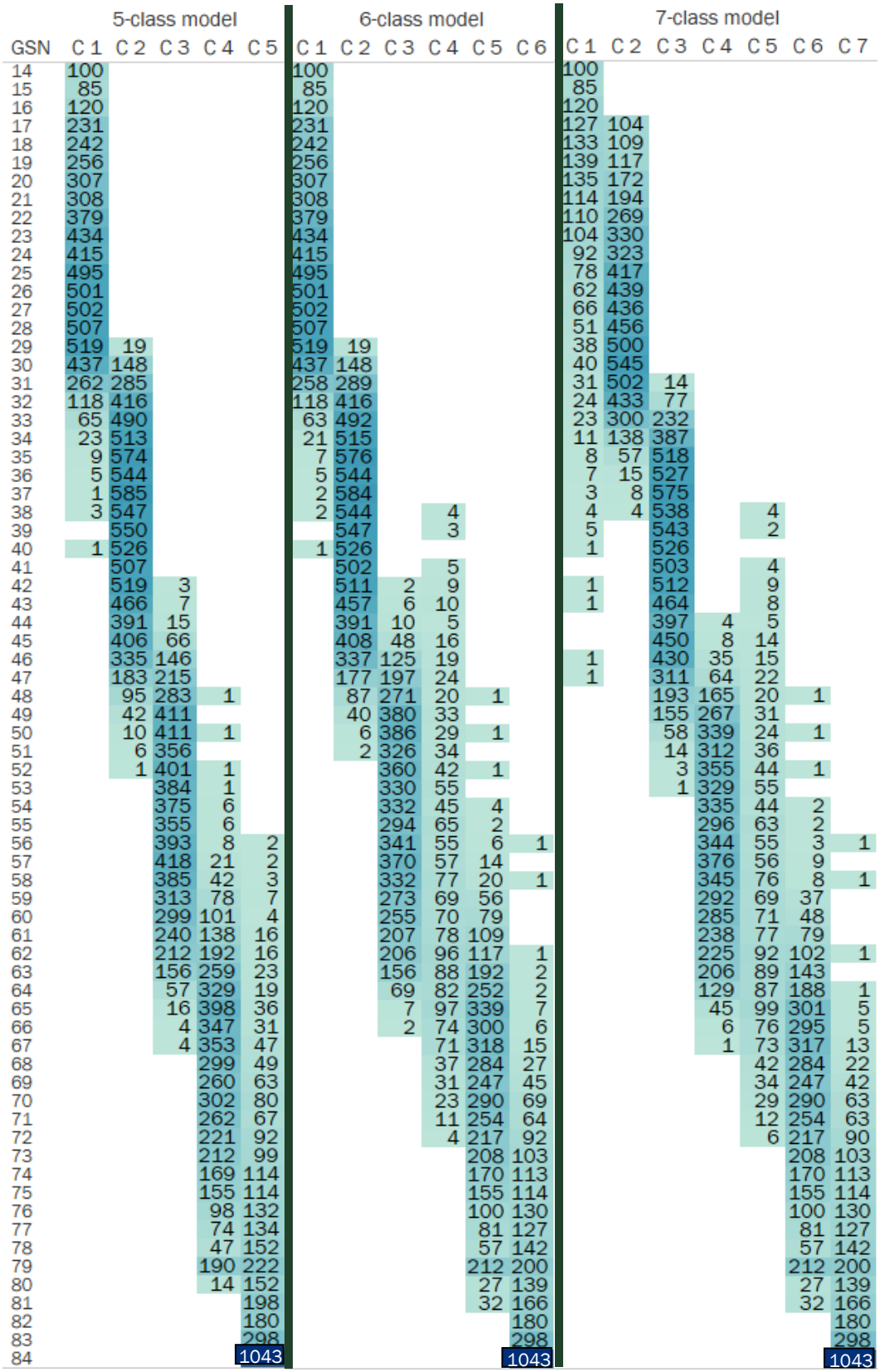
The largest number of individuals is in the highest possible GSN score due to the rescoring of items for children. Young children are assumed to be dependent on support for most of the items within the GSN thereby inflating their overall scores and making them more likely to receive a GSN of 84. For example, all children under age 4 who are dependent on support for their mobility will receive a GSN of 84 irrespective of any other general support needs.

Using the following table, we determined preliminary GSN ranges for each service group. While the ranges in GSN scores informed by the LCA classes did not dictate the criteria for service group assignments, this information allowed the criteria established to be data informed. A potential cut-off between one service group and the next on GSN score may be where the number of individuals in the first class begins to taper off and the number of individuals in the second class begin to grow. That is, a purely LCA-informed cut-off score would be the number where the fewest individuals have mismatches between the LCA-assigned class and the service group assignment.

Based on this approach, the 5-class model has the least amount of overlap among GSN scores. Additionally, both the 6-class model and 7-class model have classes whose lower end extends past the next lower class (class 4 and class 5, respectively). Class 2 of the 7-class model seems to have a distribution of scores that does not extend past the highest scores of individuals in class 1. The inconsistent way in which cut-off scores would need to be created for the 6-class and 7-class models provides further support for use of the 5-class model.

Figure 34

Crosstabulation of GSN Total Score by Class and Model (n = 28,442)



GSN	5-class model					6-class model						7-class model						
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C7
14	100					100						100						
15	85					85						85						
16	120					120						120						
17	231					231						127	104					
18	242					242						133	109					
19	256					256						139	117					
20	307					307						135	172					
21	308					308						114	194					
22	379					379						110	269					
23	434					434						104	330					
24	415					415						92	323					
25	495					495						78	417					
26	501					501						62	439					
27	502					502						66	436					
28	507					507						51	456					
29	519	19				519	19					38	500					
30	437	148				437	148					40	545					
31	262	285				258	289					31	502	14				
32	118	416				118	416					24	433	77				
33	65	490				63	492					23	300	232				
34	23	513				21	515					11	138	387				
35	9	574				7	576					8	57	518				
36	5	544				5	544					7	15	527				
37	1	585				2	584					3	8	575				
38	3	547				2	544		4			4	4	538		4		
39		550					547		3			5		543		2		
40	1	526				1	526					1		526				
41		507					502		5					503		4		
42		519	3				511	2	9			1		512		9		
43		466	7				457	6	10			1		464		8		
44		391	15				391	10	5					397	4	5		
45		406	66				408	48	16					450	8	14		
46		335	146				337	125	19			1		430	35	15		
47		183	215				177	197	24			1		311	64	22		
48		95	283	1			87	271	20	1				193	165	20	1	
49		42	411				40	380	33					155	267	31		
50		10	411	1			6	386	29	1				58	339	24	1	
51		6	356				2	326	34					14	312	36		
52		1	401	1				360	42	1				3	355	44	1	
53			384	1				330	55					1	329	55		
54			375	6				332	45	4					335	44	2	
55			355	6				294	65	2					296	63	2	
56			393	8	2			341	55	6	1				344	55	3	1
57			418	21	2			370	57	14					376	56	9	
58			385	42	3			332	77	20	1				345	76	8	1
59			313	78	7			273	69	56					292	69	37	
60			299	101	4			255	70	79					285	71	48	
61			240	138	16			207	78	109					238	77	79	
62			212	192	16			206	96	117	1				225	92	102	1
63			156	259	23			156	88	192	2				206	89	143	
64			57	329	19			69	82	252	2				129	87	188	1
65			16	398	36			7	97	339	7				45	99	301	5
66			4	347	31			2	74	300	6				6	76	295	5
67			4	353	47				71	318	15				1	73	317	13
68				299	49				37	284	27					42	284	22
69				260	63				31	247	45					34	247	42
70				302	80				23	290	69					29	290	63
71				262	67				11	254	64					12	254	63
72				221	92				4	217	92					6	217	90
73				212	99					208	103						208	103
74				169	114					170	113						170	113
75				155	114					155	114						155	114
76				98	132					100	130						100	130
77				74	134					81	127						81	127
78				47	152					57	142						57	142
79				190	222					212	200						212	200
80				14	152					27	139						27	139
81					198					32	166						32	166
82					180						180							180
83					298						298							298
84					1043						1043							1043

While findings from the LCA and additional analyses indicate a slight advantage of the 5 group GSN framework, they also suggest that use of a framework with 6 or 7 groups would not be completely inappropriate. Rather, the analyses indicate that a 5-group framework may create a more straightforward, understandable, and concise framework with groups that are proportional to what we know of the needs of individuals in Oregon and other jurisdictions. The figure below summarizes the findings of the analyses related to each of the model requirements.

Figure 35

Model Requirements by Number of Classes

Note: Y = Yes, met requirement, S = Somewhat met. The model requirements of the black cells were not tested due to the better statistical fit of models containing five or more classes.

Model Requirement	Number of classes tested				
	3	4	5	6	7
Statistical fit and entropy	S	S	Y	Y	Y
Statistically different classes			Y	Y	Y
Classes go from low to high support need			Y	S	S
Logical and practical class proportions			Y	Y	S
Classes correspond to groups with GSN total			Y	S	S

As the figure demonstrates, while the 5-class, 6-class, and 7-class models all met the model requirements at least somewhat, the 5-class model fully met all of the model requirements and was therefore deemed preferable.

Once all analyses were completed and model requirements applied, the 5-group GSN framework was selected as the basis for the service group framework. While the full GSN range is 14 to 84, due to age-related skip patterns within the ONA detailed on page 8 the full range of GSN scores is not applicable for all age groups. Specifically, we recode items that have minimum age appropriateness to "6" for "Dependent." Therefore, the younger a child is, the more items in the ONA that are deemed not applicable due to age. The possible GSN ranges are 14-84 for adolescents and adults, 44-84 for children, and 79-84 for infants/toddlers. Since we sought to create a standard framework across the entire population and lifespan, the model maintains score ranges for the five groups established. However, based on their possible range of GSN scores, children can only be assigned to the three service groups that apply for scores from 44 to 84, and infant/toddlers can only be assigned to the one service group that encompasses scores 79 to 84. We adjusted the names of the service groups for children to be different from the adolescent and adult age groups to reflect that the whole range of possible support needs for children are still reflected in the three service groups but that the range is condensed into fewer service groups. Similarly, we label the one service group for infants/toddlers as "infant/toddler supports" to reflect that this group contains individuals across all needs in that age group.

Findings from the GSN analyses were presented and discussed with ODDS to confirm agreement with use of a 5-service group framework and the preliminary score ranges for each service group. In later stages of the framework development process, the scores for each service group were critiqued for accuracy. In particular, Record

Review #1 required participants to determine whether individuals in each service group seemed to have similar support needs to one another and that their service group description was an accurate depiction of their support need. All further analyses and data collection activities indicated that the preliminary range of scores associated with each service group did place individuals in the correct service group most of the time, as described in more detail in later stages of the framework development. For that reason, the criteria and range scores for service groups initially developed can be found in final criteria documented on page 6.

Behavioral Support Need In The Framework

Once the GSN framework was in place for general support need, we turned our attention to behavioral support needs and how best to incorporate them into the framework. We sought to establish criteria that would identify individuals with very high support needs in this area. In collaboration with ODDS we determined that, once finalized, meeting these criteria should afford an individual the same amount of support as those individuals with very high general support needs. This means that while the existence of very high behavioral support needs would assign an individual to the same service group as individuals with very high general support needs, the behavior support need criteria is different than GSN. Due to differences in the construction of available ONA items, rather than determining a measure to use as a scale and then determining a statistically sound model by which to group individuals, the behavior criteria must include a simple threshold identifier that accurately identifies individuals as having very high behavioral support needs. To do this, we considered all items in the ONA that may relate to very high behavior needs.

The ONA contains 17 questions about behaviors that require support that have consistent response options that may be used to create a sum score by which we may identify individuals with multiple challenging behaviors requiring very high support. The figure below displays an example of one of these behavior items.

Figure 36

Example of ONA Behaviors Item

Injurious to self

Individual displays, or would without intervention, disruptive or dangerous behavioral symptoms not directed towards others, including self-injurious behaviors (e.g., hitting or scratching self, attempts to pull out IVs).

- □ No history, no concern about this behavior
- □ Has history, has not displayed symptoms in the past year, no concern about reoccurrence
- □ Has history, has not displayed symptoms in past year, assessor has concerns about reoccurrence
- □ No history, but assessor has concerns may become an issue
- □ Yes, present in past year

Only one of the response options indicates that the behavior was present in the past year. ODDS training directs assessors to respond to these items with "Yes, present in the past year" if the behavior would be present if not for support. All other responses focus on determining history of and identifying the level of concern about a behavior which was not present in the past year. While these responses may be useful for planning purposes, these response options could not consistently contribute to identifying individuals with very high support needs for behaviors. Therefore, behavior items are recoded as a dichotomous variable, with "Yes, present in the past year" equal to 1 and all other responses equal to 0.

Upon exploring the behavior items, we note that some behaviors seem present in a large proportion of the analysis sample. As the purpose of the criteria is to find the people with the most serious support need due to behavior, we may not be able to consider items that include behaviors common to many individuals. The figure below displays the percent of individuals with the response "Yes, present in the past year" for each of the behavior items in the ONA.

Figure 37

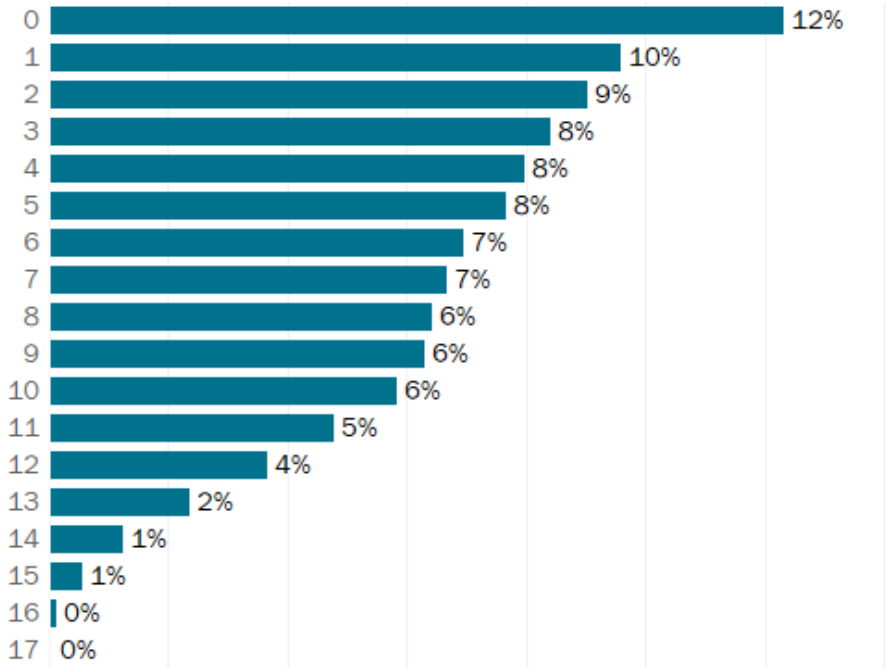
Individuals With Behavior Present in the Past Year (n = 28,422)

Behavior	% with behavior present in past year
Injurious to self	36%
Aggressive or combative	38%
Injurious to animals	10%
Verbal aggression	50%
Socially unacceptable behavior	49%
Sexual aggression/assault	4%
Property destruction	30%
Leaving supervised area	33%
Pica	15%
Difficulties regulating emotion	66%
Resists ADLs/IADLs/medical care	45%
Rapid ingestion of food/liquid	28%
Withdrawal	28%
Intrusiveness	45%
Susceptibility to victimization	25%
Legal involvement	7%
Other behavior issues	25%

To use these items to determine when a person has very high support needs for their behaviors, we must also consider what number of behaviors should be deemed serious in nature. As displayed in the figure below, 78% of individuals have more than one of the behaviors. However, many of the behaviors asked about are serious enough that if present on their own—or with one or two additional behaviors—merit very high support need.

Figure 38

Number of Behaviors in the Past Year (n = 28,422)



Through our exploration of these items, we determined that additional items from the behavior section of the ONA must be used in combination with these items to establish our determination of very high behavior support need. Further, with ODDS assistance and later stakeholder input and data collection, we gradually narrowed the included behaviors to limit to those that will most often require very high support need and that were not present in a majority of the sample. In our preliminary criteria, we determined the following list to contain the behaviors with the most serious implications for support need:

- Verbal aggression
- Socially unacceptable behavior
- Difficulties regulating emotions
- Refusing ADLs/IADLs/medical care
- Rapid ingestion of food/liquids
- Withdrawal
- Intrusiveness
- Legal involvement

We continued to revisit and refine this list throughout the process of developing the framework. Stakeholder feedback and additional data collection were important elements in the development of the framework criteria, particularly for the complex behavior support needs. As discussed in later sections, these criteria were changed to improve the criteria for assigning individuals to Very High due to behavioral support

need. However, at the time of the preliminary framework development, these nine items were summed to create a score from 0 to 9.

In addition to considering the behaviors present, the framework must also include the amount of behavioral support interventions necessary to support an individual with the behavior(s). To determine how to best incorporate these items into the criteria, we explored the items on "Intervention Frequency" in the ONA. The ONA asks about intervention frequency as displayed in the figure below.

Figure 39

ONA Intervention Frequency Items

How often does the individual require intervention and/or environment management due to any behavior issue (not specifically to each presenting behavior)?

Cueing

- None
- less than once per month
- once per month
- more than once per month
- 1-3 times per week
- 4 or more times per week, but less than daily
- less than 5 times per day
- more than 5 times per day

Proactive strategies and physical prompts

- None
- Less than once per month
- More than once per month
- 1-3 times per week
- 4 or more times per week, but less than daily
- Less than 5 times per day
- More than 5 times per day

Safeguarding interventions (also known as PPIs)

- None
- Less than once per month
- More than once per month
- 1-3 times per week
- 4 or more times per week, but less than daily
- Less than 5 times per day
- More than 5 times per day

We found that many individuals with one or more of the behaviors listed require frequent cueing and proactive strategies. As the intention of the criteria is to identify individuals with very high needs due to behavior, any interventions that are common among most individuals cannot be integrated into the framework. The most intensive intervention, safeguarding interventions (PPIs), are less common in the sample (11% of preliminary analysis sample). Individuals requiring PPIs would certainly be among individuals with very high support need. Therefore, we included this item in the preliminary criteria. Specifically, individuals must have required at least monthly PPIs to be in Very High due to behavior support need.

The ONA also asks questions about positive behavioral support plans (PBSP). ODDS identified that any individual receiving regular safeguarding interventions should have a PBSP in place as without such documentation this type of intervention was precluded except in truly emergent circumstances. Furthermore, ODDS detailed a broader policy commitment to having PBSPs in place for individuals who have this level of behavioral support needs to facilitate use of intervention techniques that align with best practices. Therefore, when exploring the data on the PBSP items and in reviewing them with ODDS, we determined the three items in the following figure should contribute to whether an individual is in Very High due to behavior.

Figure 40

ONA PBSP items

Has a Positive Behavior Support Plan (PBSP) (also known as Behavior Support Plan or BSP) been created for the individual?

- Yes
- No

Is the PBSP currently being implemented by support persons? (Support persons have been trained on the PBSP.)

- Yes
- No

Does the PBSP implementation include documentation of the incidence of behavior?

- Yes
- No

However, individuals may have PBSPs for behaviors that do not merit very high support. Of the individuals in the sample (n=889), 23% have a created and implemented PBSP, and 19% have a created and implemented PBSP with documentation of the plan. While ODDS deem these criteria important for inclusion in the criteria for Very High due to behavior, it must be used in combination with other items to identify that the PBSP is for behaviors meriting very high support.

Lastly, items on emergency/crisis services in the past year and court-mandated restrictions against the service recipient (displayed below) were considered for inclusion in the criteria. These items were among others in the behavior section that may indicate the need for Very High support due to behaviors.

Figure 41

ONA Items on Emergency/Crisis Services and Court-Mandated Restrictions Against the Service Recipient

Has the individual required emergency services, crisis intervention services or protective services to address a dangerous behavior 2 or more times in the past 12 months?

- Yes
- No

Is a court-mandated restriction currently in place against the individual?

- Yes. Describe the type of restriction, reason for restriction, and order date:
- No

Both items apply for a small proportion of the sample (court-mandated restriction = 3%, emergency/crisis services = 3%). Therefore, these items may be overly restrictive for criteria that aims to include all individuals with very high needs for behaviors.

Without a second source of data to triangulate which scores on items are associated with very high support need, we were only able to descriptively explore items to determine whether and how they should be used in the criteria. Therefore, after exploring all descriptive data, we began to consider combinations of the items as draft criteria. We focused on determining what scores on what items would result in creating a service group that is a proportion of the sample that has face validity. That is, does the proportion of the sample in Very High due to behavior reflect what is known about the population of individuals in Oregon and other jurisdictions? From HSRI's work developing criteria for frameworks in other jurisdictions, we anticipate approximately 8% to 11% of the population to have very high behavior support needs.

With an eye both to establishing a criteria for Very High due to behavior support need that was best able to identify appropriate membership in that group and to the feasibility of building a model where a high percentage of participants are assigned to the highest support group, we explored different combinations of the items and response options detailed above. Our preliminary criteria for behavior are displayed in Figure 42. Across all age groups in the preliminary analysis sample, 8% of individuals were in Very High due to behavior.

Figure 42

Preliminary Criteria for Assigning Individuals to the Highest Service Group for Behavioral Support Needs (NOT FINAL CRITERIA)

- Any GSN score;
- A mandated court restriction OR a behavior score of at least 1 (out of 9);
- PPIs at least monthly; AND
- PBSP created and implemented

These preliminary criteria were developed with the intention of further investigation into how accurately individuals are assigned to Very High due to behavior. Even at the point of initial development, we discussed with ODDS concern regarding the strictness of this criteria—particularly concern with the requirement for monthly PPIs as we know not all individuals who have significant behavioral support needs make use of this intervention. We identified discord between responses in the sample which seemed to indicate participants were receiving PPIs who did not have created and implemented PBSPs which we brought to the attention of ODDS. Through quality assurance, ODDS was able to identify that respondents were answering the question regarding PPIs with a broader definition than the question intended; and ODDS developed modified assessor instruction and corrected ONAs as a result, which had a later impact on the feasibility of adjustments to the criteria. As explained in later sections, these criteria underwent scrutiny during the preliminary framework record exploration and Record Review #1 that resulted in the need for additional data collection and resulting improvements. The preliminary criteria do not reflect the final criteria.

Medical Support Need In The Framework

The ONA also contains a section on medical support needs from which we draw items to include in the framework. Our intention was to develop means to identify individuals with very high to extraordinary medical support needs who would be underserved in lower service groups. We undertook the process described next to identify individuals who should be in the highest service group based on medical need.

