Estimating Factor D: Considerations for Estimating 1915(c) Waiver Program Costs

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Training Objectives

- Review 1915(c) program cost neutrality requirements and the individual components, i.e., Factors D, D', G, and G’, that comprise the cost neutrality formula.
- Discuss 1915(c) waiver program utilization estimates including federal requirements, the derivation of estimates as captured in Appendix J-2-c, and a review of the individual data elements requested.
- Highlight strategies for estimating per capita 1915(c) waiver program costs (Factor D) including how to annualize costs and account for program amendments, inflation, and other cost considerations.
- Explore 1915(c) waiver program cost trends and common challenges related to estimating 1915(c) program costs.

Cost Neutrality Overview

Cost Neutrality Demonstration: D + D’ <= G + G’

- States must demonstrate that waiver programs are cost neutral by estimating and describing the basis for the four factors in Appendix J of the waiver application.

Factor	Definition
Factor D	Estimated annual average per capita Medicaid cost for home and community-based services (HCBS) for individuals in the waiver program.
Factor D’	Estimated annual average per capita Medicaid cost for all other non-waiver services provided to individuals in the waiver program.
Factor G	Estimated annual average per capita Medicaid cost for hospital, nursing facility, or ICF/IID care that would be incurred for individuals served in the waiver, were the waiver not granted (i.e., average cost for institutional services for individuals with the same level of care).
Factor G’	Estimated annual average per capita Medicaid cost for all services other than those included in Factor G for individuals served in the waiver, were the waiver not granted.

1915(c) Federal Requirements – Cost Neutrality

- **42 CFR §441.303(f)(1)** specifies the components of the cost neutrality formula which takes into account waiver service and institutional costs.
  - For purposes of the cost neutrality formula, Factors D' and G' include the average per capita cost for all state plan services and Early & Periodic Screening, Diagnosis, and Treatment (EPSDT) services.
- **Per §1915(c)(2)(D) of the Act**, states must assure that the average per capita expenditures under the waiver **(Factors D and D')** during each waiver year do not exceed 100 percent of the average per capita expenditures that would have been made during the same year for the level of care provided in a hospital, nursing facility, or ICF/IID under the state plan had the waiver not been granted **(Factors G and G').**
- **42 CFR §441.302(e)** requires that the expenditures upon which the cost neutrality demonstration is based be reasonably estimated and well-documented, and that the estimate must be annualized and cover each year of the waiver period.

Cost Neutrality in 1915(c) Waiver Applications

- For a 1915(c) waiver to be approved, the state must demonstrate, as part of the waiver review process, that the waiver is cost neutral during each year that the waiver is in effect.
  – **Appendix J-1** provides a composite overview of the cost neutrality formula.
  – **Appendix J-2** contains the basis of estimates and waiver program cost estimates.
- The factors that make up the cost neutrality formula demonstrate that the services provided in home and community-based services waivers are less than or equal to the institutional equivalent.
- As of May 2023, across all 258 active 1915(c) waivers, the average per capita 1915(c) waiver program cost for Waiver Year 1 was estimated to be approximately **164%** less than the institutional equivalent.

Avg. of Factor D: $37,696	**Avg. of Factor G:** $140,234
Avg. of Factor D': $20,789	**Avg. of Factor G'**: $13,891
Average Per Capita 1915(c) Waiver Costs (D + D') : $58,485	**Average Institutional Per Capita Costs (G + G'):** $154,125

Overview of Factor D

Factor D Estimate Requirements

- **States are required to calculate Factor D for each year the waiver program is in effect.**
  - CMS expects that the state will trend estimates forward to reflect inflation adjustments, growth, and planned program expansions and/or reductions, and that the state will provide the rationale for annual adjustments.
- **States must note what data sources it used to calculate Factor D, including the date(s) of the data used.**
  - States submit CMS-372(S) reports annually following the completion of each waiver year that details:
    - The number of unduplicated participants,
    - The number of unduplicated participants who utilized each waiver service and the amount of funds expended for each waiver service,
    - Expenditures for Medicaid state plan services on behalf of waiver participants, and
    - Health and welfare related information.
  - The CMS-372(S) also provides evidence of the waiver's cost neutrality on an ongoing basis.

