DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Parts 409 and 488

[CMS–1686–ANPRM]

RIN 0938–AT17

Medicare Program; Prospective Payment System and Consolidated Billing for Skilled Nursing Facilities: Revisions to Case-Mix Methodology

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Advance notice of proposed rulemaking with comment.

SUMMARY: We are issuing this advance notice of proposed rulemaking (ANPRM) to solicit public comments on potential options we may consider for revising certain aspects of the existing skilled nursing facility (SNF) prospective payment system (PPS) payment methodology to improve its accuracy, based on the results of our SNF Payment Models Research (SNF PMR) project. In particular, we are seeking comments on the possibility of replacing the SNF PPS' existing case-mix classification model, the Resource Utilization Groups, Version 4 (RUG–IV), with a new model, the Resident Classification System, Version I (RCS–I). We also discuss options for how such a change could be implemented, as well as a number of other policy changes we may consider to complement implementation of RCS–I.

DATES: To be assured consideration, comments must be received at one of the addresses provided below, no later than 5 p.m. on June 26, 2017.

ADDRESSES: In commenting, please refer to file code CMS–1686–ANPRM. Because of staff and resource limitations, we cannot accept comments by facsimile (FAX) transmission.

You may submit comments in one of four ways (please choose only one of the ways listed):

1. *Electronically.* You may submit electronic comments on this regulation to *http://www.regulations.gov.* Within the search bar, enter the Regulation Identifier Number associated with this regulation, 0938–AT17, and then click on the ''Comment Now'' box.

2. *By regular mail.* You may mail written comments to the following address ONLY: Centers for Medicare & Medicaid Services, Department of Health and Human Services, Attention: CMS–1686–ANPRM, P.O. Box 8016, Baltimore, MD 21244–8016.

Please allow sufficient time for mailed comments to be received before the close of the comment period.

3. *By express or overnight mail.* You may send written comments to the following address ONLY: Centers for Medicare & Medicaid Services, Department of Health and Human Services, Attention: CMS–1686–ANPRM, Mail Stop C4–26–05, 7500 Security Boulevard, Baltimore, MD 21244–1850.

4. *By hand or courier.* If you prefer, you may deliver (by hand or courier) your written comments before the close of the comment period to either of the following addresses:

a. Centers for Medicare & Medicaid Services, Department of Health and Human Services, Room 445–G, Hubert H. Humphrey Building, 200 Independence Avenue SW., Washington, DC 20201.

(Because access to the interior of the Hubert H. Humphrey Building is not readily available to persons without Federal Government identification, commenters are encouraged to leave their comments in the CMS drop slots located in the main lobby of the building. A stamp-in clock is available for persons wishing to retain a proof of filing by stamping in and retaining an extra copy of the comments being filed.)

b. Centers for Medicare & Medicaid Services, Department of Health and Human Services, 7500 Security Boulevard, Baltimore, MD 21244–1850.

If you intend to deliver your comments to the Baltimore address, please call telephone number (410) 786–7195 in advance to schedule your arrival with one of our staff members.

Comments mailed to the addresses indicated as appropriate for hand or courier delivery may be delayed and received after the comment period.

For information on viewing public comments, see the beginning of the **SUPPLEMENTARY INFORMATION** section.

FOR FURTHER INFORMATION CONTACT: John Kane, (410) 786–0557.

SUPPLEMENTARY INFORMATION: *Inspection of Public Comments:* All comments received before the close of the comment period are available for viewing by the public, including any personally identifiable or confidential business information that is included in a comment. We post all comments received before the close of the comment period on the following Web site as soon as possible after they have been received: *http://www.regulations.gov.* Follow the search instructions on that Web site to view public comments.

Comments received timely will also be available for public inspection as they are received, generally beginning approximately 3 weeks after publication of a document, at the headquarters of the Centers for Medicare & Medicaid Services, 7500 Security Boulevard, Baltimore, Maryland 21244, Monday through Friday of each week from 8:30 a.m. to 4 p.m. To schedule an appointment to view public comments, phone 1–800–743–3951.

To assist readers in referencing sections contained in this document, we are providing the following Table of Contents.