The ONA asks about various medical treatments and therapies, specifically how often a person needs each treatment or therapy. For each of the treatments and therapies, the ONA asks two items that were deemed best for use in the framework:

- Current need
- Whether a support person performs

The 28 treatments and therapies included in the preliminary criteria asked about (e.g., respiratory therapy, wound care, tracheostomy care) are listed in the figure on page 10. The items that ask about the current need for the treatment/therapy has

standard responses. These response options, while useful for service planning, are not on a graduated scale and provide more detail than necessary for discerning support need for a given treatment or therapy. We recoded the response options into a four-point scale from 0 to 3, with 0 being no need and 3 being the highest amount of need. The recoded scale for each question is displayed in the figure below.

Figure 43

ONA Medical Items Response Options

Response option	Recode value
Has never needed	0
Does not currently need, but has needed in the past	0
Needs but does not receive	0
Receives less than weekly	1
Receives weekly, fewer than 5 days per week	2
Receives weekly, 5 or more days per week	2
Receives daily	3
Receives 5 or more times per day	3

With input from ODDS and stakeholders, we decided to include the 28 listed treatments and therapies in the ONA section to determine whether a person has very high medical support needs. The ONA also includes three options for "Other" to write in any treatments or therapies not listed. However, due to the infrequency of responses in "Other" and the inconsistency in write-in responses at the time of preliminary analysis, we determined "Other" should not be included in a sum medical score. Additionally, this section asks about behavioral health therapies, including mental health and psychiatric therapies/services. These items were excluded since behavioral support needs are considered separately for the framework.

These responses are used to create one overall score that we call the Medical Support Need score (MSN). To calculate the MSN, the responses to 28 questions about medical treatments and therapies in the ONA are added together. That sum score is the MSN, which is between 0 and 84. The figure below displays the first version of the criteria for assigning a service group of Very High due to medical needs.

Figure 44

Preliminary Criteria for Assigning Individuals to the Highest Service Group for Medical Support Needs (NOT FINAL CRITERIA)

Any GSN score;

MSN of 5 or more; and

At least 1 daily medical support need

As part of our exploration of medical support need, we considered the use of the responses to the question about who performs the support. In the initial version of the framework criteria displayed above, we exclude these items. However, as a result of the preliminary framework record exploration described next, we decided to include

in the criteria that a treatment or therapy must be performed by someone other than the service recipient for the minimum of one daily need.

Preliminary Framework Record Exploration

On Jan. 10, 2018, HSRI convened a group of ODDS staff to review 21 service recipient records as an initial exploration of the framework prior to moving to the next steps of development. The purpose was to explore the records of individuals whose previous support needs assessment[7] identified a need for much less or much more support than identified by the ONA. This exploration was intended to provide additional information as HSRI and ODDS further refined the criteria for the support level framework. While some disagreement between the outcome from a past assessment and the outcome of the preliminary service group framework was not unexpected, an exploratory review into areas of significant divergence was aimed at identifying potential areas where the preliminary framework was capturing some element of support need in a very different way or not at all.

Each reviewer took approximately 10 minutes to review and take notes on a given record. Reviewers then took turns presenting information on the service recipient's support needs to the group. Reviewers filled out a form, with input from the group, for each service recipient record they were responsible for. The form, developed by HSRI, instructed reviewers to analyze support need in a variety of key areas and offered an opportunity to document why there may be differences between the previous assessment and the ONA. HSRI collected all forms and used the information for the summary below.

To explore the differences between current assessed level of support need and support need as assessed by the ONA, reviewers were provided information about both. While the output from each of the current assessments varied, we developed a standard "current category" ranging from 1 through 4 using the crosswalk described in the figure below. The specific details of each of the current tools is not described in detail within this report as it falls beyond the scope of our purpose; however, the important takeaway is that each of the tools currently being used by ODDS to assess support need aim to measure the construct from low to high support, the same intent of the new support group framework, thereby justifying the cross walking of the tools for purposes of this exploratory review.

7 Individuals previously were assessed with one or more of the following measures: The Supports Intensity Scale (SIS), Adult Needs Assessment (ANA), Child Needs Assessment (CNA), or Supports Needs Assessment Profile (SNAP)

Figure 45

Categorizations of Individuals for Comparison to Service Groups

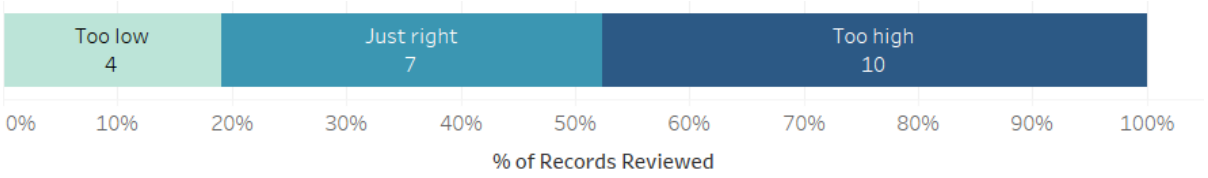
	Supports Intensity Scale	Adult/Child Needs Assessment	Support Needs Assessment Profile
	SIS	ANA/CNA	SNAP
Primary Population	Individuals in group homes	Individuals in family homes	Individuals in foster care
Unit	Level	Hour allotment	Rate category
Category 1 Lowest support need	Level 1: lowest need on subscales A, B, E, lowest need on Medical and Behavioral scales	Tier 1: 160 hours or less	Less than $2,620
Category 2 Low-moderate support need	Levels 2 and 3: low-moderate need on A, B, E, Medical, and Behavioral	Tier 2: 160.01 – 275 hours Tier 3: 275.01 – 390 hours	$2,620.01 – $4,179
Category 3 Moderate-high support need	Levels 4 and 5: moderate-high need on A, B, E, Medical, and Behavioral	Tier 4: 390.01 – 510 hours Tier 5: 510.01 – 630 hours	$4,179.01 – $5,748
Category 4 High support need	Levels 6: highest need on A, B, E, Medical, and/or Behavioral	Tier 6: 630 hours or more	$5,748.01 or more

Of the 21 participant records reviewed, 16 were adults and 5 were children. HSRI intentionally selected individuals for the review whose current "category" was notably different from the preliminary service group in the model under development.

Of the individuals whose records were reviewed, four (19%) appeared from their records to have an ONA-based service group that was too low. Seven (33%) individuals seemed to have an ONA-based service group that aligned with his or her records, and 10 (48%) had an ONA-based service group that was higher than the support needs reflected in his or her records. The figure below displays this finding.

Figure 46

Individuals Whose Service Seemed Too Low, Just Right, or Too High in Relation to What the Individual's File Suggests



Service group seems too low. Reviewers felt that the service group was too low for four individuals who all had prevalent behavioral support needs. These needs weren't sufficient to qualify the person for inclusion in Very High due to behavioral needs under the preliminary criteria but which made service groups of Very Low or Low feel insufficient to meet his or her needs.

Service group seems "just right." Four of the records deemed just right were for children who used at-home supports. Because some of the current categories were determined based on service use, it was conjectured by the ODDS team that the disconnect between their service group and current category may be due to an

inability to find providers. Also, as the CNA was the tool used to assess these children, faith in their current designation was reduced. In two of the other cases it appeared that the person's support needs had changed from the assessment that created their current category and the ONA assessment (in both circumstances this was a reduction in need for behavioral support). In the final circumstance, reviewers felt it was possible that a level of Low might be too low based on some behavioral needs, but the frequency of that support need was not provided in the record.

Service group seems too high. The majority (n = 7) of individuals whose records seemed to indicate that the individual was in a service group felt by reviewers to be too high met the criteria for Very High due to behavior based on having a "court-mandated restriction." Multiple had court-mandated restrictions not related to his or her behavior (i.e., a restraining order based on being a victim of abuse). While others had the types of court-mandated restrictions envisioned for Very High, they required minimal support to manage this restriction and required minimal if any interventions.

The remaining three individuals in the "service group seems too high" group were included for three unique reasons. One person required medical supports which they managed independently so inclusion in Very High due to medical needs appeared to reviewers as unwarranted. Another person's ONA indicated total support needed with ADLS and IADLS while the record indicated the individual could actively participate in ADLS and IADLS and was independently ambulatory. In this circumstance, it appeared the ONA score was not accurately capturing the individual's needs and required further quality assurance. The last person had a case record that showed moderate, but not high, behavioral support needs around gambling and panhandling. The ONA, however, indicated monthly PPIs were used to manage these behaviors but this was not supported by the record.

Improvements to the criteria. The record review findings illuminated two areas of potential improvements to the criteria: court-mandated restrictions and medical needs managed without support.

Three percent of the sample at the time of the review (n = 25) had court-mandated restrictions as indicated by their response to the ONA. Of those individuals, only two qualified for service group Very High based on having a behavioral score of at least 1, protective physical interventions (PPIs) at least monthly, and an implemented positive behavioral support plan. While the remaining 23 individuals in the sample may merit extraordinary behavioral support based solely on the behavior related to the court-mandated restriction, the internal record review indicated that a fair portion did not require that level of support. With input from ODDS, we elected to remove the court-mandated restriction criterion. Instead, we recommended that ODDS continue to explore data on court-mandated restrictions and whether they are associated with exceptional need and/or need for exceptions.

The internal record review revealed one individual assigned to Very High due to a number of daily medical needs who had historically not received a high level of support. The record indicated that the individual can and was performing all

treatments and therapies related to those medical conditions without support. The ONA medical section has a question which asks whether a support person provides assistance related to each treatment or condition. This corresponding item was not initially included in the criteria for inclusion in Very High due to medical needs. Following the internal record review, we elected to include these items in the criteria for identifying individuals with very high medical need. Eight percent of the sample of 889 (n = 69) were assigned to Very High due to medical needs based on the original criteria. After adding that a qualifying daily support need for a medical treatment or condition must be performed by support person, 5 individuals from Very High due to medical needs were no longer in the group, making the service group Very High due to medical needs 7% (n = 64) of the sample.

While the review indicated no specific additional changes to the rest of the framework, we continued to explore ways to improve the criteria. This review highlighted that the preliminary criteria for Very High due to behavioral needs was potentially too strict but did not make it immediately clear how best to improve it. ODDS also identified within this exploratory process the continued need for ongoing quality assurance related to the ONA data that was collected. The review also highlighted the need to further explore exceptions, which was a focus in Record Review #2, described later in this report.

Preliminary Framework

We completed the preliminary framework and an initial exploration of participant records to lend support for its face validity, which resulted in 14 service groups across four age groups. The framework focuses on general support need, but also identifies individuals with very high needs due to behavior or medical needs. As mentioned above and detailed later in this report, this preliminary framework underwent further exploration and testing that resulted in additional later improvements to the criteria.

In the figure below we present the preliminary criteria for assigning individuals to service groups as of January 2018, following the internal record exploration which modified the two elements of the criteria for group membership based on behavioral support need and medical support need. Note that adults and adolescents are in separate service groups, but the criteria for assignment to those service groups are the same. Also note that criteria are displayed for infants/toddlers that result in membership to the same group in three different ways, much like Very High for adults and adolescents and High to Very High for children. All infants and toddlers are assigned the same service group, but the mode of assignment into the service group may be due to behavioral or medical support needs.

Figure 47

Preliminary Adult, Adolescent, and Child Service Group Assignment Criteria as of January 2018 (NOT FINAL CRITERIA)

Adult and Adolescent Service Groups	Criteria
Very Low	GSN score = 14 – 22
Low	GSN score = 23 – 33
Moderate	GSN score = 34 – 53
High	GSN score = 54 – 73
Very High	GSN score = 74 – 84; OR Any GSN Score with an MSN of 5 or more **and** at least 1 daily need that is performed by a support person; OR Any GSN Score with a BSN at least 1 **and** PBSP created **and** PBSP implemented **and** PPIs at least monthly
Child (4- 11) Service Group	**Criteria**
Very Low to Low	GSN score = 44 – 53
Moderate	GSN score = 54 – 73
High to Very High	GSN score = 74 – 84; OR Any GSN Score with an MSN of 5 or more **and** at least 1 daily need that is performed by a support person; OR Any GSN Score with a BSN at least 1 **and** PBSP created **and** PBSP implemented **and** PPIs at least monthly
Infant/Toddler (0-3) Service Group	**Criteria**
Infant/Toddler Supports	GSN score = any; OR Any GSN Score with an MSN of 5 or more **and** at least 1 daily need that is performed by a support person; OR Any GSN Score with a BSN at least 1 **and** PBSP created **and** PBSP implemented **and** PPIs at least monthly

Service Group Descriptions

After determining the preliminary criteria for all service groups, we assigned each individual in the sample to a preliminary service group. HSRI then developed the service group descriptions using sample descriptives. Service group descriptions serve various purposes during the development of the framework and when the framework is implemented. The descriptions provide insight into the amount of support individuals in the group have. During both record reviews, these descriptions offered information the reviewers used to gauge the accuracy of a person's service group assignment. Once implemented, descriptions can be used by service recipients, family members, case managers, and providers to understand the general amount of support need anticipated by membership in each level. Because of the wide applicability of the

descriptions, we sought to make them as reflective of the actual members of the service group as possible.

First, we isolated each age group, since support needs are different across the lifespan. We tailored all language in the descriptions to reflect age-appropriate activities and skills. Then, we isolated each service group in the sample data, and conducted exploratory analyses across all ONA items. We looked at the means and/or frequencies of items measuring ADLs and IADLs, behaviors, behavior support needs, and medical support needs. We wrote descriptives using language that reflects the measures of central tendencies found in the descriptive statistics. For example, for a service group where over 90% of the responses to the ONA items on walking or wheeling are "Independent," we wrote this statement in the description: "…most of these children walk or wheel independently…". We used consistent language throughout descriptions to reflect actual ONA responses such as "needs supervision" or "moderate assistance." We continued this process of exploring the data and writing words that describe the data on the individuals for all service groups.

After the descriptions were drafted, we shared them with stakeholders and asked for feedback at multiple points throughout the development of the framework. Wording adjustments were made based on feedback. We also revisited the descriptions with all adjustments to the criteria to ensure the descriptions were still accurate to the individuals in each service group. See the Appendix for all service group descriptions.

We note that the service group descriptions were intentionally formed in a data-driven way to be closely aligned with service groups, which does create a sense of one-dimensionality within the descriptions. Stakeholders noted that service recipients have more qualities than the amount of support they need in daily life. Further, the descriptions focus on the amount of support needed, since the types of support and ways in which support is received vary from person to person. Service group descriptions should be considered and used only in context of understanding the framework and the amount of support a person receiving services may require.

Task 2

Conduct Record Review #1 to confirm that service group criteria assigned individuals to the right service group

The preliminary framework for assigning individuals to one of the fourteen service groups was developed exclusively by exploring ONA data and a small exploratory review of records. Our next step was to present the preliminary framework to stakeholders and work through a record review process by which stakeholders and ODDS staff could explore how accurate the service group assignments are for actual service recipients. (A second record review that took place later in the development process is described later in this report.)

We had four aims for Record Review #1:

1. Determine the amount of support each person needs as identified in the record
2. Determine whether people who are assigned to the same service group (by age group) have similar support needs
3. Identify reasons individuals within a given service group have support needs that are much different than others in the group
4. Agree on the relative support need of individuals assigned to each support group (by age group) as a whole

Record Review #1 was conducted with 18 stakeholders from May 22 – May 24, 2018. Stakeholders identified as self-advocates, family advocates, systems advocates, case managers, providers, and/or state staff. To promote full engagement, we broke up into four teams led by HSRI staff who worked together closely throughout the review.

Sample

Prior to the record review, we identified a random sample of 150 individuals to review across all age groups, living settings, and service groups. Prior to record review, ODDS staff redacted information in the records as to not allow identification of the service recipient by record reviewers. The figure below displays the number of individuals in the sample by age group. Note that some service groups have very few or no individuals in them. The sample was reliant on having adequate records for individuals included in the original sample (n=889) and therefore included few or no individuals in some service groups. This is taken into consideration in later steps, particularly in the second record review, when support need was again explored to further confirm findings from this record review.

Figure 48

Individuals in record review sample by age group (n = 150)

Preliminary letters are used to denote service group. Adult and adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high. Child: C = Very low to Low, D = Moderate, E = High to Very high. Infant: E = Infant/Toddler supports.

	Service group	Sample n
Infant/Toddler	E	5
Child	C	1
	D	6
	E	11
Adolescent	A	0
	B	3
	C	6
	D	7
	E	11
Adult	A	5
	B	19
	C	24
	D	23
	E	29
Total		**150**

Each of the 150 records were reviewed between one and four times among the four teams, for a total of 269 reviews. Records were reviewed more than once to compare for consistency across teams in their responses to questions about the records and lend reliability to findings.

Method

The first day of Record Review #1 included an extensive training so that participants would be able to review records with a full understanding of the framework and purpose of the review and would know how to participate. After the training and walking through example records as a group, we broke up into four teams for the rest of the review.

Record Review #1 consisted of two steps. The first step consisted of reading through and answering questions about the support needs of service recipients. The second step consisted of looking at all records reviewed in one preliminary service group and answering questions about their overall support need and how similar they are in support needs.

For step 1, teams looked at all individuals assigned to the same service group and age group and discussed each record as a group. Each record review participant was asked

to spend 10 to 20 minutes reading a record and filling out a form containing questions about the individual's support needs. Then, the participant would present the information they read about the individual to the team and walk through their responses to the form. Team members asked clarifying questions to probe at rationale for responses to form items. The form was discussed until the team reached consensus about all responses. Reviewers were asked to take extensive notes to justify all responses and provide a context for all decisions.

The first section of the form asked background information about the service recipient, as displayed in the figure below. Background information includes ID, age, living setting, diagnoses, and area where the recipient needs supports (e.g., mental health, substance abuse).

Figure 49

Record Review #1 Form Background Questions

A. Background

Review the record for the following background and demographic information on the service recipient.

1. ID:
2. Age:
3. Present place of residence (check one):
   - ☐ Group Home
   - ☐ Foster Home
   - ☐ Family Home
   - ☐ Living Independently
   - ☐ Supported Living

If unable to review this service recipient's record, indicate reason:

4. Main diagnoses which qualify the service recipient for ID/DD services:
   1.
   2.
   3.
   4.
5. Identify other areas where the service recipient requires support:
   - ☐ Mental health
   - ☐ Substance abuse
   - ☐ Behavioral supports – self-injury
   - ☐ Behavioral support – injury to others
   - ☐ Complex medical needs
   - ☐ Compliance with terms of probation, parole, etc.
   - ☐ Other (specify):

Notes:

Next, the form asked about the general support needs of the individual across several areas of support need. Areas of support need include ADLs, IADLs, social and community activities, communication, and health and safety. Each item was discussed as a full team to arrive at consensus—with ratings ranging from infrequent to extensive.

Figure 50

Record Review #1 General Support Need Questions

6. On a scale from 1 (infrequent; least amount of support) to 5 (extensive; most amount of support), how much support does this individual need in the following areas when performing the included tasks (circle one per area of support need)?

	Amount of Support				
Areas of support need	Infrequent	Limited	Moderate	High	Extensive
Activities of daily living (e.g., eating, bathing, dressing, going to the toilet, getting around inside the home)	1	2	3	4	5
Instrumental activities of daily living (e.g., preparing food, household chores, shopping, getting from place to place)	1	2	3	4	5
Social and community activities (e.g., making friends, socializing, attending community events, recreation)	1	2	3	4	5
Communication (e.g., communicating needs and wants, being understood by others, understanding the communication of others)	1	2	3	4	5
Health and safety (e.g., taking medications, avoiding hazards, maintaining physical health, getting proper health care)	1	2	3	4	5

Notes:

Next, the form asked about challenging behaviors and support needed to address or mitigate them. The figure below displays the items from the form. The first question asked reviewers to rate the extent that the individual requires support specific to these behaviors, with response options ranging from 0 (no/little support) to 3 (extraordinary support). If the reviewer responded 3 (extraordinary support), they were asked to check any challenging behaviors that apply (e.g., injurious to self, aggressive or combative), as well as the frequency and type of supports needed. The third question asked reviewers if any other challenging behaviors were noted in the record.

Figure 51

Record Review #1 Behavior Questions

7. Consider this service recipient's documented behaviors. On a scale from 0 (no/little) to 3 (extraordinary), to what extent does this individual require support specific to these behaviors? Circle one:

0	1	2	3
No/Little Support	Moderate Support	High Support	Extraordinary Support

Only answer #8 if you responded to #7 with "3 Extraordinary Support."

8. Review the list of challenging behaviors provided in the supplemental materials. Does the individual exhibit any of these challenging behaviors? Check all that apply:

- ☐ Injurious to self
- ☐ Aggressive or combative
- ☐ Injurious to animals
- ☐ Sexual aggression/assault
- ☐ Property destruction
- ☐ Leaving supervised area
- ☐ Pica and/or placing non-edible objects in mouth
- ☐ Susceptibility to victimization
- ☐ Other: _____

8a. Frequency of supports provided to manage behavior(s) identified in #8:

- ☐ Low (less than monthly)
- ☐ Moderate (monthly or weekly)
- ☐ High (daily or more)

8b. Type of support provided most frequently to manage behavior(s) identified in #8:

- ☐ Monitoring
- ☐ Prompting
- ☐ Physical Intervention

Only answer #9 if you responded to #7 with "1 Moderate Support" through "3 Extraordinary Support."

9. What other challenging behavior(s) (in addition to any checked in #8) does the individual exhibit?

Lastly, the form asked about medical support needs. The figure below displays the questions about medical needs. The first question asked reviewers to rate the extent that the individual requires support specific to identified medical needs, with response options ranging from 0 (no/little support) to 3 (extraordinary support). If the reviewer responded with 1 (moderate support) to 3 (extraordinary support), they were asked to list the documented medical treatments and therapies that require daily support and less-than-daily support.

Figure 52

Record Review #1 Medical Support Need Questions

10. Consider this service recipient's documented need for medical treatments and therapies (e.g., tube feeding, seizure management, catheterization). On a scale from 0 (no/little) to 3 (extraordinary), to what extent does this individual require support specific to these identified medical needs?
Circle one:

0	1	2	3
No/Little Support	Moderate Support	High Support	Extraordinary Support

Only answer #11 if you responded to #10 with "1 Moderate Support" through "3 Extraordinary Support."