Factor D Estimate Requirements (Cont.)

- **Factor D estimates must be reasonable and align with the state's expectations for program utilization, costs, and growth.**
  – In general, CMS expects that estimates will be based on actual experience as reported in the CMS-372(S) report(s).
  – States may use multiple data sources to establish estimates. For example, a state may use inflation as the basis for year-to-year adjustments, recent claims data for average unit per user estimates, and CMS-372(S) reports for unduplicated participant estimates.
  – States should explain any and all deviations from CMS-372 reports or historical data, to include the source of the information upon which the estimate is based and the rationale for using an alternate data source.

The Derivation of the Factor D Estimate

The Factor D estimate is derived by estimating the:

Number of Unduplicated Participants

- The estimated number of unduplicated participants at both a program and waiver service level.

Units Per User

- The utilization rate for each waiver service expressed as the average number of units per user.

Cost Per Unit

- The estimated average unit cost for each waiver service.

Estimating Unduplicated Participants

- The unduplicated participant estimate represents the maximum number of unduplicated participants who may be served during each waiver year that the waiver is in effect.
  - The number of unduplicated participants differs from the maximum limit served as reported in Appendix B-3-b, in which states are required to designate whether the program is subject to point-in-time enrollment limits.
- State participant estimates should be reasonable and based on program experience (exception for new waivers) as reported in the CMS-372(S) report(s).
- States are required to report estimates of the number of unduplicated participants at both a program level and service level.
- For new waivers or when additional services are being added in a waiver renewal or an amendment, the explanation in Appendix J-2 must detail the source of the information upon which the estimate is based.
  - Examples of common data sources include state studies, utilization for similar services or programs, or experience from other states.

Estimating Units per User

- The estimated average number of units per user represents the state's utilization projection for each 1915(c) waiver service.
  - Average unit per user estimates must align with the reported unit measurement in Appendix J-2-d (e.g., if the state reports a monthly unit for a waiver service, the average unit per user estimate should not exceed 12).
  - Common waiver service units include hourly, 15 minutes, daily, and other unit measurements that allow states to assign a fee-for-service payment rate for waiver services.
- States are required to detail the source(s) of the information upon which the average unit per user estimate is based.
  - The estimate should be based on actual experience as reported in the CMS-372(S) report(s) (e.g., the percentage of waiver participants who utilized a service) adjusted as appropriate to account for any changes during the renewal period.
  - States must describe both the alternate data source(s) and rationale when departing from historical data or what was reported in CMS-372(S) reports.

Estimating Units per User – Average Length of Stay (ALOS)

- The ALOS describes the number of days on average during the waiver year that an individual participates in the waiver, and should account for annual participant turnover.
  - ALOS is calculated by dividing the number of enrolled days for all waiver participants by the unduplicated number of participants.
  - ALOS information is also reported in the CMS-372(S) reports.
  - States are required to provide the data source used to estimate ALOS, with states commonly relying on CMS-372(S) data, waiver phase-in and/or phase-out schedules, experience with other waiver programs, and other alternate bases most appropriate to project future program utilization.
- State service utilization estimates must be reasonably estimated based on the needs of the target population and the estimated ALOS.
  - For example, if the average participant spends approximately 100 days on the waiver, it would not be appropriate to also estimate that the average participant receives 12 months of case management services in the waiver.

Estimating the Cost Per Unit

- The average cost per unit estimate represents the average cost paid per unit of an individual waiver service.
  - For example, a state includes regional cost of living differences in its rate setting methodology, resulting in each waiver service having four different rates that vary based on location of service. The state should account for this variation and report a weighted average based on the actual average cost per unit of service.
- CMS reviews average cost per unit estimates with regard to the requirement that payments are consistent with economy, efficiency, and quality of care.
- When changing payment rates or implementing new methodologies, including supplemental payments, that result in changes to unit measurements or payment rates, states should reflect those updates in the average cost per unit estimate and report the basis for the estimate in Appendix J-2-c.