11. List the individual's documented medical treatments and therapies that require:

Daily support:

Support less than daily:

Following the completion of the first step of Record Review #1 HSRI grouped the participant records by applicable service group. Service Group information was not shared with record review participants until step 1 was complete. A second training was then conducted with participants explaining how to complete the second step of the record review process.

The record review team leads then announced to the group which service group they would be reviewing and redistributed the applicable files. Participants were asked to quickly review the records, notes, and forms associated with each individual they presented on during step 1 and provide a brief synopsis to the group. Once information was presented on all members of that service group, the team reached a consensus before completing the step 2 form.

After questions identifying the age group and service group under review, the form asked whether the team felt the individuals in the service group have similar support needs. Response options range from 1 (strongly disagree) to 4 (strongly agree). Note the form included in the figure below uses the term "SGL" which has the same meaning as "service group."

Figure 53

Record Review #1 Similar Support Needs Question

4. Respond to the following statement.

The service recipients in this SGL have similar support needs.
Circle one:

Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**
1	2	3	4

The next section of the form asked about the presence of outliers (yes/no). Outliers are those service recipients in each service group whose needs differ from others in that group. For the purpose of record review, outliers are individuals whose support needs are much higher or much lower than others in the same service group. These individuals were identified then set aside to be discussed during a later portion of the record review process.

The figure below displays the initial questions asked about outliers. Reviewers were asked to write down the number of outliers identified as well as how many service recipients were remaining. Then, reviewers were asked whether they felt the service recipients in the group, now excluding outliers, had similar support needs.

Figure 54

Record Review #1 Questions About Outliers and Similar Support Need

5. Are there any outliers in this SGL?
   Circle one:

   Yes No

If "Yes":

1) Gather up the records for the outliers and set these files aside. Note that you will need them to answer questions in the next section (Section B).
2) Gather up the Step One forms for the outliers. Check the outlier box on the first page of the form.
3) Answer #6 - #8

6. How many outliers did the team identify?:

7. How many service recipients remain in this SGL?:

8. Respond to the following statement with outliers removed.

   The service recipients in this SGL have similar support needs.
   Circle one:

Strongly Disagree	Disagree	Agree	Strongly Agree
1	2	3	4

After removing outliers, reviewers also answer how much overall support individuals in the service group had on a scale from 1 to 10, displayed below. Response options ranged from 1 (least support needed) to 10 (most support needed).

Figure 55

Record Review #1 Overall Support Need Question

9. Respond to the following question considering the overall support needs of the individuals that remain in the group.
   On a scale from 1 (least amount of support) to 10 (most amount of support), what amount of support do you think this group requires?

Least support needed **Most support needed**

1	2	3	4	5	6	7	8	9	10

During step 2 we also collected information about the preliminary level descriptions, specifically how well the description fits the needs of the service recipients reviewed and what edits may improve the descriptions. The first question asks to what extent the description reflects the needs indicated in the record review for each area (e.g., ADL, IADL) with response options ranging from 1 (not at all) to 4 (completely). If reviewers responded 1 or 2 to any area, they were asked to describe why. Then, they were asked to write a sentence describing the general supports needed by individuals in the service group in the areas of communication, health and safety, and other.

Figure 56

Record Review #1 Service Group Description Questions

10. To what extent do you think the description reflects the needs indicated in the records reviewed?

	Not at all	Somewhat	Mostly	Completely
ADLs	1	2	3	4
IADLs	1	2	3	4
Medical	1	2	3	4
Behavioral	1	2	3	4
All support needs, generally	1	2	3	4

11. **If you responded to #10 with 1 or 2 for any of the support needs, describe why:**

12. For the following areas, write a sentence to describe the general supports needed by individuals in this SGL.

    Communication:

    Health and safety:

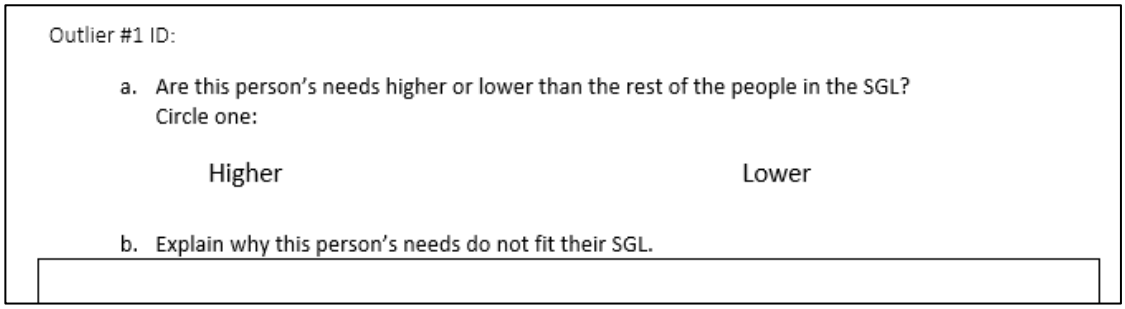
    Other (e.g., employment):

13. Should anything be added or changed in the description provided? If so, describe:

Finally, teams discussed the outliers one by one that were taken out of the service group to respond to questions above. Questions were asked to understand why individuals were deemed outliers, displayed below. Reviewers were asked to rate the outlier as either higher or lower compared to the rest of the group, along with an explanation for their decision.

Figure 57

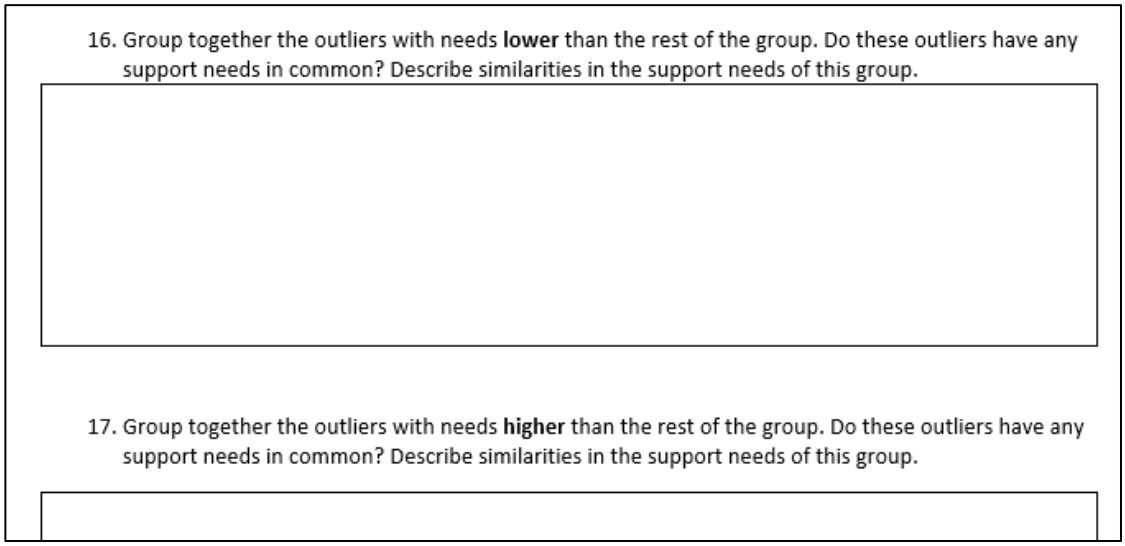
Record Review #1 Individual Outlier Questions



After all outliers were identified and discussed individually, participants were asked to group together outliers whose needs were much higher and much lower and describe any commonalities. Figure 58 displays these open-ended items.

Figure 58

Record Review #1 Outliers Summary Questions



As with step 1, reviewers were encouraged to take extensive notes to explain their reasoning behind responses and provide any context or details that may help with analysis.

Findings

First, we assessed agreement across review teams to determine the reliability of findings. We analyzed whether reviewers agreed on the support needs of individuals reviewed more than once. We found 87% to 93% agreement within 1 on the scale from 1 to 5 on items for general support need (#6), 94% agreement within 1 on the scale

from 0 to 3 for the behavioral support need item (#7), and 90% agreement within 1 on the medical support need item (#10). We found that the percent of exact agreement (not within 1) was lower (45% to 56%), which is typical for record review by multiple teams of various stakeholders. Once agreement was assessed, we created a dataset that contained one set of responses per service recipient by deduplicating individuals with multiple reviews. When there was disagreement among reviewers about responses to items, we selected the response from the majority of the reviewers of that record. For rare instances when only two reviewers reviewed a record and there was disagreement, HSRI staff reviewed responses and determined which responses were more accurate and aligned with how other records were reviewed. This was primarily done by exploring the notes taken by individual reviewers about the record. Notes often included justification for responses that upon reviewing discrepancies were the basis of selecting or not selecting a given response. A final dataset was then created with the deduplicated responses for each individual in the sample (n=150).

Identify Reasons Individuals Within A Given Service Group Have Support Needs That Are Much Different Than Others In The Group

Prior to exploring the support needs of individuals by age and service group, we identified the outliers to remove for such analyses. At this time, we explored the reasons why outliers existed as per one of the aims of Record Review #1. Outliers identified by the record reviewers had needs that were identified as being both higher and lower than their assigned service group. In the sample, 10 individuals had needs higher and 7 individuals had needs lower than their group. The figure below displays the outliers by age group and service group.

Figure 59

Outliers Identified by Reviewers and Removed From General Analysis

Preliminary letters are used to denote service group. Adult and adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high. Child: C = Very low to Low, D = Moderate, E = High to Very high. Infant: E = Infant/Toddler supports.

			Outliers		
		Sample n	Needs higher than assigned group	Needs lower than assigned group	Analysis n (outliers removed)
Infant/Toddler	E	5	2	0	3
Child	C	1	0	0	1
	D	6	1	1	4
	E	11	0	1	10
Adolescent	A	0	0	0	0
	B	3	1	0	2
	C	6	1	0	5
	D	7	1	0	6
	E	11	0	0	11
Adult	A	5	0	0	5
	B	19	2	0	17
	C	24	1	1	22
	D	23	1	0	22
	E	29	0	4	25
Total		**150**	**10**	**7**	**133**

During record review, as outliers were identified, the reason the individual seemed to be an outlier was discussed and noted. Of the 10 individuals whose needs were identified as higher than their assigned service group, two were infants/toddlers with extraordinary medical needs that were beyond the needs of others in the group. Eight individuals across the other age groups had extraordinary behavior needs that the reviewers felt were beyond others in their service group. Of the 7 individuals whose needs were identified as lower than their assigned service group, two children and four adults had support needs that aligned better with the group that was one tier below their assigned service group. One adult had support needs that aligned better with the service group that was two tiers lower than their assigned group. This adult was identified as having extraordinary medical support needs via the framework that were not evident in the record.

Determine Whether People Who Are Assigned To The Same Service Group (By Age Group) Have Similar Support Needs

With outliers removed, we first explored responses to the item "The service recipients in this service group have similar support needs. Strongly disagree, Disagree, Agree, or Strongly agree." This question was asked to determine whether individuals in a given service group have similar support needs. For the purposes of assigning a service group, hour allotments, and determining a rate category, confidence in knowing the amount of support needed for each service group is paramount. Across all age groups and review teams, all teams either "Agreed" or "Strongly agreed" that the support needs are similar within each service group for the records reviewed.

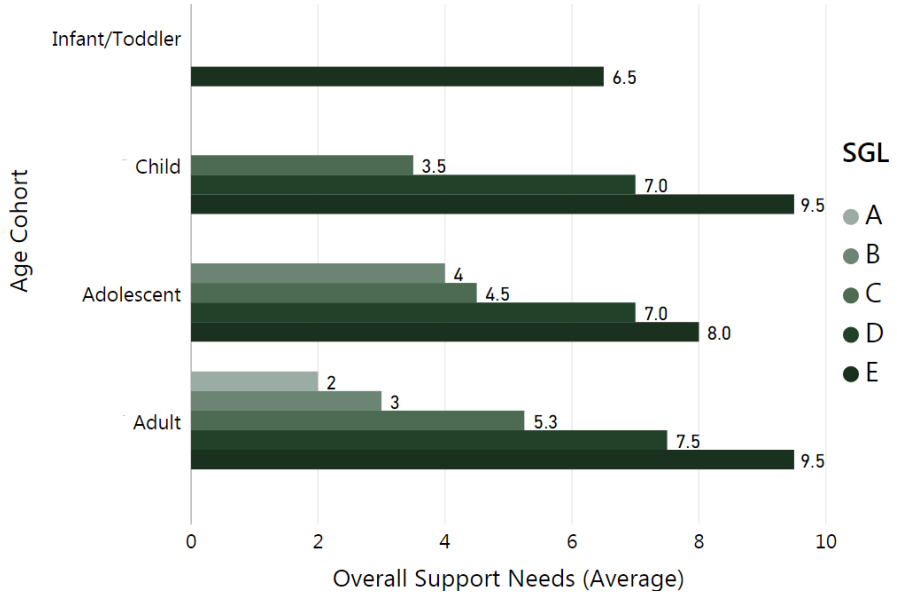
Agree On The Relative Support Need Of Individuals Assigned To Each Support Group (By Age Group) As A Whole

We asked, "On a scale from 1 (least amount of support) to 10 (most amount of support), what amount of support do you think this group requires?" The figure below displays the average rating on a scale of 1 to 10 for each service group in each age group.

Figure 60

Amount of support required by service group (average of team ratings)

Preliminary letters are used to denote service group. Adult and adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high. Child: C = Very low to Low, D = Moderate, E = High to Very high. Infant: E = Infant/Toddler supports.



The figure demonstrates that the amount of need increases by service group for all age groups. (The infant/toddler group contains only one service group.)

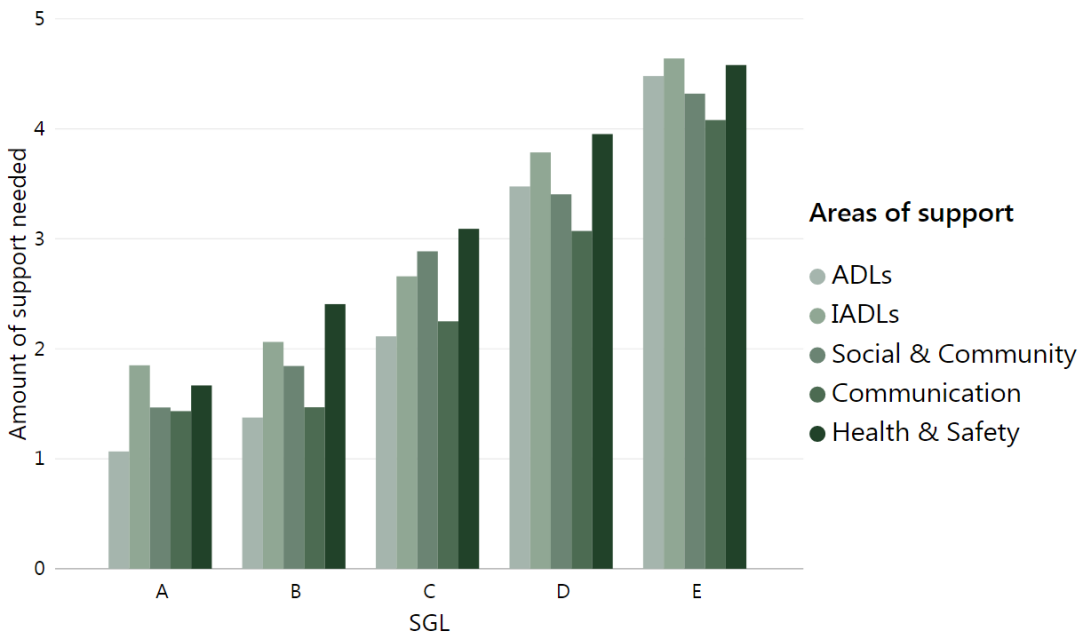
Determine The Amount Of Support Each Person Needs As Identified In The Record

With outliers removed, we explored another aim of Record Review #1 by analyzing the general support needs as identified by reviewers by preliminary assigned service group. The table below displays the average amount of support needed across all adults by service group in the five areas of support we asked about in step 1 of the record review. The figure below shows that while there are slight differences according to the area of support, overall the support needs of adults increase by service group. Meaning that adults in the Very Low group (displayed as A below) had the lowest amount of need as identified by review of their records and this increased by service group with those adults in the Very High group (displayed as E below) having the highest amount of need.

Figure 61

General support needs by service group (Adults)

Preliminary letters are used to denote service group. Adult: A = Very low, B = Low, C = Moderate, D = High, E = Very high.

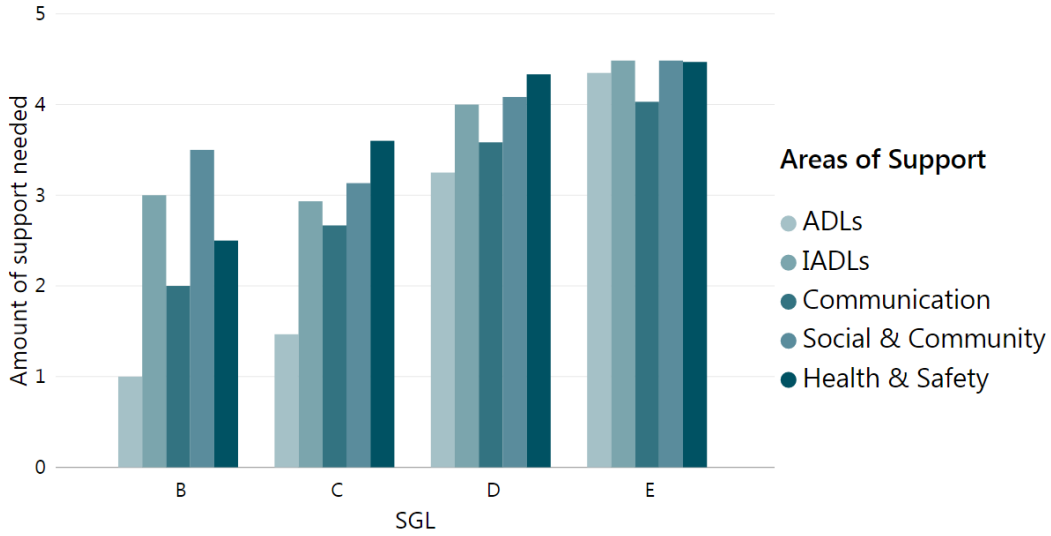


We next explored the general support needs of adolescents as displayed in the following figure. While the two highest service groups have closer ratings of amount of support need, the overall amount of support needed for the various areas of support again trend up as service group increases.

Figure 62

General support needs by service group (Adolescents)

Preliminary letters are used to denote service group. Adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high.

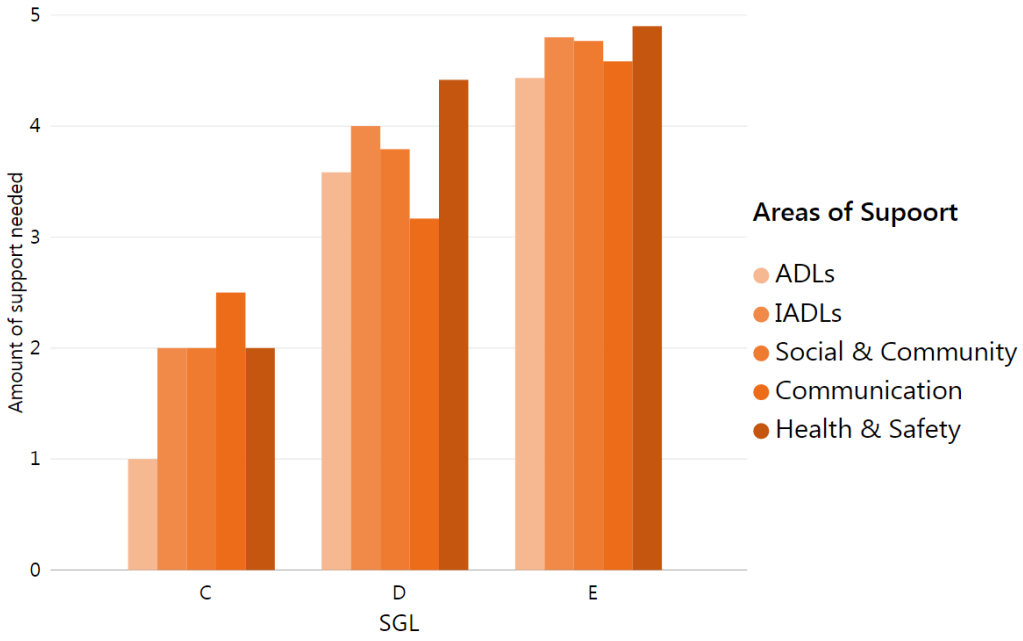


Next, we explored the general support needs of children by the same areas of support. The figure below displays the increase in need across all areas of support as service group increases.

Figure 63

General support needs by service group (Children)

Preliminary letters are used to denote service group. Child: C = Very low to Low, D = Moderate, E = High to Very high.



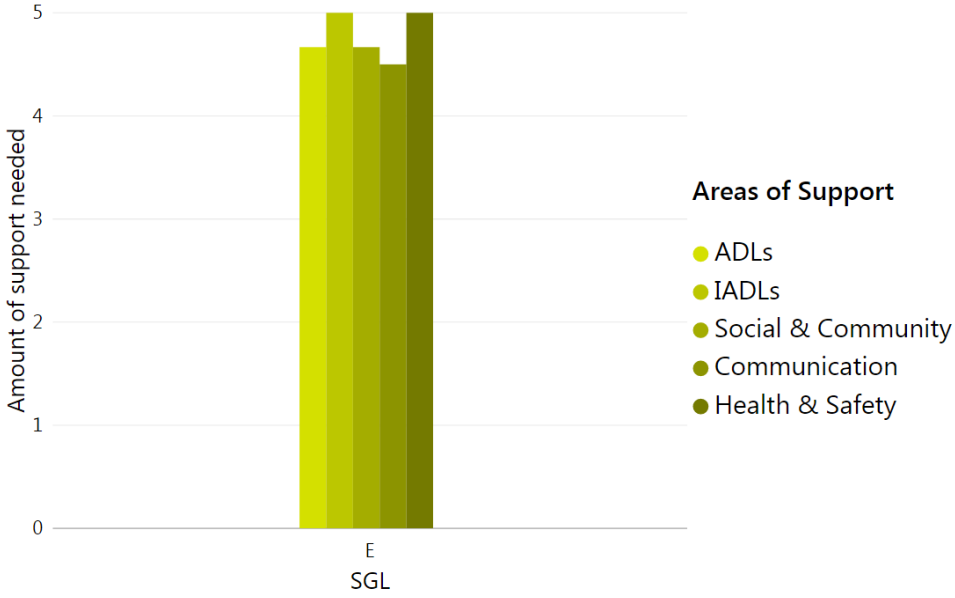
Lastly, we explored the general support need of infants/toddlers. Note that although there is only one service group for infants/toddlers, all areas of support have very high averages, between 4.5 and 5 on the scale of 5. This supports our use of one service

group for this age category. The record review indicates that individuals in this age group have very similarly high needs, likely due to typical developmental dependency on caregivers for support.

Figure 64

General support needs by service group (Infants/Toddlers)

Preliminary letters are used to denote service group. Infant: E = Infant/Toddler supports.



Next, we explored support need for behavior across all age groups and service groups. The figure below displays the percentage of adults by service group that respondents identified has having No/Little, Moderate, High, or Extraordinary behavior support needs, respectively. The Very Low service group contains only individuals with no/little behavior support or moderate behavior support. The proportion of individuals requiring high or extraordinary behavior support increases in the next service groups. The service group for adults with Very High need sees a slight decrease in behavior support need. This is likely due to the amount of individuals in that service group with very high medical support needs. Very high needs in both behavior and medical is rare, which may make the proportion of high or extraordinary behavioral support need in the overall service group lower.

Figure 65

Behavior support needed by service group (Adults)

Preliminary letters are used to denote service group. Adult: A = Very low, B = Low, C = Moderate, D = High, E = Very high

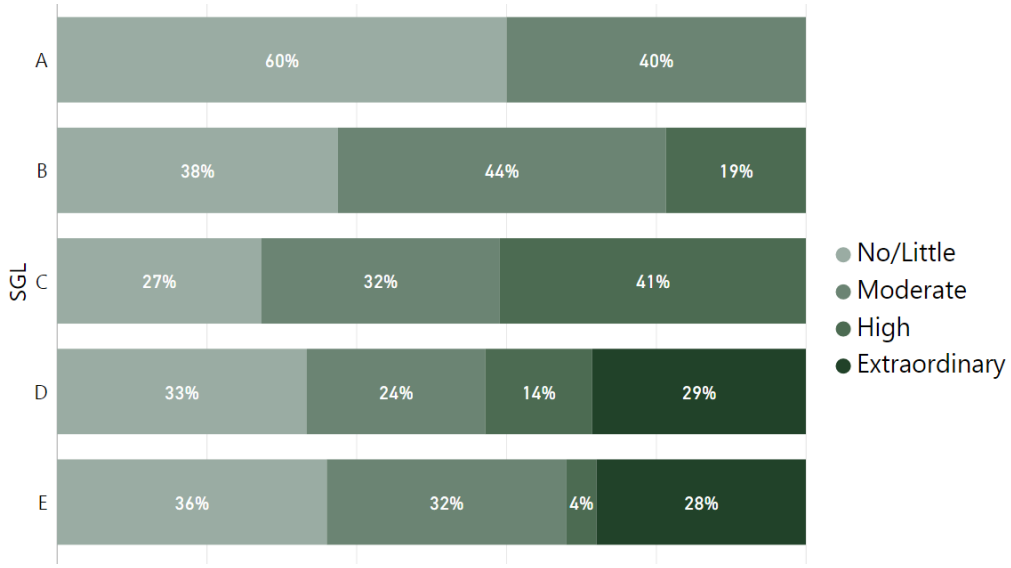
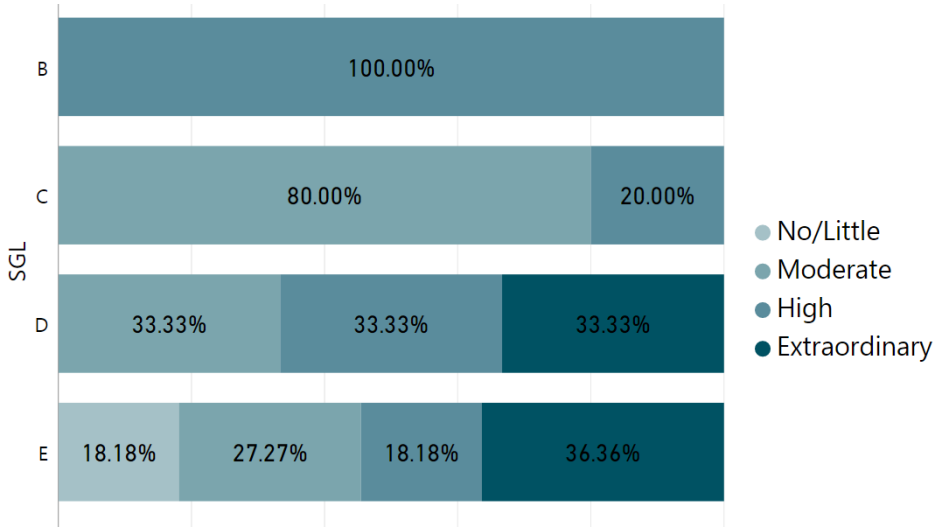


Figure 66 **The next figure displays the same information on behavior support for adolescents. The service group for adolescents with Very High need have the largest proportion of individuals with extraordinary behavioral support need, with High containing a slightly lower proportion. The two lowest service groups with adolescents in them contain individuals with no/little or moderate behavior support need. These findings are similar to the findings on behavioral support need with adults.**

Behavior support needed by service group (Adolescents)

Preliminary letters are used to denote service group. Adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high.

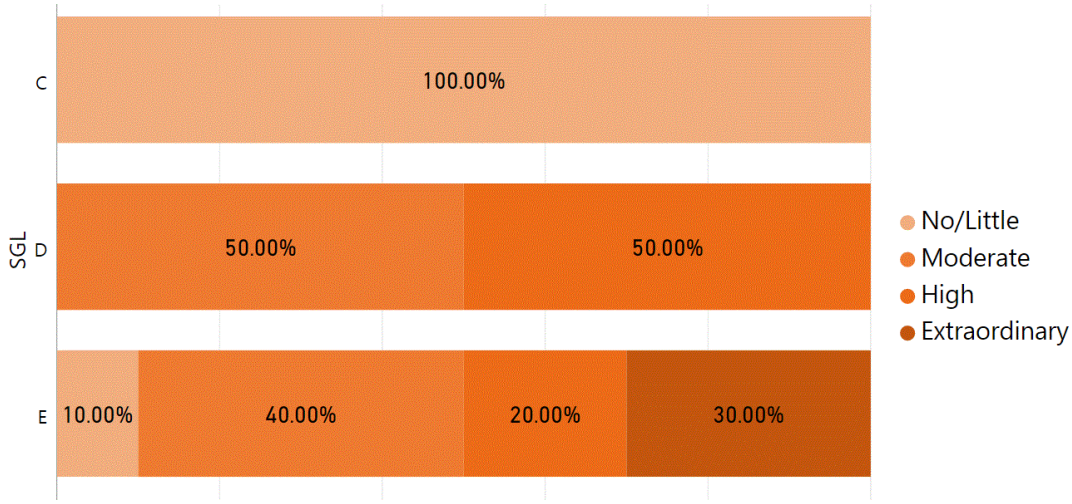


Behavior support need in children is displayed in the next figure, showing an increase in the proportion of individuals with higher support needs as service group increases.

Figure 67

Behavior support needed by service group (Children)

Preliminary letters are used to denote service group. Child: C = Very low to Low, D = Moderate, E = High to Very high.

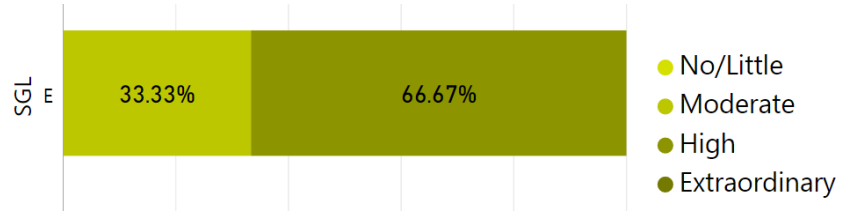


Lastly, we explored behavior support in infants/toddlers. The figure below shows that all of the infants/toddlers in the sample were identified as having either moderate or high behavior support needs. Note that the sample size for this group, as displayed in Figure 48, was quite small and so findings should be interpreted with that in mind.

Figure 68

Behavior support needed by service group (Infants/Toddlers)

Preliminary letters are used to denote service group. E = Infant/Toddler supports

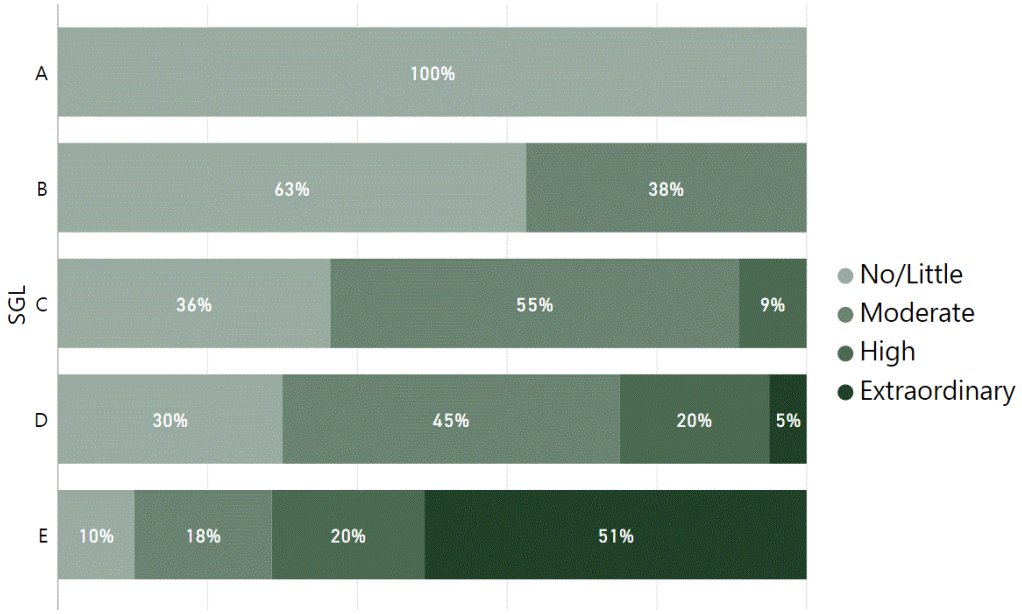


Next, we analyzed the medical support needs of each of the age groups by service group. A very large proportion of the sample in the highest service group for adults have extraordinary medical support needs (51%). The other service groups see a gradual increase in support needs as service group increases.

Figure 69

Medical support needed by service group (Adults)

Preliminary letters are used to denote service group. Adult: A = Very low, B = Low, C = Moderate, D = High, E = Very high.

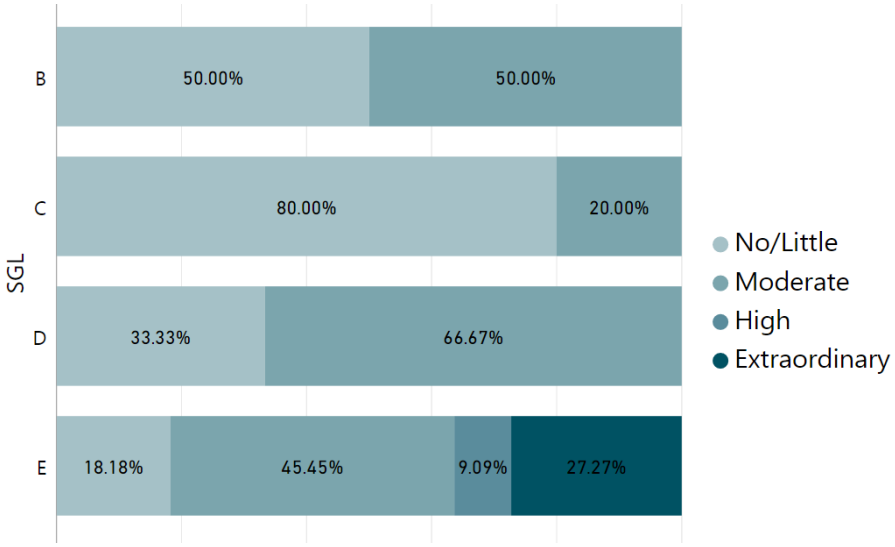


The medical support needs of adolescents are displayed next. Most of the adolescent service groups contain individuals with no/little or moderate medical support need. Only the highest service group contains individuals with high or extraordinary medical support need.

Figure 70

Medical support needed by service group (Adolescents)

Preliminary letters are used to denote service group. Adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high.

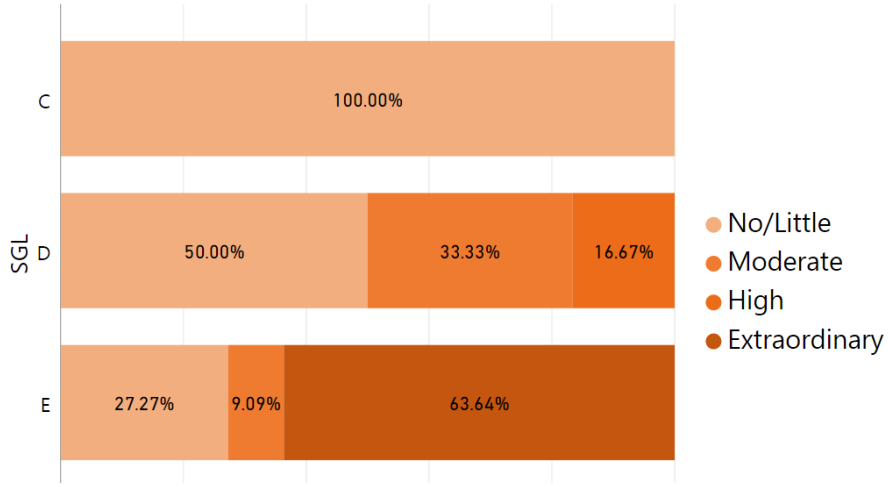


Children's medical support needs by service group are displayed below. Needs in this area seem to increase with service group, with a large proportion of the highest service group requiring extraordinary support for medical needs (64%).

Figure 71

Medical support needed by service group (Children)

Preliminary letters are used to denote service group. Child: C = Very low to Low, D = Moderate, E = High to Very high.

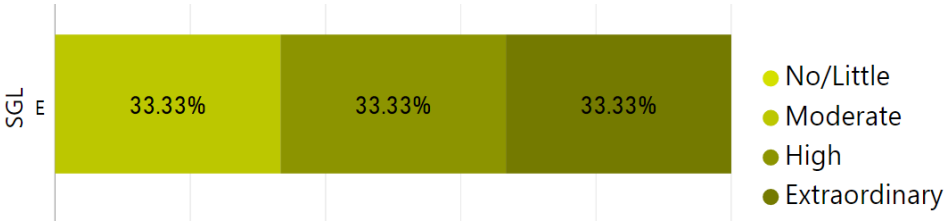


Finally, the medical support needs of infants/toddlers are displayed below. The medical support needs in this age group split into three equal proportions: moderate support, high support, and extraordinary support for medical treatments/therapies.

Figure 72

Medical support needed by service group (Infants/Toddlers)

Preliminary letters are used to denote service group. Infant: E = Infant/Toddler supports



Record Review #1 Conclusions

Overall, we found that the framework accurately assigns most individuals to service groups from low to high general support need. Further, we found that reviewers agreed that the framework adequately captures the needs of most individuals across all service groups. The small number of individuals with support needs much higher or much lower than others in their assigned service group indicates that the framework mostly fit the needs of those reviewed. As part of the record review, we also asked reviewers to read and provide feedback on the service group descriptions. We were able to incorporate their recommendations into updated drafts of the service group descriptions.

One aspect of the record review that points to potential areas of improvement is in the area of capturing behavior support need. By participating in the record review process and analyzing the notes and rationales for responses in the form, we noted that there were a proportion of individuals who were not assigned to the highest level but seemed to have behavior needs that merit inclusion in that level. In a number of

circumstances this seemed due to not meeting the criteria requiring individuals to need frequent PPIs. The record review findings indicate that the criteria for getting into the highest service group for behavioral support misses individuals with serious challenges that require extraordinary support outside of frequent PPIs. We determined that our next steps in the development of the framework must include further exploration of the behavior support criteria.

The other additional area of potential improvement that record review illuminated was the gap in need for some young children with very high medical needs. The analysis indicated that such children seem to have needs above and beyond other individuals in the highest service group (or only service group) in their age group. We agreed with stakeholders and ODDS to explore how to best address this issue.

Task 3

Conduct additional data collection and analyses to refine service group criteria

Record Review #1 provided evidence of the framework effectively assigning most individuals to a service group commensurate with their support need. However, we found that some individuals with very high behavioral needs were not being assigned to the highest group as intended by the framework. We also found that some children with very high medical support needs may require supports beyond what their service group may provide. Before determining hour allotments and payment categories for each age group and service group, we undertook two explorations of these issues to refine the service group criteria and address potential shortcomings. This section describes the tasks completed to this end.

Behavior support criteria data collection

Upon determining that individuals who should be assigned the highest service group due to behavior support need are not in that group, we first returned to the ONA and our analyses on the behavior needs section. We explored different potential items or combinations of responses that may better identify individuals than the preliminary criteria. However, no novel information was gleaned from this additional exploration. Without additional data indicating what the actual support need for behavior is (e.g., reading a record of a person), it was impossible to gauge improvements changes to the criteria may make. We determined the best way to improve the behavior support criteria was to collect additional data for further analysis. By having information about the behavioral support needs of a sample of individuals with ONAs, we could better triangulate the responses on particular items in the ONA that are most often associated with very high support need. We could then adjust the criteria to include those responses. We were interested in answering the question: **What responses, on what individual items or combination of items, are associated with very high support behavioral support need?**

To receive the most accurate information as possible, we collected information from service coordinators and personal agents (collectively known as case management entities (CMEs)) across the state about the behavior support needs of individuals they serve. We analyzed the information and used findings to inform improvements to the behavioral support need criteria.

Creating Data Collection Materials

The validity of the data collected through this process is vital to the improvement of the framework. CMEs must have the same understanding of what the range in behavior support needs is to be able to accurately report on whether an individual has low, moderate, high, or extraordinary behavior support needs. To improve on our materials for this data collection activity, we gathered a workgroup in February 2019 of experts and stakeholders who have a deep understanding of behavior support needs. With this workgroup, we developed the language to ask the case manager how much support an individual needs for behavior, which is the basis of the data collection exercise and analysis. The figure below displays the question with the language formulated through the workgroup.

Figure 73

Behavior Support Criteria Data Collection Question #1

What is the amount of support this individual needs for behavior?

Low. I live a lifestyle that does not put myself or others at imminent risk, even if it is sometimes unconventional or outside social norms. I may sometimes exhibit socially undesirable behaviors (e.g. cursing), but when I do it is typically for reasons most anyone else would. I may get occasional behavior support in the form of coaching and redirection from paid supports and/or unpaid/natural supports.

Moderate. The supports I receive generally help me to address my behavior needs, and focused additional supports due to my behavior are sometimes required. I require frequent support often in the form of supervision, redirection, or reminders and may use some professional behavior services. I may at times exhibit behaviors which put me or others at risk of harm but regular, focused supports are not needed to address these behaviors. I may need a positive behavior support plan to help me develop functional alternative behaviors. Risk without support: The behaviors of concern are likely to occur and may increase the risk to social, mental, and physical well-being. Functional alternative behavior skills development may degrade.

High. I need vigilant support to address behaviors that could result in harm to self or others and or behaviors which are exhibited with a very high frequency that may have significant impact on my ability to successfully participate in my community (e.g. constant screaming). To address these behaviors, I need frequent attentive support, conversation, redirection, debriefing, and refocusing. I need a positive behavior support plan to help me develop functional alternative behaviors. Risk without support: Harm to self or others, legal involvement, hospitalization, loss of placement, social isolation.

Extraordinary. I require designated support 24 hours a day across all settings. These caregiver hours address behavior needs that could result in harm to self or others needing outside professional services (e.g. law enforcement/emergency medical response). This support is or should be provided by individuals with specialized training due to the interventions necessary to manage my behavior. Risk without support: Severe harm to self or others, legal involvement, hospitalization, loss of placement, social isolation.

We also asked two open-ended follow-up questions, to allow the service coordinator or personal agent to list and elaborate on the behaviors and supports needed:

- For what behaviors does this person require this level of support? If the person does not need support for behavior, please specify.
- Describe this person's support needs for behavior. Give examples of the types of support they need and how often they need this support.

To collect information on individuals across the state in a way that may be time consuming, it was imperative that we create a tool that makes it possible for CMEs to simply enter responses online. We used Verity Analytics, a data collection and storage platform developed by HSRI, to host a secure database for CMEs to enter information into. Service Coordinators and Personal Agents could log into the site, select the individual by name or ID, and respond to the three questions detailed above. They were able to save their work and return to the questions later if needed. Respondents were required to affirmatively hit a "submit" button, providing confidence that they had finished responding to the questions.

Ongoing Quality Assurance

Throughout the development of the framework, ODDS was simultaneously working on quality assurance protocols, assessor training, and data improvements and corrections. Additionally, the number of individuals with a completed ONA dramatically increased between 2017 and 2019 when these improvements to the behavioral data were being addressed. Relevant to the behavior criteria data analysis, a substantial number of individuals who would be assigned to Very High due to behavior no longer were assigned to that service group. Quality assurance measures and training provided by ODDS clarified how assessors should score the ONA item on proactive strategies. Resulting improvements to the data caused a substantial drop in the number of individuals identified as requiring monthly proactive strategies. Therefore, this analysis became even more vital in identifying what information within the ONA could most confidently be used to identify individuals with truly high behavior support needs.

Sample

The behavior support criteria data collection activity was planned in November 2018, when substantially more individuals than at the time of Record Review #1 had an

ONA available for analysis (n = 8,056 as of 11/19/18). To maximize the range in support needs for behavior, we sought to collect additional data from a sample of 700 individuals with ONAs across all age groups. We had a 58% response rate from case managers for a resulting analysis sample size of 587 individuals. Responses came from 40 case management entities across the state. A total of 323 individual respondents, primarily service coordinators and personal agents but a few support staff, entered information into the data collection system on at least 1 service recipient and up to 65 service recipients.

To understand the range of behavior support needs across the population, we intentionally selected individuals with a range of responses across all items in the ONA behavior needs section. We sampled more individuals with responses indicating higher support needs since that was the focus of our analysis. For this reason, the sample is not representative of behavior support needs in the population. Instead, it provides information that was used to understand the range in behavior support needs.