Factor D and the 1915(c) Waiver Application

Appendix J-2-a

- The number of unduplicated participants who will receive waiver services each year the waiver is in effect.

Appendix J-2-b

- The basis of the estimate of the average number of days during a waiver year that an individual participates in the waiver.

Appendix J-2-c

- The derivation of estimates for each factor in the cost-neutrality formula.

Appendix J-2-d

- Contains a table which includes the waiver cost estimates for each waiver service, ALOS, unduplicated participant estimates, and Factor D estimates for each waiver year.

Challenges and Strategies for Estimating Factor D

Appendix J-2-c: Derivation of Factor D

- The explanation of the derivation of the Factor D estimate must include the basis and methodology used to calculate the estimates for:
  - The number of service users,
  - The average units per user for each waiver service, and
  - The average cost per unit for each waiver service.
- When a state submits a renewal or amendment to include new services or modifications, the methodology for estimating these changes must be documented in Appendix J-2-c.
  - For example, if a state amends its 1915(c) waiver to implement a rate increase for all waiver services, the rate increase should be factored into the estimates reported in Appendix J-2-d, and the methodology for updating the average cost per unit estimates should be detailed in Appendix J-2-c.
- For waivers with capitated payment rates, states must detail the methodology used to calculate program estimates and should specify that payment rates are capitated.

Factor D Estimation Challenges

CMS conducts reviews of states' waiver estimates and derivation explanations as part of the 1915(c) waiver application review process, and has identified that states most commonly experience challenges with the following:

- Selecting a Valid and Reliable Data Source
- Consistency Between Appendix J-2-c and Appendix J-2-d
- Accounting for Programmatic Updates
- Annualizing and Trending Estimates

Challenges with Factor D Estimates: Selecting a Valid and Reliable Data Source

One of the most common state challenges is identifying a data source suitable to serve as the baseline for waiver year 1 estimates. Common challenges include the following:

Timeliness of data

- CMS-372(S) report(s) have an 18-month lag period and may not represent recent program changes.
- States' CMS-372(S) reports were commonly postponed and/or programs were changed in response to the COVID-19 pandemic.

CMS-372(S) report(s) may not capture state expectations for future program costs

- The CMS-372(S) report(s) may not represent future program expectations due to factors such as recent inflationary pressures, service changes, rate increases, legislative priorities, and other programmatic updates.

Selecting a Factor D Basis or Data Source

- In general, baseline or waiver year (WY) 1 Factor D estimates for waiver renewals should start with actual experience as reported in the CMS-372(S) reports(s) while also considering the state's expectations for program changes and/or growth.
  - As of May 2023, CMS-372(S) data was the most cited source for establishing waiver service estimates.
  - The next most common data source was state claims and utilization data.
  - States should review multiple years of CMS-372(S) data to identify outliers, average utilization, and/or annual trends.
- States are not limited to a specific data source but must provide an explanation as to why the data source used is more appropriate than CMS-372(S) data to base estimates upon.
  - Common alternate data sources include claims data, rate studies, cost reports, and similar state plan and/or waiver services.

Factor D Example: Selecting a Valid and Reliable Data Source

Selecting a Valid and Reliable Data Source	
State Challenge	*Strategy to Address*
• A state amends its 1915(c) waiver program for older adults to merge with another waiver program serving populations with developmental disabilities. • The state plans for the waiver population to double as a result of the merger. • The state also plans to add a new case management service to manage the merger and additional services that were previously offered under the developmental disabilities waiver.	• The state elects to use multiple data sources to serve as the baseline for WY1 estimates and to project future expenditures. – The state bases its projections for case management services on a recently conducted rate study. – The state uses the most recent CMS-372(S) report for the older adults waiver as the basis for utilization for existing waiver services. – Due to the planned phase-out of the developmental disabilities waiver, the state uses a combination of recent claims data and older CMS-372(S) data to estimate program costs.