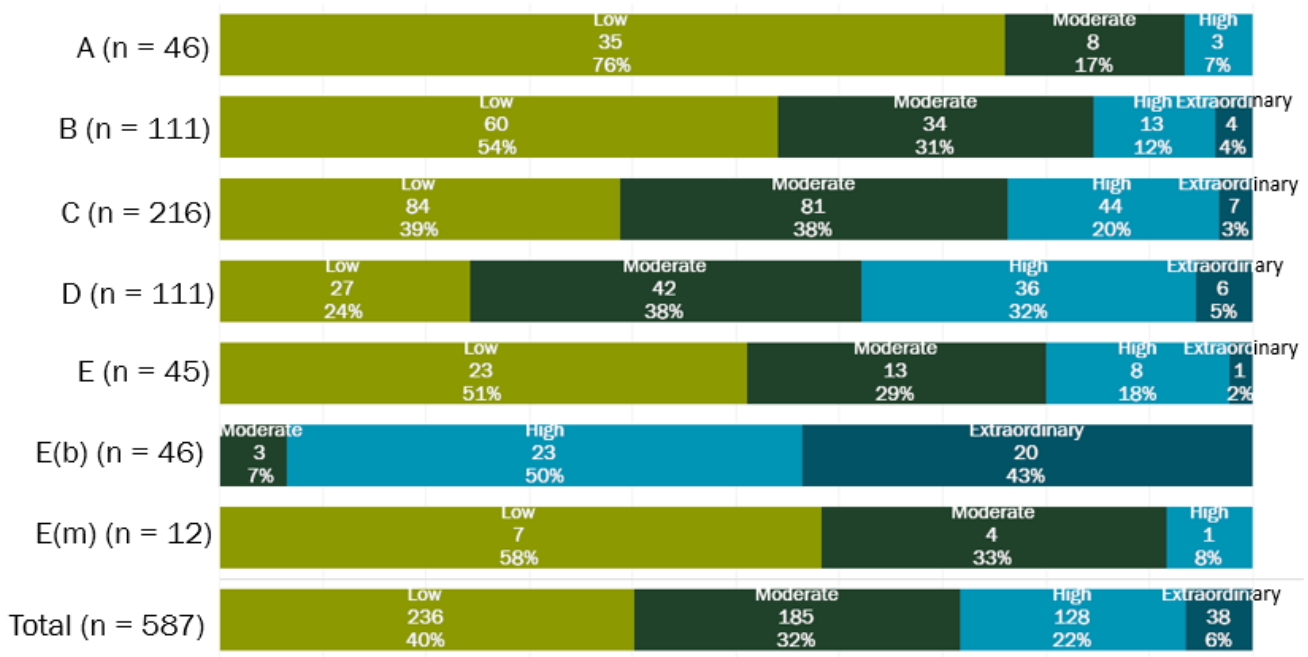
Findings

First, we conducted descriptive analyses to explore what the sample characteristics were regarding behavior support needs. The figure below displays the proportion of ratings of behavior support need from CMEs by service group. Since we did not sample randomly across the range of behavior support but purposefully oversampled those with higher behavior needs, there are greater proportions of moderate, high, and extraordinary behavior support need in the sample than in the greater service population. In the whole sample, 40% of individuals were identified as having low behavior support need, while 32% had moderate, 22% had high, and 6% had extraordinary. While the service group Very High due to behavior contains mostly individuals with high or extraordinary behavior support need, it contains 7% individuals with moderate behavior support need. We identified that an improvement to the criteria would be to reduce the percentage of individuals in Very High due to the behavior criteria who have behavior support needs that are lower than 'high'. In accordance with findings from Record Review #1, there are also individuals across the first four service groups with high or extraordinary behavior support need. We identified another improvement to the criteria would be to reduce the number of individuals in lower service groups that have high or extraordinary behavior support need.

Figure 74

Behavior Support Need by Preliminary Service Group[8]

Preliminary letters are used to denote service group. Adult and adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high. Child: C = Very low to Low, D = Moderate, E = High to Very high. Infant: E = Infant/Toddler supports. E(b)= met service group criteria due to behavior needs, E(m)= met service group criteria due to medical needs.



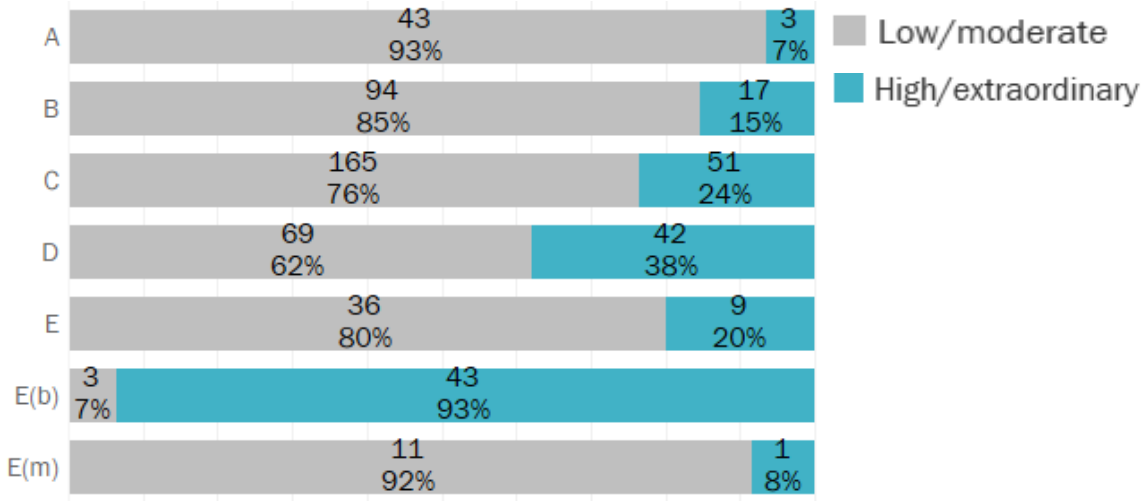
Record Review #1 confirmed that individuals with low or moderate behavioral support need seem to have a similar amount of support need as others in their service group. Although behavioral support needs do increase with service group, all other needs do as well. Therefore, the support hours and payment categories that correspond to the service group should meet their needs. For these reasons, we focused improvement efforts on reducing the number of individuals with low/moderate behavioral support need in Very High and reducing the number of individuals with high/extraordinary in all service groups besides Very High. The figure below repeats the same information as the previous figure but simplifies the categories of behavior support needs into two: low/moderate and high/extraordinary.

[8] While we did explore behavioral support needs by age group, to retain the unified service group criteria across age groups we determined the best solution for behavioral support criteria across all age groups. Therefore, we present the findings with age groups combined.

Figure 75

Behavior Support Need by Preliminary Service Group

Preliminary letters are used to denote service group. Adult and adolescent: A = Very low, B = Low, C = Moderate, D = High, E = Very high. Child: C = Very low to Low, D = Moderate, E = High to Very high. Infant: E = Infant/Toddler supports. E(b)= met service group criteria due to behavior needs, E(m)= met service group criteria due to medical needs.



As displayed in the figure above, three individuals were in Very High for behavior who—according to case manager ratings—should be in a different service group. Across the whole sample (not just within Very High for behavior) these three individuals are 1% of the sample. While nine individuals in Very High and one individual in Very High for medical need may be most accurately assigned to the service group for Very High for behavior, they would be assigned to the same overall service group and therefore, offered the same hour allotments and payment categories. Since these individuals would receive the same level of support with or without meeting the Very High due to behavior criteria, our focus turned to individuals in the first four service groups whose behavior support needs are high/extraordinary. These 113 individuals make up 19% of the sample.

Once we explored the sample and identified the areas of improvement, we next turned to exploring individual ONA behavior items and groups of items to identify any trends that distinguish the 19% of individuals who should be in the highest service group from others in their service groups with low/moderate behavioral support needs. We considered ranges and median scores of behavior support items to determine where a logical break may exist to differentiate moderate from high. We tested numerous combinations of scores above and below those breaks to determine which combination of scores and items resulted in the most individuals with high/extraordinary in Very High and low/moderate not in Very High.

First, we explored all combinations of the 17 behaviors in the ONA that were described in the preliminary framework development section of this report. The following figure displays an example of the descriptives we explored for all combinations of the items. In this example, we used the behavior sum score that we implemented for the preliminary criteria—that is, how many behaviors a person has

exhibited this year out of the nine serious behaviors determined by our analyses and with input from ODDS. The figure shows that, regardless of the amount of behavior support need a person has (as identified by CMEs), the range in scores for the behavior sum is wide. However, the median score increases from 0 for those with low behavior needs to 2 for those with moderate, 4 for those with high, and 5 for those with extraordinary. This increase is across all age groups. While these scores may indicate that a score of 4 may more clearly identify individuals with very high behavior support need, we know from our review of items and from stakeholder and ODDS feedback that some individuals with fewer than four different behaviors may require extensive support for behavior. If this possible cutoff were implemented, it would further restrict the number of individuals assigned to Very High for behavior since it increases the cut-off score.

Figure 76

Preliminary Criteria Behavior Sum Score (Out of 9) by Respondent Rating of Behavior Support Need

		Low	Moderate	High	Extraordinary
Adult (n = 464)	Range	0 - 6	0 - 7	0 - 8	1 – 8
	Median	0	2	4	5
Adolescent (n = 82)	Range	0 - 4	0 - 6	0 - 7	6 – 8
	Median	2	4	5	6
Youth (n = 26)	Range	0 - 5	0 - 7	3 – 7	
	Median	3.5	4	5	
Infant/Toddler (n = 15)	Range	0 - 5	3 - 6	4 - 5	5
	Median	1	4	4.5	5

Besides the current criteria sum score, one additional combination of scores effectively distinguished between low/moderate and high/extraordinary when considering median scores. This sum score combined four behaviors present in the past year: physical aggression, injurious to self, sexual aggression, property destruction. While the range is still quite varied across behavior support need, the median score for adults in low is 0, moderate is 1, and high and extraordinary are both 2. The pattern holds up for adolescents with a break in median score between moderate and high.

Figure 77

4-Item Behavior Sum Score by Respondent Rating of Behavior Support Need

		Low	Moderate	High	Extraordinary
Adult (n = 464)	Range	0 - 3	0 - 4	0 - 4	0 – 4
	Median	0	1	2	2

		Low	Moderate	High	Extraordinary
Adolescent (n = 82)	Range	0 - 3	0 - 3	0 - 3	3 – 4
	Median	1	2	3	3
Youth (n = 26)	Range	0 - 3	0 - 3	1 – 4	
	Median	2	3	3	
Infant/Toddler (n = 15)	Range	0 - 3	2 - 3	1 - 2	3
	Median	1	3	2	3

This indicates improved criteria may require a sum score of these four behaviors to be at least 2 to be assigned to Very High due to behavior. While this restricts the group Very High due to behavior to only those with those four behaviors, the data indicate that these items are most commonly associated with CMEs' assessment of Very High need. If we altered the behaviors included in the criteria, we would more accurately identify those with very high need, however, very few service recipients would meet these criteria if the need for monthly safeguarding interventions remained. To address this, we next turned our attention to reviewing the types and frequency of behavioral interventions necessary for individuals CMEs identified as having high or extraordinary behavioral support needs. We sought to identify whether the criteria may better incorporate any items that allow more individuals identified as having Very High need into the service group Very High due to behavior.

We explored the items asking about the frequencies of different intervention types (e.g., cueing/redirection, proactive strategies, safeguarding interventions (PPIs)). Of the three interventions asked about, only safeguarding interventions (PPIs) is included in the preliminary criteria. For each of the three items, we recoded the responses to reflect a range of frequency of behavior support, displayed in the figure below.

Figure 78

Behavior Support Intervention Frequency Values

ONA response option	Value
None (or missing due to skip pattern)	0
Less than once per month	1
Once per month	2
More than once per month	3
1-3 times per week	4
4 or more times per week but less than daily	5
Less than 5 times per day	6
More than 5 times per day	7

Using the same technique as explained with the figures above, we determined potential cut-off scores indicating a difference between low/moderate behavior support need and high/extraordinary behavior support need for all three intervention types. We found that values of 7 (more than 5 times per day) for proactive strategies are associated with individuals with high/extraordinary behavior support need.

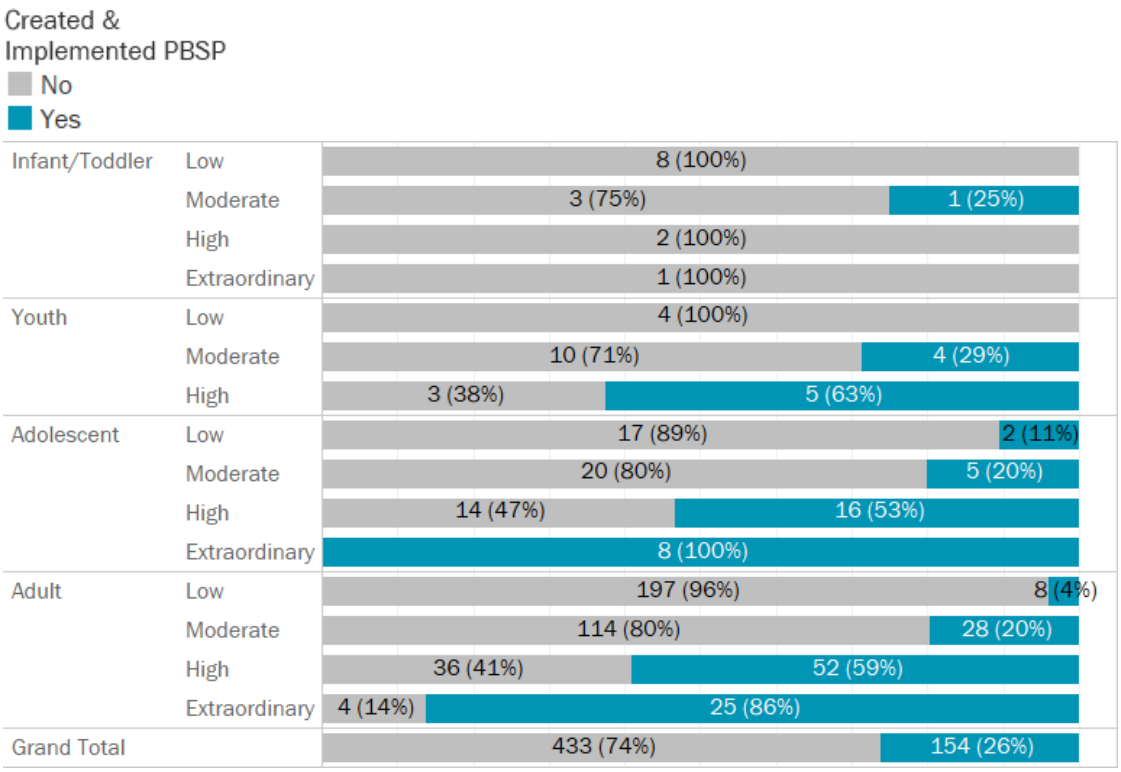
Exploration supported the exclusion of cue/redirection as there were weak associations between scores and behavior support need and supported the inclusion of safeguarding interventions monthly or more often.

Additionally, an ONA item asks about emergency/crisis services in the past year. This item was not integrated into the preliminary criteria. Our analyses indicated that, in combination with the two intervention frequency items proactive strategies and safeguarding interventions, this item assists in differentiating individuals with low/moderate behavior support need from those with high/extraordinary.

Lastly, we explored the items on PBSP. As a proxy indicator for high/extraordinary behavioral support need, the preliminary framework required a person to have a PBSP created and implemented to be assigned to Very High due to behavior. Our exploration found that these items were somewhat associated with having high or very high behavior support needs. The figure below displays the percentage of individuals with a created and implemented PBSP by the CME rating in each age group. While many individuals deemed to have high or extraordinary behavior support need have a created and implemented PBSP, a fair number of individuals with lower behavior support needs also have a one.

Figure 79

Created and implemented PBSP by respondent rating



The sections/items described above provided promising information for improvements to the framework. However, we did explore all behavior items in the ONA. As discussed earlier, the ONA includes a number of "Presenting behaviors" which are checkbox items that indicate specific behaviors that were present in the

past year. Our exploration of the responses to these items did not indicate that their use in the framework would better differentiate individuals with high/extraordinary behavior support need from those with low/moderate need. Therefore, we did not include them in any improvements to the criteria. We also excluded items on substance abuse and court-mandated restrictions because they did not provide any distinct association with high/extraordinary behavior support.

Improvements To The Framework Criteria For Behavior Support Need

Based on the findings from the data collection exercise, analysis, and conversations with ODDS, we recommended some adjustments to the framework criteria regarding behavior support need. To the extent possible, the highest level due to behavior should contain all individuals with extraordinary behavior support need, most individuals with high behavior support need, and no individuals with moderate or low behavior support need. Individuals with low or moderate support need should have their needs met by general supports. As throughout this process, we also noted that an exceptions process would be necessary to account for individuals requiring more support than indicated by the service group to which they are assigned.

Our analyses and work with ODDS led to the improvements to the framework displayed in the figure below. Rather than one or more serious behaviors from the list of nine included behaviors, individuals must have two or more of the list of four serious behaviors (physical aggression, injurious to self, sexual aggression, property destruction in past year). Additionally, rather than requiring weekly safeguarding interventions, the improved criteria also includes proactive strategies at least daily or emergency/crisis services two or more times a year as options for the severity/frequency of behavioral interventions that indicate very high need. No changes were made to the requirement of having a created and implemented PBSP.

Figure 80

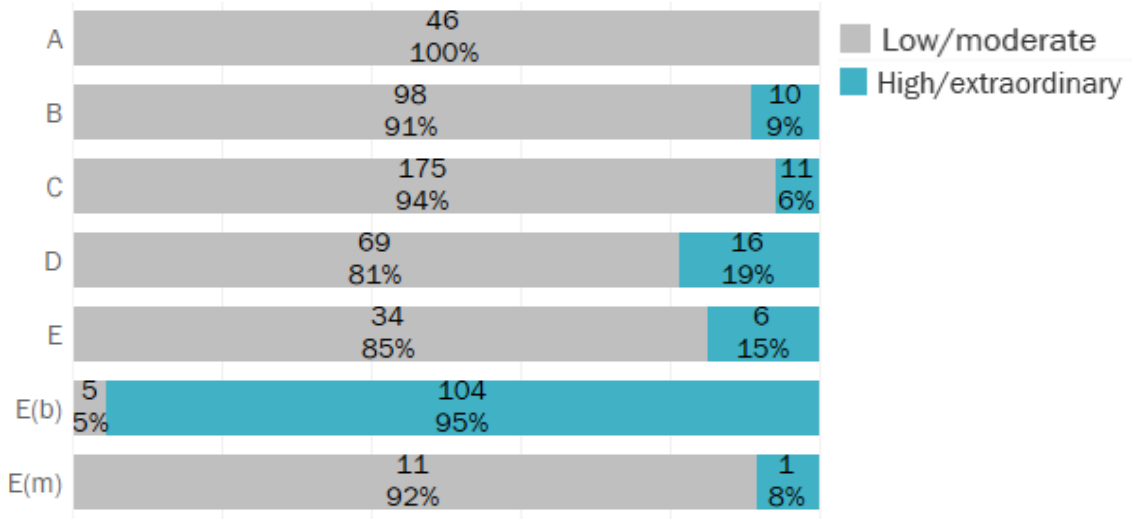
Preliminary and Improved Criteria for Assigning Very High Due to Behavior

Preliminary criteria for assigning Very High due to behavior	Improved criteria for assigning Very High due to behavior
1 or more serious behaviors present in the past year (of 9 behaviors)	2 or more out of: physical aggression, injurious to self, sexual aggression, property destruction in past year
AND	AND
Safeguarding interventions at least monthly	Proactive strategies at least daily or Safeguarding interventions at least monthly or Emergency/crisis services two or more times a year
AND	AND
Created & implemented PBSP	Created & implemented PBSP

We applied the improved criteria to explore how it impacts service group assignments and CME rating of behavior support need. The figure below displays the service group assignments that include the new criteria by whether the CMEs rated an individual's behavior support need low/moderate or high/extraordinary.

Figure 81

Behavior Support Need by Service Group Assignment With Improved Criteria



While some individuals with high/extraordinary behavior support need are still in three of the service groups that are not Very High, the proportion is lower than when applying the preliminary criteria. Across the whole sample, the proportion of individuals with high/extraordinary behavioral support need in service groups other than very high decreased from 19% to 6% with these improvements to the criteria.

Considerations. The improvements to the criteria for behavior support need increased the proportion of individuals in the service group Very High for behavior, and aligned better with CME ratings of behavior support need. However, we note that we were unable to perfectly align the criteria to match the CME ratings using ONA data. While the data collected from CMEs is not the only potential source of truth regarding a service recipient's behavior support need, this discord further highlights the need for accessible exceptions policies.

Medically Fragile Children

In addition to the need to improve the behavior support need criteria, record review also highlighted concern about the supports the framework will provide for medically fragile children. During record review, stakeholders noted that some children had medical support needs far beyond other children in their service group. In particular, the support needs of two of the five children reviewed within the Infant/Toddler age group were extensive and very medically focused. While reviewers identified that all children aged 3 or less require a great deal of support, the level of medical intervention necessary for those children was well beyond what was typical for other group members.

When presenting the findings from Record Review #1 to the Vision Advisory Committee (the stakeholder group consulted throughout the framework development process), multiple members echoed this concern and identified concern about how well the framework would perform for children being served on the Medically Fragile Waiver. The Medically Fragile Waiver affords a significantly higher level of support

than is typically received by children served by ODDS. Following that feedback, HSRI obtained information on membership of the Medically Fragile Waiver and confirmed that both children whose needs were deemed significantly greater than others in the same service group were, in fact, served on that waiver.

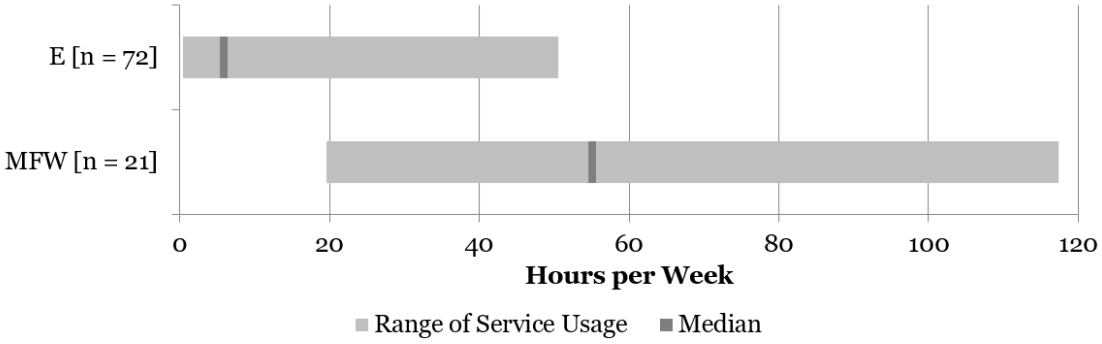
Due to the very small sample size for the Infant/Toddler and Child age groups in Record Review#1, we determined the need to expand our inquiry into this area beyond that pool of participants. Since the needs of children being served on the Medically Fragile Waiver were of particular interest to stakeholders, a list of service recipients on that waiver was requested and provided by ODDS. Using this information, HSRI was able to review the service group for everyone on that waiver with an ONA and confirm that all individuals met the applicable criteria for inclusion in the highest support group for their age group due to medical support needs. While individuals not receiving services via the Medically Fragile Waiver also met these criteria, this offered an additional confirmation that the criteria were capturing individuals with significant medical support needs.

Next, we sought to explore whether individuals on the Medically Fragile Waiver had support needs that were substantially greater or different (e.g., nursing-focused) than others in the same service group of the preliminary framework. This may suggest improvements to the criteria that ensure such individuals receive needed additional supports. Between the time that Record Review #1 and this analysis occurred, additional service recipients had received an ONA. HSRI's subcontractor Burns & Associates reviewed the service utilization of all infant/toddlers with ONAs as compared to the service utilization of infant/toddlers on the Medically Fragile Waiver with an ONA. The figure below displays the comparison as hours per week; each horizontal bar represents the range in utilization and the darker bar represents the median utilization.

Figure 82

Service Utilization by Infant/Toddlers, FY2018

Preliminary letters are used to denote service group. Infant: E = Infant/Toddler supports



As the figure shows, the median hours per week used by individuals on the Medically Fragile Waiver was much higher than the use by other children in the same age group. Furthermore, the hours being utilized by children on the Medically Fragile Waiver were predominantly hours of nursing services, while children not in that waiver received almost no hours of nursing support.

To better understand the relationship between receiving services from the Medically Fragile Waiver and service utilization, Burns & Associates conducted a similar analysis for the Child and Adolescent age groups. Since it was confirmed that individuals on the Medically Fragile Waiver were consistently being assigned to the highest service group for their age group due to medical needs, we limited the comparison of hour utilization to members of the same service group and age group not on that waiver. The two figures that follow provide the results of that analysis.

Figure 83

Service Utilization by Children, FY2018

Preliminary letters are used to denote service group. Children: E = High to Very High

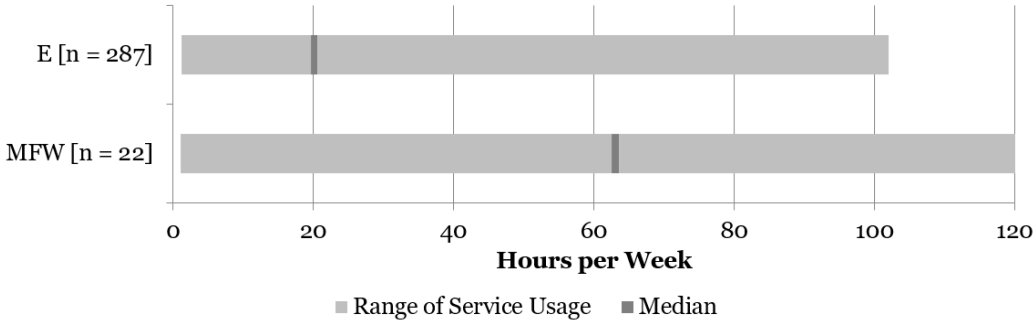
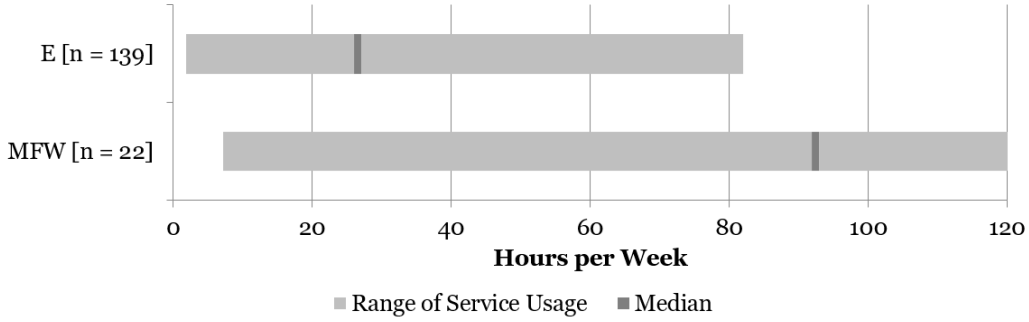


Figure 84

Service Utilization by Adolescents, FY2018

Preliminary letters are used to denote service group. Adolescents: E = Very High



As these figures show, while the median hour usage per week increases as the age group increases, the substantial difference between the hours used by individuals on the Medically Fragile Waiver and other members of the same service group is consistent no matter the age group. Here again it was found that most of these hours were for nursing support when individuals were on the Medically Fragile Waiver while very few nursing hours were utilized by the other service group members.

In light of these findings it was determined, in collaboration with ODDS, that individuals on the Medically Fragile Waiver should have the ability to obtain hours beyond those offered to other members of the same service group to account for their unique and substantial nursing support needs. It was also determined that while the amount of medical support needed by individuals on the Medically Fragile Waiver may be higher, retaining the same service group framework for these individuals was

justified as they were consistently being identified by the very high medical support need criteria.

Task 4

Conduct analyses to determine hour allotments and payment categories for each age group and service group

HSRI subcontractor Burns & Associates conducted analyses to determine hour allotments and payment categories for each age group and service group. The analyses and results are described in this section. The process of determining hour allotments had to be completed more than once due to an error that occurred in 2019 with how HSRI was assigning service groups. While this issue did not impact any prior component of the framework development process, it did impact hour allotment development and funding projections that were made based on the projected membership in payment categories associated with service groups.

Since these calculation errors impacted both this component of the work and Record Review #2, which we discuss next, we will first discuss the calculation errors and remedies implemented at HSRI. Then, we will detail the analyses conducted by Burns & Associates to determine hour allotments. We discuss the outcome of that analysis initially and how it was modified following the correction of the service group assignment errors.

Service group assignment errors and remedies

Upon request in October 2019, HSRI provided ODDS with service group assignments for each person who had received an ONA. On Nov. 22, 2019, an ODDS staff person contacted HSRI to inquire about inconsistencies between the service group assignments provided by HSRI and those they were making through a separate process. Upon reviewing the inconsistencies, HSRI identified three coding errors that resulted in service group assignments that did not align with the agreed-upon criteria for the service groups.

The first error was that, starting in January 2019, an incorrect ADL item (7a-toilet transfer) was being included in the GSN in place of toilet hygiene (7b). This was the result of a typo in a data request sent by HSRI to ODDS while preparing to convert the transfer of ONA data to an automated process. As a result, data that appeared to reflect responses to the toilet hygiene item were in fact responses to the toilet transfer item.

The second error was a result of assigning service groups based on outdated criteria. The criteria for determining membership in the highest group due to behavioral support need changed in April 2019 following the behavioral data collection and analysis process detailed starting on page 75. While changes were made to the applicable data syntax (code) at that time starting in July 2019, a previous version of the data syntax mistakenly began being utilized to assign service groups. Therefore,

level assignments conveyed to ODDS and Burns & Associates for a portion of 2019 did not reflect the true membership in the highest level for each age cohort on the basis of behavioral support need.

The third error was also the result of a typo in the data syntax and made service recipients appear 60 days younger than they were. Some questions in the ONA are only answered for participants of a certain age. ODDS implements a 60-day "grace period" to allow for completion of an assessments in preparation for an upcoming birthday where additional questions would be relevant. This rule was coded incorrectly, and as a result some service recipients were assigned to an age group lower than the group to which they should have been assigned.

Simply stated, correcting the errors resulted in slight changes in the membership of age cohorts, some participants receiving a slightly different GSN, and most importantly more people being assigned to the highest service group due to meeting the behavioral criteria.

While these errors caused significant setbacks for ODDS, including a shortfall in the projections of the funds needed to implement the new service group model, it is important to note that the errors did not impact analysis findings prior to the Burns & Associates work on hour allotments. While HSRI understands the severity of the errors and the impact they had on the work completed by many stakeholders to support development and implementation of this framework, they did not specifically impact the development of the preliminary framework criteria, findings from Record Review #1, further data collection and analysis on behavior, analysis of medically fragile children, or the replication of the framework criteria analyses after the errors were corrected.

Upon discovery of these errors HSRI conducted a review of its entire process for data intake, service assignment, and data management processes for the project. Specifically, we began coordinating with an ODDS staff member to independently determine the service group assignment for every individual with an ONA. Two HSRI staff also made service group assignments using two independent and unique methods. A third HSRI staff compared all three level assignments (the one done by ODDS staff, and the two completed by HSRI staff) to ensure consistency during every service group assignment process.

Preliminary hour allotments determination

After the corrected service group criteria were finalized and assured for accuracy, HSRI applied the criteria to determine service group membership for all individuals with ONAs and sent Burns & Associates a dataset in March 2020 that included identifiers to link date of birth and service group to each individual's authorization data. (This had also occurred in Spring 2019 with HSRI providing Burns & Associates information on service group membership prior to discovery of the errors described above.)

Burns & Associates conducted analyses to summarize authorization amount by service group. In a series of meetings with ODDS, HSRI, and Burns & Associates, we explored potential hour allotments in comparison to service use and authorizations. While hour allotments are not determined by past use and authorizations, by understanding past patterns we are able to get a sense of whether hour allotments may be sufficient for most individuals when the framework is implemented. Hour allotments were also presented to the Vision Advisory Committee for stakeholder feedback and explored in depth during Record Review #2.

Approach

The framework organizes individuals with similar support needs together. The approach used to develop hour allotments was to first view service group membership as a basis for understanding relative support needs. Then, we explored past service use and authorizations to understand the range and typical amount of service use and authorizations within each service group. While the ONA does not prescribe hours and our analysis does not directly find associations between the ONA and past use to assign hour allotments, analysis of past authorizations and use provide context for hour allotment need by service group.

This process was completed twice due to the need to account for erroneous service group assignments; however, the later analysis also had more recent service use data available to take under consideration. The original analysis, completed in Spring 2019, considered service utilization and authorizations for calendar year 2018; the revised analysis considered service utilization and authorizations for calendar year 2019. While this difference does not alter the overall approach, the specific detail we provide here regarding the parameters for analysis are relevant to the second analysis.

The analyses excluded individuals in group homes or foster homes since hour allotments do not apply to individuals in these settings. Any individual with a paid claim in calendar year 2019 for either of these services was excluded from the analysis. Individuals without a date of birth in their ONA data were also excluded from analysis.

Analysis

Burns & Associates then calculated the range, average, 25th, 50th, and 75th percentiles of hours authorized for individuals to use and hours of service used. The analysis focused on weekly authorizations for service recipients. Median authorizations were the basis for the prospective hour allotments, presented by service group and discussed in detail when considering preliminary hour allotments.

All attendant care (ADL/IADL service) authorizations with a start date or end date in calendar year 2019 were identified; since authorizations represent monthly limits, the total hours approved for calendar year 2019 were calculated by dividing the number of days in the authorization period that occur in 2019 by 365 (to calculate the percentage of calendar year 2019 covered by the authorization), multiplying by 12 to calculate the number of months that are covered, and then multiplying by the

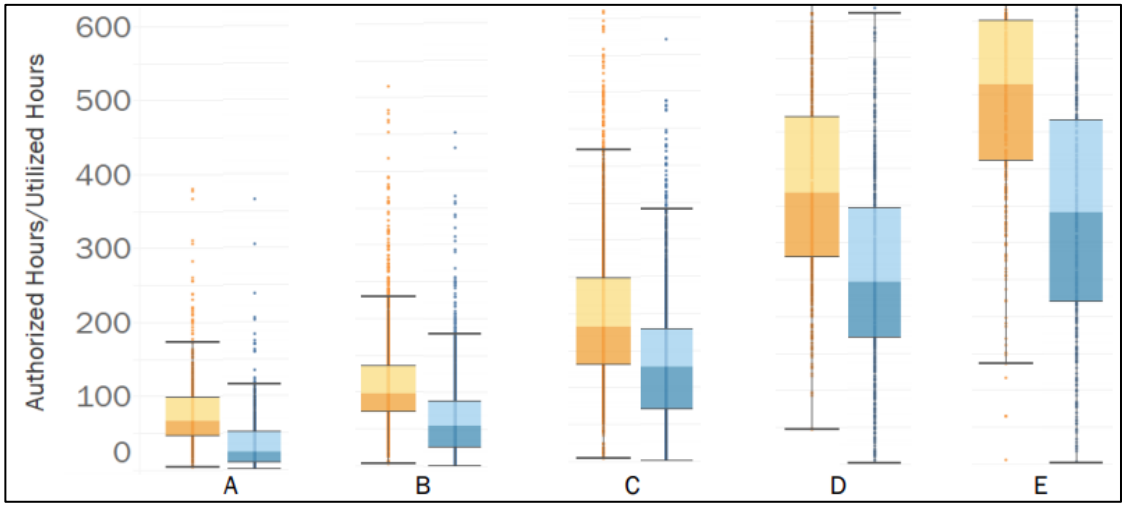
monthly authorization. For example, consider a monthly authorization of 115 hours for the period covering February 8, 2019 through January 31, 2020: this period accounts for 327 days in calendar year 2019, translating to 10.75 months and a total of 1,236 hours for the period. For individuals with multiple authorization periods, the number of days covered in calendar year 2019 and the number of authorized hours in calendar year 2019 were totaled to create a single record for each individual.

Weekly authorization levels for each were calculated by dividing the total number of authorized hours by the number of weeks covered (which were calculated by dividing covered days by 7). Continuing the previous example, there are 46.71 weeks (327 days divided by 7), yielding 26.5 hours per week (1,236 hours divided by 46.71 weeks). The median weekly authorization level rounded to the nearest hour was then calculated for the individuals in each cohort. For children and adolescents, the analysis separately considered authorization levels for school months and non-school months (June, July, and August) to consider differences in support needs during these parts of the year.

The figure below displays an example of an overview of adult authorizations and service use by service group. The figure displays a box and whisker plot, where the orange boxes/whiskers show monthly authorizations and the blue boxes/whiskers show monthly hours utilized. In each box and whisker plot, the middle of the box where the shades of orange or blue meet is the 50th percentile. The bottom of the box is the 25th percentile, and the top of the box is the 75th percentile. The black horizontal lines outside the box at the end of the "whiskers" are at the maximum and minimum values for that authorization or spend by service group, excluding outliers. Outliers are represented by the dots, with each dot representing one outlying person. Outliers are defined here as individuals who are more than 1.5 times the value of the range within the box (between the 25th and 75th percentile), or less than 1.5 times that value. Some outliers and maximum values are cut off in the figure due to size constraints.

Figure 85

Authorizations (Orange) and Hours Utilized (Blue) for Adults (Monthly)



Note that the figure above represents authorizations and utilization by service group prior to corrections to the service group assignments. However, the figure demonstrates that authorizations are generally higher than most utilization. It also demonstrates that service groups increase in support need, providing support for hour allotments increasing with service group. Figures and data such as the figure above were presented to ODDS and explored for understanding similar trends and determining the best range of hours for allotments by service group. While the underlying data on service group assignment changed slightly with corrections to the service group assignments, the overall pattern of authorizations and use remained the same when analyses were repeated.

In addition to observing that authorizations tended to be much higher than use and both authorizations and use increased with service group, we noted additional considerations based on the analyses. For school-age kids, allocations and use followed the predictable pattern of higher support during non-school months. Based on this observation, ODDS decided to continue to consider the differences in hour needs while in school versus not in school. Since the range in authorizations and use across all service groups was so varied, we recognized that not everyone will be allocated in the new framework the number of hours that they have historically utilized. However, exceptions will be available to address documented needs about their hour allocation.

Preliminary Hour Allotments

Based on the analyses of the authorization and service use data by service group and age group, ODDS, HSRI, and Burns & Associates developed hour allotment ranges. The high end of each hour allotment was set at the median authorization (50th percentile) of each service group. For most service groups and age groups, this range maximum was over 75% of service use in that service group. We determined the low range of each hour allotment by taking 80% of the high range (median authorization).

The figure below displays the preliminary hour allotments, including a range for hours per week and a per month limit. These hour allotments were based on calendar year 2018 data and the erroneous service group assignments. Therefore, there have been revisions to the allotments since these ranges were created. Also, the method for determining the low range of each hour allotment was later revised based on feedback during Record Review #2, discussed later in this report.

Figure 86

Preliminary Hour Allotments (NOT FINAL)

Age group	Service Group	Hours per week		Per month limit	
Adult	Very Low	13 to 16		70	
	Low	18 to 23		100	
	Moderate	34 to 42		183	
	High	68 to 85		370	
	Very High	94 to 118		512	
		School	Summer	School	Summer
Adolescent	Very Low	9 to 11	10 to 13	48	57
	Low	14 to 18	17 to 21	78	91
	Moderate	19 to 24	22 to 27	104	117
	High	30 to 37	33 to 41	161	178
	Very High	41 to 51	47 to 59	222	257
		School	Summer	School	Summer
Child	Very low to low	14 to 17	16 to 20	74	87
	Moderate	18 to 22	20 to 25	96	109
	High to very high	26 to 32	30 to 37	139	161
		Hours per week		Per month limit	
Infant/ Toddler	Infant/toddler supports	10 to 12		52	

We present these hour allotments here since they were used during Record Review #2. However, we note that important revisions were later made. While the overall methodology for creating hour allotments remained consistent, the revised allocations, developed in spring 2020, took into account that information had previously been communicated with stakeholders regarding the anticipated hour allotments by service group and age cohort. As a result, ODDS made a policy decision that when the top of the hour range was reduced based on the revised analysis, the high end of the hour allotment would remain that which was presented to the Vision Advisory Committee on July 16, 2019 and reflected in Figure 86. In all other instances the top end of the hour allotment would reflect the number supported by the hour allotment methodology described above for data from calendar year 2019. These final proposed hour allotments are on page 15.

Payment Categories

The Oregon Needs Assessment Service Group Framework will also impact the rate that providers are paid for some offered services. Services such as Adult 24-Hour Residential, Small Group Supported Employment, Day Support Activities, Employment Path Services, Job Coaching, and Discovery have multiple rates, which

vary based on the assessed support need of the participant accessing that service. Burns & Associates conducted the data collection and analyses that resulted in the method used to determine the rates across services for individuals with different support needs.

Burns & Associates, with ODDS, reviewed historical rate tier assignments by service group to inform the payment categories. Throughout the process, Burns & Associates conducted ongoing analysis into fiscal impacts of proposed changes and alterations in projected service group membership.

As the development of the payment category structure pre-dated work to create the service group framework, any number of service groups other than four would require some finesse to align with those payment categories. After the service group framework was developed and confirmed through Record Review #1, ODDS, Burns & Associates, and HSRI convened to determine the best way to organize service groups into payment categories. See Figure 87 for a crosswalk that details how service groups correspond to the four available payment categories. Note that many services with tiered reimbursement are not applicable for non-Adult age groups.

Figure 87

Service Group to Payment Category Crosswalk

INFANT/TODDLER

SERVICE GROUP	Payment Category
Infant/Toddler Supports	4

CHILD

SERVICE GROUP	Payment Category
Very Low to Low	2
Moderate	3
High to Very High	4

ADOLESCENT

SERVICE GROUP	Payment Category
Very Low	1
Low	1
Moderate	2
High	3
Very High	4

Task 5

Conduct Record Review #2 to explore hour allotments and recommend changes to exceptions process

Once preliminary hour allotments were created for the service groups, we conducted Record Review #2 to confirm that hour allotments were adequate for service recipients with historical use in October 2019. We also aimed to use the opportunity to explore records in depth to develop recommendations for the exceptions process moving forward as this was a recurring area of concern and focus in our conversations with stakeholders. We had three aims of Record Review #2:

1. Confirm that hour allotments will meet the needs of people whose historical service use is under proposed hour allotment
2. Determine common reasons why a person may need hours beyond their hour allotment
3. Recommend ways to consider those common reasons during the exceptions process

Next, we describe how we conducted Record Review #2 and the findings and recommendations based on the review.

Sample

The sample consisted of 79 records across all age groups and service groups. We focused a disproportionally large number of reviews on service recipients with historical use higher than their proposed hour allotments to maximize information relevant to providing recommendations about exceptions criteria. Of the 79 records, 64 were records of service recipients who historically used more hours than the proposed hour allotments and 15 were records of service recipients who historically used fewer hours than the proposed hour allotments. The figure below displays the number of individuals reviewed by age group.

Figure 88

Record Review #2 Individuals by Age Group

Age group	Sample n
Infant/toddler	5
Child	19
Adolescent	26
Adult	29

To ensure that teams were responding to questions consistently, 12 of the records were reviewed twice, three per age group. We found that teams agreed for most of the responses. In the few instances of disagreement between teams, team leads reviewed responses and reconciled the differences to come to agreement on a final response.