Challenges in Factor D Estimates: Connecting Appendix J-2-c to Appendix J-2-d

The derivation of Factor D reported in Appendix J-2-c must align with the Appendix J-2-d cost tables. Common challenges with aligning both appendices include:

Amending Appendix J-2-c when updating cost estimates

- For states amending waivers to update utilization estimates, payment rates, and/or waiver service offerings, the state must also make changes to Appendix J-2-c and Appendix J-2-d.

Aligning the basis of estimates with reported estimates

- The derivation explanation provided in Appendix J-2-c must align with the estimates reported in Appendix J-2-d.

Connecting Appendix J-2-c to Appendix J-2-d

- States must ensure that the derivation of Factor D aligns with the waiver program estimates provided in the Appendix J-2-d table.
  - For states amending waivers to update utilization estimates, payment rates, and/or waiver service offerings, the state must also verify whether changes to the estimation methodology in Appendix J-2-c are needed.
  - State strategies for verifying that Appendix J-2-c and Appendix J-2-d align include:
    - Ensuring the basis for all updates made to estimates in Appendix J-2-d are detailed in the derivation explanation in J-2-c and are made to both appendices in tandem.
    - Using J-2-c as a tool to improve program transparency by providing the necessary detail for stakeholders to understand how program expenses are estimated and verifying that the basis matches the reported estimates.
    - Reviewing the derivation to verify that the explanation is sufficient and detailed enough to adequately describe the waiver program estimation methodology.

Factor D Example: Connecting Appendices J-2-c and J-2-d

Connecting Appendices J-2-c and J-2-d	
State Challenge	*Strategy to Address*
• The state legislature recently approved a five percent (5%) cost-of-living increase that will apply to all waiver services. • The state submits an amendment to increase payment rates and makes updates to Appendix I-2-a to provide an explanation to detail the cost-of-living increase. • The state does not make any updates to Appendix J.	• When amending a waiver to increase payment rates, the state must reflect those changes in both Appendix J-2-c and Appendix J-2-d. • The state should note in Appendix J-2-c that in alignment with the effective date of the waiver, all average cost per unit values will increase by 5% to account for the cost-of-living increase. • The state should update Appendix J-2-d to apply a 5% increase to the average cost per unit values for the amended waiver year to account for the rate increase.

Challenges in Factor D Estimates: Accounting for and Implementing Programmatic Updates

When amending or renewing waivers to account for programmatic updates, states commonly experience the following challenges:

Amending Appendix J-2-c to provide the basis for new waiver cost estimates

- When states make programmatic updates that impact participant utilization patterns, provider availability, payment rate changes, and other substantive changes, states must detail how such changes impact the program’s cost neutrality and Factor D.

Reflecting the impact of changes in cost neutrality estimate

- States should consider cost neutrality impacts when proposing and implementing changes and should detail those impacts in the waiver application.

Accounting for and Implementing Programmatic Updates

- States must consider the impact of programmatic changes on the average cost per unit and utilization of services.
  - For example, if a state is adding a new service or altering service availability, the state must consider downstream impacts of such changes and detail those expectations in Appendix J-2-c.
- States should include the data source for estimates for newly added services and detail the methodology for estimating costs.
- When removing or phasing out services:
  - The removal should align with the appropriate waiver year,
  - The waiver service title should remain in the Appendix J-2-d table, and
  - The waiver service estimates should be listed as ".01" to demonstrate the phase out period.

Factor D Example: Accounting for and Implementing Programmatic Updates

Accounting for and Implementing Programmatic Updates	
State Challenge	*Strategy to Address*
• The state plans to add two new tiers of supported living services to serve higher acuity participants. • The state also plans to implement a new assessment tool to determine eligibility for higher tiered supported living services.	• The state must detail the basis and methodology for updated estimates in Appendix J-2-c. • The state should update the Appendix J-2-d tables to outline the expected uptake of higher tiered supported living services and also update the average cost per unit estimates to factor the new tiered services. • The state should amend the waiver if initial estimates are inaccurate and actual utilization does not align with state expectations.