Method

This review was conducted in a way similar to Record Review #1 in that we held an extensive training on the purpose and procedure of the record review and then broke out into four groups of five to six individuals each to complete the reviews. The record reviewers included:

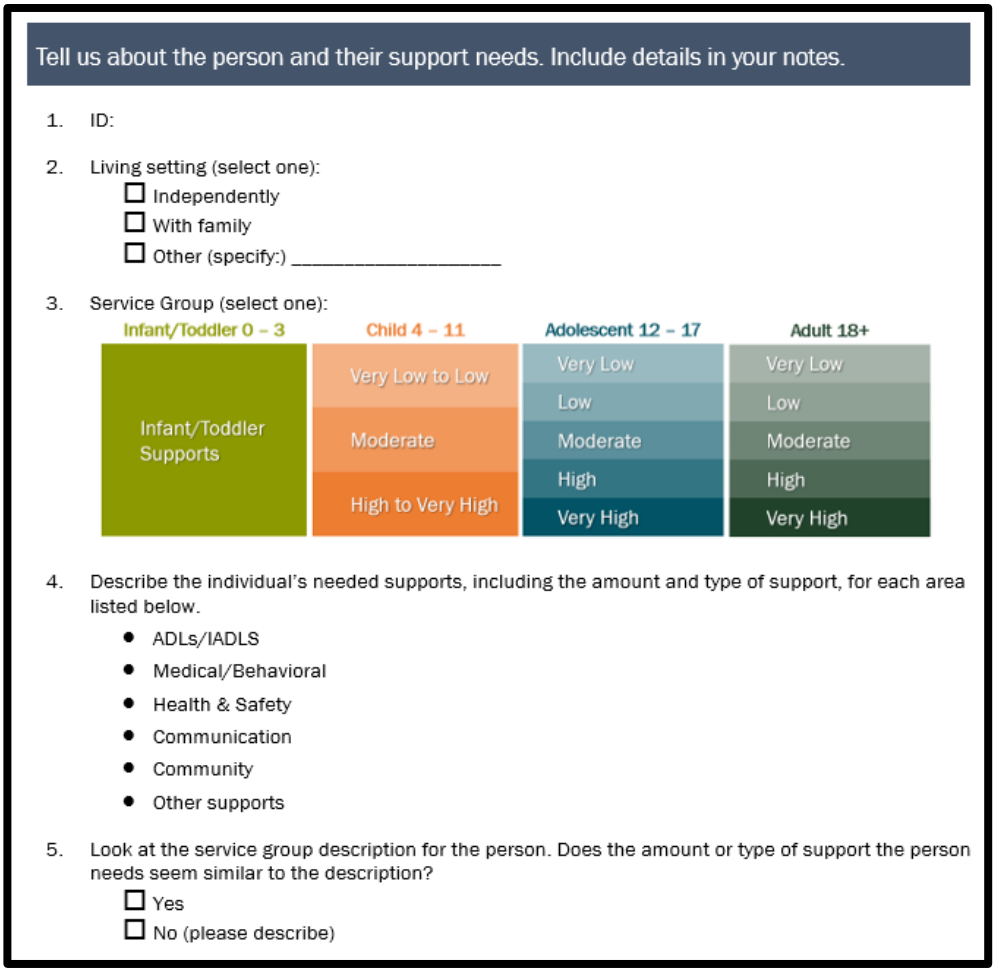
- Self-advocates
- Family members
- Advocates
- Providers
- Case management entity representatives
- ODDS staff

Each of the four teams was led by an HSRI staff member who also participated in the process. Each reviewer led the review of four to six records. The team discussed each record, and information was recorded by HSRI staff.

In addition to answering questions to identify the service recipient and understand their age and living setting, each review involved answering questions about the support needs, service use, and proposed hour allotment for the service recipient. Questions were guided by a form. Part of the first page of the form, displayed below, asked about support needs and the service group description. These responses were used to make any necessary improvements to the service group description and confirm that individuals seem to be assigned to the correct service group, lending support for improvements to the framework.

Figure 89

Record Review #2 Form – Page 1



Tell us about the person and their support needs. Include details in your notes.

1. ID:

2. Living setting (select one):
   - ☐ Independently
   - ☐ With family
   - ☐ Other (specify:) _____

3. Service Group (select one):

Infant/Toddler 0 – 3	Child 4 – 11	Adolescent 12 – 17	Adult 18+
Infant/Toddler Supports	Very Low to Low	Very Low	Very Low
		Low	Low
	Moderate	Moderate	Moderate
		High	High
	High to Very High	Very High	Very High

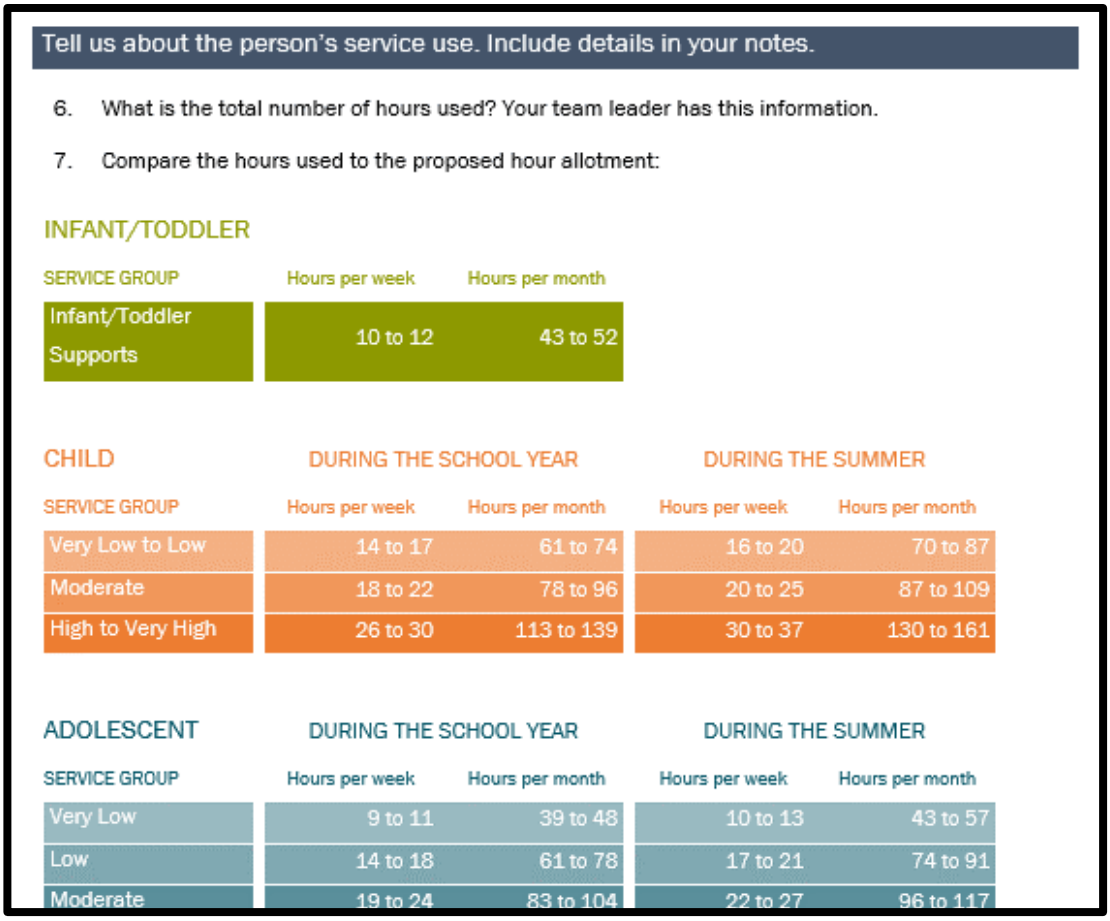
4. Describe the individual's needed supports, including the amount and type of support, for each area listed below.
   - ADLs/IADLS
   - Medical/Behavioral
   - Health & Safety
   - Communication
   - Community
   - Other supports

5. Look at the service group description for the person. Does the amount or type of support the person needs seem similar to the description?
   - ☐ Yes
   - ☐ No (please describe)

On the next page of the form (displayed below), we ask about the person's service use. As specified in the form question, the HSRI staff leading each group had the hours of use for each service recipient that they would share for discussion. The form also included the preliminary hour allotment ranges by each age group and service group, partially displayed in the figure below. For children and adolescents, we also include preliminary hour allotment ranges during the different times of year: school year and summer months. Review teams then discussed how the service use compared to the proposed hour allotment. As specified earlier in this report, these hour allotments were calculated using erroneous service group data, since the errors in calculating service groups had yet to be discovered. We address how the errors impacted Record Review #2 findings later in this section.

Figure 90

Record Review #2 Form – Page 2 Segment



Tell us about the person's service use. Include details in your notes.

6. What is the total number of hours used? Your team leader has this information.

7. Compare the hours used to the proposed hour allotment:

INFANT/TODDLER

SERVICE GROUP	Hours per week	Hours per month
Infant/Toddler Supports	10 to 12	43 to 52

CHILD

	DURING THE SCHOOL YEAR		DURING THE SUMMER	
SERVICE GROUP	Hours per week	Hours per month	Hours per week	Hours per month
Very Low to Low	14 to 17	61 to 74	16 to 20	70 to 87
Moderate	18 to 22	78 to 96	20 to 25	87 to 109
High to Very High	26 to 30	113 to 139	30 to 37	130 to 161

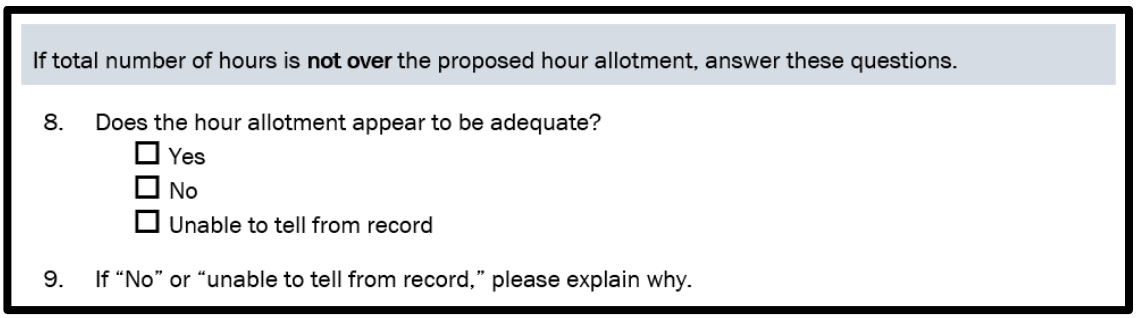
ADOLESCENT

	DURING THE SCHOOL YEAR		DURING THE SUMMER	
SERVICE GROUP	Hours per week	Hours per month	Hours per week	Hours per month
Very Low	9 to 11	39 to 48	10 to 13	43 to 57
Low	14 to 18	61 to 78	17 to 21	74 to 91
Moderate	19 to 24	83 to 104	22 to 27	96 to 117

After comparing use to preliminary hour allotment, reviewers responded to the following questions if the total number of hours used was not over the proposed hour allotment. We asked whether the preliminary hour allotment appears to be adequate and why. As specified above, we intentionally included 15 records whose hours were equal to or under the proposed allotment.

Figure 91

Record Review #2 Form – Page 3 Questions 8 And 9



If total number of hours is **not over** the proposed hour allotment, answer these questions.

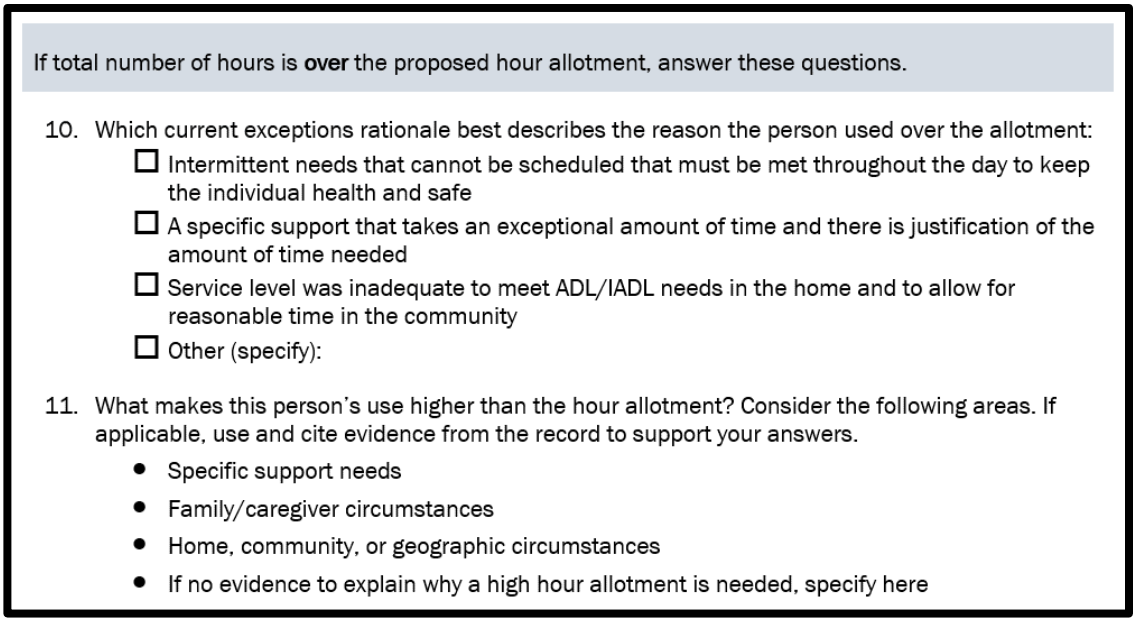
8. Does the hour allotment appear to be adequate?
   - ☐ Yes
   - ☐ No
   - ☐ Unable to tell from record

9. If "No" or "unable to tell from record," please explain why.

If the total number of hours used was over the proposed hour allotment, the review teams responded to the following questions to identify the exceptions rationale that best fits the reason why a person may need over the hour allotment and why.

Figure 92

Record Review #2 Form – Page 3 Questions 10 And 11



If total number of hours is **over** the proposed hour allotment, answer these questions.

10. Which current exceptions rationale best describes the reason the person used over the allotment:
    - ☐ Intermittent needs that cannot be scheduled that must be met throughout the day to keep the individual health and safe
    - ☐ A specific support that takes an exceptional amount of time and there is justification of the amount of time needed
    - ☐ Service level was inadequate to meet ADL/IADL needs in the home and to allow for reasonable time in the community
    - ☐ Other (specify):

11. What makes this person's use higher than the hour allotment? Consider the following areas. If applicable, use and cite evidence from the record to support your answers.
    - Specific support needs
    - Family/caregiver circumstances
    - Home, community, or geographic circumstances
    - If no evidence to explain why a high hour allotment is needed, specify here

Findings

We created a final dataset for analysis containing all responses to the form questions. Since a number of questions were open-ended, we also read through and summarized all qualitative responses to create a final analysis dataset.

First, we explored the individuals whose service use was under the proposed allotment for their service group. For these 15 individuals, hour allotments appear to be adequate for almost all. In one circumstance, reviewers noted that historical use was up to their previous allotment, so while their future allotment would be higher, it was difficult to tell if it would be sufficient to meet their need.

Next, we explored individuals with use over the proposed allotment. For these 64 records, review teams found that 14 had needs that could be met within the proposed hour allotments and 46 had needs that reviewers felt could not be met within the proposed hour allotments. Review teams also found that 4 of the records contained insufficient information to decide if the allotment was adequate, so they were removed from further analysis.

Of the 64 individuals whose use was over the proposed hour allotment and may need additional hours beyond the allotment, we noted that the need for additional hours could be addressed in one of three ways: using current exceptions rationale, amending current exceptions rationale, or addressing hour misalignment outside of the exceptions process.

Using current exceptions rationale. Most individuals (74%) identified as having needs beyond what could be met within the proposed hour allotment had needs that seemed to fall into one of the existing exceptions rationale. These rationale, described in detail during the training for Record Review #2, are:

- Intermittent needs that cannot be scheduled that must be met throughout the day to keep the individual healthy and safe
- A specific support that takes an exceptional amount of time and there is justification of the amount of time needed
- Service group is inadequate to meet ADL/IADL needs in the home and to allow reasonable time in the community
- 2:1 support needed

Amending current exceptions rationale. Of the 64 individuals whose use was over the proposed hour allotment and may need additional hours beyond the allotment, 19% would require adjustments to the exceptions rationale to qualify for an exception. Reviewers identified the reasons why hour allotments seemed insufficient that could potentially be addressed through adjustments to the exceptions rationale as:

- Individual has very high behavioral support needs but does not meet very high behavioral criteria due to lack of an implemented Positive Behavior Support Plan (PBSP)
- Individual has extensive communication support needs that require additional time and support of individuals who know them well
- Individual has a cyclical extended support need in some, but not all, months
- Individual is in a current crisis situation that requires additional support but which should be time-limited

Addressing hour misalignment outside the exceptions process. Lastly, 7% of the individuals whose use was over the proposed hour allotment and were identified as potentially needing additional hours beyond the allotment seemed to have reasons for the misalignment that may be addressed outside of the exceptions process. First, for a small number of individuals, ONA item responses and/or their assigned service group did not align with the person's support need as indicated in the record. Reviewers found that the information in the record did justify past service use, which was not in alignment with the proposed hour allotment. Information collected on the first page of the Record Review #2 Form indicates that this mismatch may be due to outdated information in the record or changes to support need after the assessment that resulted in an incorrect service group assignment. The second circumstance where the hour allotment would be insufficient had to do with a small number of children and adolescents whose hour allotment seemed insufficient but who will age into a different service group, with sufficient hours, prior to implementation of the framework.

Review Of Findings Based On Corrections To Service Group Assignments

As discussed earlier in this report, ODDS discovered that HSRI incorrectly assigned service groups for a portion of individuals with ONA data. This discovery was made in December 2019, after Record Review #2 took place (October 2019) and analyses were conducted and presented (November 2019). Therefore, the preliminary hour allotments used for consideration during record review were based on erroneous service group assignments. After correcting the service group assignments, we revisited the findings from Record Review #2 to assess any impacts of the changes. Of the sample, 23 individuals had been assigned to an incorrect age group and/or service group at the time of record review. While the proportion of incorrect service groups/age groups is relatively high for sample, we disproportionately selected individuals whose historical use was higher than their preliminary hour allotment, and this sampling strategy may have included more individuals than if the sample was random, since incorrectly assigned service groups and age groups were consistently lower than the corrected service groups. Individuals with incorrectly assigned service groups were more likely to be in the pool of individuals whose historical use was higher than their preliminary hour allotment.

Across the whole Record Review #2 sample, 10 individuals were reviewed in an incorrect age group. All 10 of these individuals were in the next older age group than reviewers were told at the time of the review. Due to the direction of the error, with all individuals older than thought at time of review, the hour allotments for all 10 individuals were higher than thought at time of review. After reviewing the notes for all 10 of these record reviews, 8 of the records would have the same responses. The other 2 would likely now have a high enough hour allotment; for both these individuals, reviewers noted that they needed only slightly more support than the hour allotment allowed, which would be within the allotment of the next age group.

An additional 10 individuals were reviewed in an incorrect service group within their age cohort. An exploration of these reviews showed that 5 of these record reviews would remain unchanged. Notes and responses indicate that for some the hour allotments were enough so additional hours would not change the conclusion, while other hours were far from sufficient and additional hours would not compensate for the needed support. Of the 5 reviews that would potentially be different if the correct service group was provided, one individual should have been assigned to Very High due to behavior but was not during the review. Reviewers noted that their service group was inadequate for the person's very high behavioral support. Therefore, the shift to the correct service group would have made the review more aligned with reviewer perspective on the service recipient. Two service recipients reviewed were deemed as not able to qualify for any of the exceptions criteria despite potentially needing more hours than their allotment offered. However, their corrected service group was higher and offered additional hours that were greater than historical use. Reviewers likely would have agreed that the corrected allotment was sufficient for their needs. The final two individuals reviewed for the incorrect service group did

appear to need more than their preliminary hour allotment and would be eligible for exceptions under the criteria. However, their hour allotment increases when shifted to the corrected service group may be sufficient without exceptions since their new allocations were both higher than their historical use.

Finally, three individuals were reviewed within both an incorrect age group and an incorrect service group. Of those, two service recipients were already deemed to have sufficient hour allotments with their incorrect lower preliminary allotment. One individual would receive more hours than reviewers believe they require, but based on responses and notes, the reviewers likely would not have felt the corrected allotment was sufficient.

In summary, hour allotments for individuals whose historical use was within the proposed allocation remained sufficient after the corrected service group was considered. In seven instances, the data correction would mean the hour allotment would likely have been deemed sufficient by reviewers. For all remaining corrected service groups, the reviewers' conclusions would most likely remain unchanged. Therefore, the following recommendations based on the Record Review #2 findings remain unchanged by corrections to the service group assignment or age group.

We feel confident in our conservative review of the findings with corrected service groups yet retain the original numbers and percentages from the Record Review #2 data since we did not include the record review participants in the revisited review. Despite potential changes to the percentages of individuals in each of the categories of findings, any changes to them do not change the nature of the following recommendations. We gave careful consideration to whether any of the steps of Record Review #2 needed repeating—including potentially asking for participant feedback on the new conclusions. However, we concluded with ODDS that since recommendations remain unchanged and any changes to findings based on errors reflect neutrally or positively on the hour allotments, no further steps to correct findings or repeat reviews were necessary.

Recommendations

The findings from Record Review #2 as well as feedback from reviewers during the review process yielded three overarching types of recommendations. These recommendations, described in detail below, were presented to ODDS and discussed with the Vision Advisory Committee at the February and March 2020 meetings.

School Hour Assumptions

First, record reviewers observed that children have access to relatively few school days during the month of December. They recommended that "summer hours" be available to school-age children during the month of December. However, the administrative burden of pursuing this recommendation was deemed too great by ODDS in conversation with the Vision Advisory Committee. Therefore, this recommendation will not be further pursued by ODDS.

Hour Allotment Simplification

Reviewers noted that the gaps between hour allotments by service group is confusing and likely unnecessary. For example, a person may be offered 56 to 70 hours per month in Very Low, or 78 to 100 hours per month in Low. To alleviate this confusion, reviewers recommended expanding the bottom of each hour allotment range to meet the lower range in order to improve understandability. We changed the hour allotment ranges to reflect this. Final hour allotments detailed on page 15 do not contain gaps between service groups.

"Specific Support" Definition

Reviews noted that some individuals require extensive, specific communication support to ensure their safety and access to the community. This need may be defined as a qualifying ADL/IADL task under the exception for specific support need, but reviewers recommended adjusting the language of "specific support" to clarify that communication support can be a qualifying need. ODDS identified that they are already in the process of revising the guidance around the exceptions process and will include clarification that communication support is a type of "specific support" for which someone can receive an exception.

PBSP Exceptions

Reviewers observed that some individuals with significant behavior support needs are not in the highest service group because they do not meet the criterion of having an implemented PBSP. In some instances, individuals may have functional behavior assessments that can include adequate guidance for support without the need for a PBSP but still require additional hours. They recommend that ODDS message the PBSP requirement so individuals may implement PBSPs and be assigned to the correct service group. Additionally, reviewers identified a desire for a means to access more hours until a PBSP can be implemented, and a desire for exception criteria that allow for additional hours due to behavior support need without a PBSP if specific recommendations for support are being implemented. In response to the recommendations, ODDS noted that the service group criteria is being made public via the ODDS website, revised rules, and the service group handbook. They also noted that individuals may obtain an exception due to a behavioral support need without a PBSP required, and short-term exceptions can be granted for those who are awaiting a PBSP.

Crisis Exceptions

During the review, participants noted that providing short-term additional support may reduce ongoing need in some instances (e.g., housing instability). Such instances may be due to temporary increases in support need. For example, a person may need emergency short-term support if a primary unpaid caregiver were hospitalized or if the service recipient exhibited a dangerous behavior for the first time. Recommendations to address these concerns were to add a policy for short-term or

crisis exceptions and to allow CMEs to issue these exceptions to expedite the process when due to an emergency. ODDS responded to these recommendations by agreeing to work toward establishing CME-level approval for short-term exceptions up to a certain limit. This will not be established until data can be collected regarding the exceptions requests within the new framework to allow time to develop strong guidance and training for CMEs taking on this new role.

Standing Exceptions

Instances were discussed during the record review where individuals had reoccurring needs that require significant additional support intermittently (e.g., cyclical or triggered mental health needs). Participants recommended offering a "standing" exception where a predetermined additional number of hours are available for a set amount of time if agreed upon specific criteria are met. Additionally, they recommended allowing CMEs to certify the exception to expedite the process once ODDS has established the criteria. ODDS is not pursing a separate standing exceptions policy due to an inability to build the IT capacity to implement. However, when CMEs take on short-term and/or emergency exceptions, there will be a greater ability to obtain short-term exceptions for ongoing, intermittent needs in a streamlined process.

Age Cohort Transitions

Record review participants noted that some individuals on the high end of an age range would not meet any exceptions criteria but do need a number of hours available for the next age cohort, since hours available within an age cohort do not increase as a child or adolescent nears the next cohort. They recommended that during the transition to the new framework, ODDS should consider allowing access to older age cohort hour allotments for those close in age if their historical use/need seems closer to the older cohort. ODDS identified an inability to implement this recommendation due to IT limitations. However, ODDS noted that participants will know their new allocation well before implementation and can plan, with the support of their CME, how to meet their needs within the new allocation. For those individuals who truly cannot meet their needs within their new allocation, traditional exceptions processes remain available.

New Framework Transition Plan

Reviewers expressed concerns about the potential hardships faced by individuals and families whose historical allocation/use is higher than the new hour allocation. They recommended ODDS develop a transition plan to notify individuals and families early about their potential loss of hours and to offer individuals a grace period to slowly reduce their hours. ODDS plans to inform individuals, families, and CMEs well before implementation about their service groups. Also, service groups will be implemented on a rolling basis at the ISP renewal. By knowing the new hour allotment at least six months before implementation, individuals and CMEs can create a plan to slowly reduce hours over time.

ONA Quality Assurance

Reviewers noted a small number of conflicting responses between a service recipient's ONA and other documentation within their record about their support need during the review. Based on these conflicts, record review participants recommended continued quality assurance of the ONA. ODDS is continuing ongoing quality assurance measures, including addressing the recommendations from the OHSU report on inter-rater reliability.

Exceptions Support

Review participants noted that the existing exceptions process is difficult to navigate with insufficient information on the process, timeline, and documentation requirements. They recommended that ODDS develop comprehensive plain language guides for exceptions requests for families and CMEs, develop a recorded training on the new exceptions process prior to rollout, and designate a person at the state available to field questions and provide support. ODDS is pursuing these recommendations and will develop guidance and trainings on exceptions prior to implementation of the new service groups. The person at ODDS who will be designated to provide support around exceptions is still being determined.

Task 6

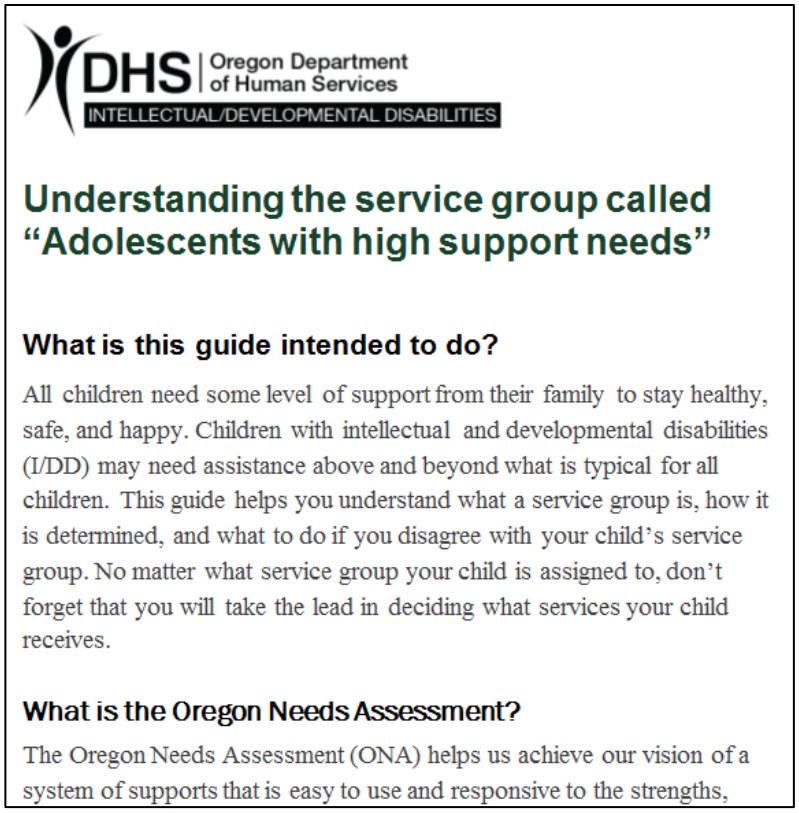
Communicate final service group criteria, corresponding rate tiers, and hour allotments to the field

As the project neared conclusion, we assisted ODDS in preparing materials to communicate criteria for assigning individuals to service groups. We sought to create materials that would be accessible for various audiences with a focus on service recipients and their family members.

In addition to creating an accessible summary of this report, we assisted in the creation of a service group handbook that guides readers through what service groups are, why they are important, and how someone is assigned to a particular service group. This handbook was written in collaboration with ODDS and with feedback from the Oregon Council on Developmental Disabilities. The figure below displays a segment of the handbook

Figure 93

Segment of the service group handbook



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INTELLECTUAL/DEVELOPMENTAL DISABILITIES

Understanding the service group called "Adolescents with high support needs"

What is this guide intended to do?

All children need some level of support from their family to stay healthy, safe, and happy. Children with intellectual and developmental disabilities (I/DD) may need assistance above and beyond what is typical for all children. This guide helps you understand what a service group is, how it is determined, and what to do if you disagree with your child's service group. No matter what service group your child is assigned to, don't forget that you will take the lead in deciding what services your child receives.

What is the Oregon Needs Assessment?

The Oregon Needs Assessment (ONA) helps us achieve our vision of a system of supports that is easy to use and responsive to the strengths,

We continue to collaborate with ODDS to provide guidance and assistance in communicating the framework and supplemental materials out to the public to promote a transparent and understandable system.

Appendix: Service Group Descriptions

Infant/Toddler Service Group (Ages 0 – 3)

Infant/Toddler Supports

Children 0 to 3 years old are assigned to the **Infant/Toddler Supports** service group since most children typically rely heavily on others for most life functions at this age. This level of support may be due to general support needs (i.e., ADLs and IADLs), or due to a medical condition or behavioral challenges that require extraordinary support. Children need substantial support for communication due to age-appropriate language development. While some children may use some words and signs, others communicate nonverbally (e.g., crying). Children at this age are fully dependent on caregivers to identify and respond to health and safety needs.

Children 0 to 3 years old in the Infant/Toddler Supports service group **due to general support needs** are typically completely dependent on support for ADLs and IADLs. This is typical for children under 4 years old. Most are completely dependent on support or require substantial/maximal assistance for eating, dressing, using the toilet, bathing, hygiene, and preparing meals.

Children 0 to 3 years old in the Infant/Toddler Supports service group may also have one or more **complex medical conditions** that require daily extraordinary support. The support for these conditions involves respiratory therapy, postural drainage, tracheal suctioning, intravenous and subcutaneous injections, catheter, hemodialysis, or other treatments by skilled nurses or trained support persons.

Children 0 to 3 years old in the Infant/Toddler Supports service group may also have **behavioral challenges** that require extraordinary support. These children will have exhibited multiple serious behavioral issues in the past year such as injuring themselves, injuring others, or destroying property. These children typically require one-on-one support to mitigate situations in which they may put themselves or others in danger.

Child Service Groups (Ages 4 – 11)

Very Low to Low Support Need

Children 4 to 11 years old in the **Very Low to Low** Support Need serviced group require between minimal and moderate support for age-appropriate ADLs and IADLs while still needing substantial support in multiple areas. While a wider range of support need exists for children in this age group as compared to preschool-aged children, children ages 4 to 11 are still typically dependent on others, particularly for IADLs.

Children in this service group need communication support to interpret and communicate complex ideas. Children in this service group, like most children at this age, require support for identifying and responding to health and safety risks (e.g., talking to strangers, identifying illness). Children in this group rarely have medical needs or challenging behaviors that require focused supports. Even relatively small changes in behavioral or medical needs may warrant an adjustment in service group.

Children in this service group may need minimal support, setup/clean up assistance, and even moderate support for dressing, eating, using the toilet, oral hygiene, walking or wheeling around, and changing footwear. Children 4 to 11 years old typically require supervision or moderate assistance for bathing and other general hygiene. All children 4 to 11 years old typically need substantial assistance or are completely dependent on support for shopping, using public transportation, preparing meals, completing laundry, and money management.

Moderate Support Need

Children 4 to 11 years old in the **Moderate** Support Need serviced group require moderate support for activities of daily living. They require substantial/maximal support for most instrumental activities of daily living, particularly more complex activities. While most of these children walk or wheel independently, some do need supervision or moderate assistance moving around, or while eating. These children require moderate support for dressing, putting on footwear, and using the toilet. They need substantial support for activities such as bathing, oral hygiene and other general hygiene. All children 4 to 11 years old typically need substantial assistance or are completely dependent on support for shopping, using public transportation, preparing meals, completing laundry, and money management.

Children in this service group generally require at least some communication support. For many, verbal communication is limited. Health and safety needs are high, in part due to typical development at this age. Concerns about car safety, wandering, and elopement are common. Children in this group may have medical support needs which, if exist, are generally managed using general supports. Additionally, children in this group may have behavioral support needs which, if exist, may require supervision, redirection, or reminders to address periodic behaviors which put the individual or others at risk.

High to Very High Support Need

Children 4 to 11 years old in the **High to Very High** Support Need service group require the most amount of support. This level of support may be due to general support needs (i.e., ADLs and IADLs), or due to a medical condition or behavioral challenges that require extraordinary support. Communication support needs for children in this group vary but generally children require high to extensive support with communication and may rely on gestures or facial expressions to communicate. Substantial support is needed to maintain health and safety for children in this age group.

Children 4 to 11 years old in the High to Very High Support Need serviced group **due to general support needs** are typically completely dependent on support for ADLs and IADLs. Most are completely dependent on support or require substantial/maximal assistance for mobility, eating, dressing, using the toilet, bathing, hygiene, preparing meals, shopping, and performing housework.

Children 4 to 11 years old in the High to Very High Support Need service group **due to a medical condition** require daily extraordinary support related to one or more complex medical condition. The support for these conditions involves respiratory therapy, postural drainage, tracheal suctioning, intravenous and subcutaneous injections, catheter, hemodialysis, or other treatments by skilled nurses or trained support persons. These individuals are typically completely dependent on support or need substantial or maximal assistance with many ADLs and IADLs as well.

Children 4 to 11 years old in the High to Very High Support Need service group **due to behavioral challenges** that require extraordinary support have all exhibited multiple serious behavioral issues in the past year. The serious behavioral issues may include injuring themselves, injuring others, destroying property, and/or exhibiting sexual aggression. These children typically require one-on-one support to mitigate situations in which they may put themselves or others in danger. Children in this service group will have a positive behavioral support plan and require frequent interventions. Children 4 to 11 years old in this service group may differ significantly in their support needs for ADLs and IADLs.

Adolescent Service Groups (Ages 12–17)

Very Low Support Need

Generally, adolescents in the service group for individuals with **Very Low** support need require minimal support for ADLs, and some support for IADLs, particularly more complex activities. Most adolescents in this service group are independent while performing activities such as dressing, bathing, using the toilet, ambulating or wheeling, or eating. Some individuals in this level require assistance with oral hygiene, other general hygiene, preparing meals, shopping, using public transportation, and laundry. This assistance may include setup, clean-up, or monitoring. Most adolescents in this service group require more assistance performing housework and managing money.

Adolescents in this service group are often independent in communication but may need communication support around complex issues, such as medical needs, and understanding and communicating abstract concepts. Adolescents in this service group do require support around health and safety, often related to navigating social boundaries and addressing health or medical needs. Adolescents in this group rarely have medical needs or challenging behaviors that require focused supports. Even relatively small changes in behavioral or medical needs may warrant an adjustment in service group.

Low Support Need

Generally, adolescents in the service group for individuals with **Low** support need require moderate support for most IADLs and at most a few ADLs.

Adolescents in this service group need moderate to substantial assistance with more complex activities. They are generally independent while performing activities such as eating, using the toilet, and changing footwear. Some individuals need setup assistance, clean-up assistance, or monitoring with dressing, bathing, oral hygiene, and other general hygiene. Individuals in this service group need a range of support with activities such as preparing meals, using public transportation, doing laundry, and shopping. These supports include set-up, planning, monitoring or moderate hands-on assistance. They need moderate to substantial assistance with tasks like housework and money management.

Adolescents in this service group are often mostly independent in communication but may need support to break down complex communication. There are some individuals in this group who do have more extensive communication support needs, often around receptive communication. Adolescents in this group, much like those with Very Low support need, may have age-related health and safety support needs. Adolescents in this group may require some medical supports which, if needed, are generally managed using general supports. Behavioral support needs vary among this group, but some individuals may require supervision, redirection, or reminders to avoid and address periodic behaviors which put the individual or others at risk. Adolescents in this group rarely have medical needs or challenging behaviors that require focused supports.

Moderate Support Need

Generally, adolescents in the service group for individuals with **Moderate** support need require some support for basic ADLs and moderate support for other ADLs and most IADLs. Adolescents may need substantial support in one or a few areas.

These adolescents are usually independent or require setup or clean-up assistance for dressing, eating, using the toilet, oral hygiene, walking or wheeling around, and changing footwear. Adolescents typically require supervision or moderate assistance for bathing, other general hygiene, shopping, using public transportation, preparing meals, laundry, and housework. Adolescents in this service group typically need substantial assistance or are completely dependent on support for money management.

Adolescents in this service group need a wide range of supports with communication which may vary from limited to extensive supports. Health and safety needs are present within this group and often are higher when combined with behavioral support needs or when the individual has multiple routine medical needs. Adolescents in this group may have medical support needs which, if exist, are generally managed using general supports. Additionally, adolescents in this group may have behavioral support needs which, if exist, may require supervision,

redirection, or reminders to address periodic behaviors which put the individual or others at risk.

High Support Need

Generally, adolescents in the service group for individuals with **High** support need require moderate support for ADLs. They require substantial/maximal support for most IADLs, particularly more complex activities.

While most of these individuals walk or wheel independently, some do need supervision or moderate assistance moving around, or while eating. These adolescents require moderate support for dressing, putting on footwear, and using the toilet. They need substantial support for activities such as bathing, oral hygiene, other general hygiene, laundry, shopping, preparing a meal, housework, and money management. Some individuals in this service group depend on complete support for some of these activities.

Adolescents in this group often require significant support with communication, thereby relying on support people who know them well for effective communication. In order to maintain health and safety, individuals in this group often require significant assistance. Some individuals in this group have high medical needs, but these needs do not rise to the level requiring extraordinary support. Similarly, some individuals in this group may have high behavioral support needs which require regular and focused support to address behaviors that could result in harm to one's self or others.

Very High Support Need

Generally, adolescents in the service group for individuals with **Very High** support need require the most amount of support. This level of support may be due to general support needs (i.e., ADLs and IADLs), or due to a medical condition or behavioral challenges that require extraordinary support. No matter the reason for entry into this service group, adolescents with Very High support need require a great deal of support to address health and safety needs. Communication support needs for individuals in this group vary; however, many members require extensive support, even relying on gestures, facial expressions, or behavior to communicate their wants and needs.

Adolescents in Very High **due to general support needs** are typically completely dependent on support for ADLs and IADLs. Most are completely dependent on support or require substantial/maximal assistance for mobility, eating, dressing, using the toilet, bathing, hygiene, preparing meals, shopping, and performing housework.

Adolescents in Very High **due to a medical condition** require daily extraordinary support related to one or more complex medical conditions. The support for these conditions involves respiratory therapy, postural drainage, tracheal suctioning, intravenous and subcutaneous injections, catheter, hemodialysis, or other treatments by skilled nurses or trained support persons. These adolescents are typically

completely dependent on support or need substantial or maximal assistance with many ADLs and IADLs as well.

Adolescents in Very High **due to behavioral challenges** that require extraordinary support have all exhibited multiple serious behaviors in the past year, such as injuring themselves or other people, sexually assaulting someone, or destroying property. These individuals require extensive support in the form of daily proactive strategies, regular safeguarding interventions, or periodic intervention by emergency or crisis services to mitigate situations in which they put themselves or others in danger. Some individuals in this group may have a court-mandated restriction in place and all have an implemented positive behavior support plan. Adolescents in this service group widely differ in their support needs for ADLs and IADLs.

Adult Service Groups (Ages 18+)

Very Low Support Need

Generally, adults in the service group for individuals with **Very Low** support require minimal support for ADLs and some support for IADLs, particularly more complex activities.

Most adults in this service group are independent while performing activities such as dressing, bathing, using the toilet, ambulating or wheeling, or eating. Some individuals in this level require assistance with oral hygiene, other general hygiene, preparing meals, shopping, using public transportation, and laundry. This assistance may include setup, clean-up, or monitoring. Most adults in this service group require more assistance performing housework and managing money.

Adults in this service group are often quite independent in communication but may need communication support around complex issues, such as medical needs, and understanding and communicating abstract concepts. Adults in this service group do require some support around health and safety, often related to navigating social boundaries and avoiding financial exploitation. Adults in this group rarely have medical needs or challenging behaviors that require focused supports. Even relatively small changes in behavioral or medical needs may warrant an adjustment in service group.

Low Support Need

Generally, adults in the service group for individuals with **Low** support need require moderate support for most IADLs and at most a few ADLs.

Adults in this service group need moderate to substantial assistance with more complex activities. They are generally independent while performing activities such as eating, using the toilet, and changing footwear. Some individuals need setup assistance, clean-up assistance, or monitoring with dressing, bathing, oral hygiene, and other general hygiene. Individuals in this service group need a range of support with activities such as preparing meals, using public transportation, doing laundry,

and shopping. These supports include set-up, planning, monitoring or moderate hands-on assistance. They need moderate to substantial assistance with tasks like housework and money management.

Adults in this service group are often substantially independent in communication but may need support to break down complex communication or effectively communicate with medical professionals. There are some individuals in this group who do have more extensive communication support needs, often around receptive communication. Adults in this group, much like individuals in the service group for individuals with Very Low support need, may need health and safety support due to the potential for exploitation by others. Adults in this group may require some medical supports which, if exist, are generally managed using general supports. Behavioral support needs vary among this group, but some individuals may require supervision, redirection, or reminders to avoid and address periodic behaviors which put the individual or others at risk.

Moderate Support Need

Generally, adults in the service group for individuals with **Moderate** support need require some support for basic ADLs and moderate support for other ADLs and most IADLs. Adults may need substantial support in one or a few areas.

These adults are usually independent or require setup or clean-up assistance for dressing, eating, using the toilet, oral hygiene, walking or wheeling around, and changing footwear. Adults typically require supervision or moderate assistance for bathing, other general hygiene, shopping, using public transportation, preparing meals, laundry, and housework. Adults in this service group typically need substantial assistance or are completely dependent on support for money management.

Adults in this service group need a wide range of supports with communication which may vary from limited to extensive supports. Health and safety needs also vary within this group and often are higher when combined with mental health/behavioral support needs or when the individual has multiple routine medical needs. Adults in this group may have medical support needs which, if exist, are generally managed using general supports. Additionally, adults in this group may have behavioral support needs which, if exist, may require supervision, redirection, or reminders to address periodic behaviors which put the individual or others at risk.

High Support Need

Generally, adults in the service group for individuals with **High** support need require moderate support for ADLs. They require substantial/maximal support for most IADLs, particularly more complex activities.

While most of these individuals walk or wheel independently, some do need supervision or moderate assistance moving around, or while eating. These adults require moderate support for dressing, putting on footwear, and using the toilet. They need substantial support for activities such as bathing, oral hygiene, other general hygiene, laundry, shopping, preparing a meal, housework, and money management.

Some individuals in this service group depend on complete support for some of these activities.

Adults in this group vary widely in their communication needs. Some require extensive support with communication and rely on having support people who know them well for effective communication. Health and safety needs is generally an area where individuals in this group require significant support, and some individuals in this group may require extensive targeted support. Some individuals in this group have high medical needs, but these needs do not rise to the level requiring extraordinary support. Similarly, some individuals in this group may have high behavioral support needs which require regular and focused support to address behaviors that could result in harm to one's self or others.

Very High Support Need

Generally, adults in the service group for individuals with **Very High** support need require the most amount of support. This level of support may be due to general support needs (i.e., ADLs and IADLs), or due to a medical condition or behavioral challenges that require extraordinary support. No matter the reason for entry into this service group, adults with Very High support need require a great deal of support to address health and safety concerns.

Adults in Very High **due to general support needs** are typically completely dependent on support for ADLs and IADLs. Most are completely dependent on support or require substantial/maximal assistance for mobility, eating, dressing, using the toilet, bathing, hygiene, preparing meals, shopping, and performing housework. Communication support needs for individuals in this group vary but generally adults require high to extensive support with communication and may rely on gestures or facial expressions to communicate.

Adults in Very High **due to a medical condition** require daily extraordinary support related to one or more complex medical condition. The support for these conditions involves respiratory therapy, postural drainage, tracheal suctioning, intravenous and subcutaneous injections, catheter, hemodialysis, or other treatments by skilled nurses or trained support persons. These adults are typically completely dependent on support or need substantial/maximal assistance with many ADLs and IADLs as well.

Adults in Very High **due to behavioral challenges** that require extraordinary support have all exhibited multiple serious behaviors in the past year, such as injuring themselves or others, sexually assaulting someone, or destroying property. These individuals require extensive support in the form of daily proactive strategies, regular safeguarding interventions, or periodic intervention by emergency or crisis services to mitigate situations in which they put themselves or others in danger. Some individuals in this group may have a court-mandated restriction in place and all have an implemented positive behavior support plan. Adults in this service group widely differ in their support needs for ADLs and IADLs.