Challenges in Factor D Estimates: Annualizing & Trending Estimates

Each waiver program year, states often face challenges in trending and annualizing estimates and detailing those trends within the Appendix. Common challenges include:

Projecting for inflationary related cost increases

- States must account for cost-of-living increases and inflationary related year-to-year trends when estimating waiver program costs.
- States have experienced elevated inflationary pressures during and following the public health emergency (PHE), further necessitating the need to factor inflation into payment rates and program estimates.

Factoring historical trends

- States should consider historical utilization patterns when annualizing estimates.

Annualizing & Trending Estimates

- States must identify a growth rate that reflects the state's expectations for year-to-year cost variances and reflect the growth rate in the estimates of unduplicated participants, average units per user, and average cost per unit.
  - For example, a state projects that the average cost per unit will not change for waiver services during the two-year amendment period but does not expect total program costs to stagnate, because the program will most likely serve more participants over those years. The state should apply the growth rate to its unduplicated participant estimates in Appendix J-2-d rather than the cost-per-unit estimates.
- States should consider Consumer Price Index (CPI) data or other inflation indices as appropriate when trending estimates.
  - The CPI for All Urban Consumers (CPI-U) is the most common inflation index referenced and used as a growth factor in 1915(c) waiver applications.
  - In general, the inflation basis cited in Appendix J-2-c should align with the rate setting methodology, particularly when annualizing or increasing the average cost per unit values.

Annualizing & Trending Estimates (Cont.)

- States must provide a detailed description of the growth rate in Appendix J-2-c and the description should be reflective of the inflation source used, growth period or service trends as captured in the CMS-372(S) report(s) or other state projections.
  - If the state estimates no cost growth or program change, the state must include an explanation detailing the basis for a no-growth assumption.

Factor D Example: Annualizing & Trending Estimates

Annualizing & Trending Estimates	
State Challenge	*Strategy to Address*
• The state reviews CPI-U data and determines that the CPI-U has increased by 15 percent since the state last updated payment rates. • The state has received feedback from providers that current payment rates do not factor increased costs experienced as a result of the PHE. • The state amends the waiver to include cost-of-living increases.	• The state should amend Appendix J-2-c to provide the growth rate basis and methodology for adjusting waiver cost estimates to include the cost-of-living adjustment. • The state should identify a growth rate sufficient to represent future expectations for growth and provide an explanation as to how the growth rate is incorporated into state estimates.

Summary & References

Summary

- All 1915(c) waivers must be cost neutral, and the cost neutrality formula is demonstrated in Appendix J of the waiver application.
- Factor D represents the per capita 1915(c) waiver program costs and states are required to provide the Factor D estimate for each waiver year the program is in effect.
- The Factor D estimate is comprised of the number of unduplicated participants, average cost per unit, and average units per user, and represents the total waiver program costs divided by the number of unduplicated participants for each waiver year.
- States must provide the basis and methodology for Factor D estimates in Appendix J-2-c and the narrative explanation provided in Appendix J-2-c must align with reported estimates in Appendix J-2-d.
- Selecting a data source, annualizing estimates, and accounting for programmatic updates are some of the most common challenges states experience with estimating Factor D.

References

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3. Center for Medicaid & Medicaid Services, *Appendix J Training: Documenting the Basis of Factors D', G, and G' 1915(c) Waiver Applications*, Available online: https://www.medicaid.gov/sites/default/files/2019-12/documenting-basis-factors-d-prime-g-g-prime-1915c.pdf
4. Center for Medicaid & Medicaid Services, *Appendix J Training: Estimating and Documenting Factor D in 1915(c) Waiver Applications*, Available online: https://www.medicaid.gov/sites/default/files/2019-12/estimating-documenting-factor-d-1915c.pdf