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Acronyms

In addition, because of the many terms to which we refer by acronym in this ANPRM, we are listing these abbreviations and their corresponding terms in alphabetical order below:

AIDS Acquired Immune Deficiency Syndrome
ARD Assessment reference date
BBRA Medicare, Medicaid, and SCHIP Balanced Budget Refinement Act of 1999, Public Law 106–113
CASPER Certification and Survey Provider Enhanced Reporting
CCN CMS Certification Number
CFR Code of Federal Regulations
CMI Case-mix index
CMS Centers for Medicare & Medicaid Services
FR Federal Register
FY Fiscal year
ICD–10–CM International Classification of Diseases, 10th Revision, Clinical Modification
IPPS Inpatient prospective payment system
IRF Inpatient Rehabilitation Facility
IRF–PAI Inpatient Rehabilitation Facility Patient Assessment Instrument
LTCH Long-term care hospital
MDS Minimum data set
MMA Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Public Law 108–173
NF Nursing facility
NTA Non-therapy ancillary
OASIS Outcome and Assessment Information Set
OMB Office of Management and Budget
PAC Post-acute care
PPS Prospective Payment System
QIES Quality Improvement and Evaluation System
QIES ASAP Quality Improvement and Evaluation System Assessment Submission and Processing
RAI Resident assessment instrument
RCS–I Resident Classification System, Version I
RFA Regulatory Flexibility Act, Public Law 96–354
RIA Regulatory impact analysis
RUG–III Resource Utilization Groups, Version 3
RUG–IV Resource Utilization Groups, Version 4
RUG–53 Refined 53-Group RUG–III Case-Mix Classification System
SNF Skilled nursing facility
SNF PMR Skilled Nursing Facility Payment Models Research
STM Staff time measurement
STRIVE Staff time and resource intensity verification
TEP Technical expert panel

I. Executive Summary

A. Purpose

This ANPRM solicits comments on options we may consider for revising certain aspects of the existing SNF PPS payment methodology, to improve its accuracy, based on the results of the SNF PMR project. In particular, we are seeking comments on the possibility of replacing the SNF PPS' existing case-mix classification model, RUG–IV, with the RCS–I case mix model developed during the SNF PMR project. We also discuss and seek comment on options for how such a change could be implemented, as well as a number of other policy changes we may consider to complement implementation of RCS–I. We would note that we intend to propose case-mix refinements in the FY 2019 SNF PPS proposed rule, and this ANPRM serves to solicit comments on potential revisions we are considering proposing in such rulemaking.

B. Summary of Major Provisions

In section II of this ANPRM, we discuss the current SNF PPS, specifically the RUG–IV case-mix classification methodology that is used to assign SNF Part A residents to payment groups that reflect varying levels of resource intensity. We also discuss issues with the current system which prompted CMS to consider potential revisions to the existing case-mix methodology. Finally, we discuss the SNF PMR project, which was intended to develop a replacement for the RUG–IV case-mix classification model within our current statutory authority.

In section III. of this ANPRM, we discuss the case-mix model that could serve to replace RUG–IV, which is the RCS–I model. We begin by discussing the revised base rate structure that would be used under RCS–I, based on certain changes to the existing SNF PPS case-mix adjusted components that we are considering, based on the findings from the SNF PMR project. Similar to the current system, RUG–IV, the revised model, the RCS–I, would case-mix adjust for the following major cost categories: Physical therapy (PT), occupational therapy (OT), speech-language pathology (SLP) services, nursing services and non-therapy ancillaries (NTAs). However, where RUG–IV consists of two case-mix adjusted components (therapy and nursing), the RCS–I would create four (PT/OT, SLP, nursing, and NTA) for a more resident-centered case-mix adjustment. We then discuss each of the potential case-mix adjusted components under the RCS–I model, including how residents would be classified under each case-mix component and the resident-characteristics that our research indicates could serve as appropriate predictors of varying resource intensity for each component. Finally, we also discuss and solicit public comments on other potential policy changes, developed under the SMF PMR project, to the SNF PPS payment methodology.

II. Background

A. Issues Relating to the Current Case-Mix System for Payment of Skilled Nursing Facility Services Under Part A of the Medicare Program

Section 1888(e)(4)(G)(i) of the Act requires the Secretary to make an adjustment to the per diem rates to account for case-mix. The statute specifies that the adjustment is to be based on both a resident classification system that the Secretary establishes that accounts for the relative resource use of different resident types, as well as resident assessment and other data that the Secretary considers appropriate.

In general, the case-mix classification system currently used under the SNF PPS classifies residents into payment classification groups, called RUGs, based on various resident characteristics and the type and intensity of therapy services provided to the resident. Each RUG is assigned a set of case-mix indexes (CMIs) that reflect relative differences in cost and resource intensity for each case-mix adjusted component. The higher the CMI, the higher the expected resource utilization and cost associated with that resident's care. Under the existing SNF PPS methodology, there are two case-mix components. The nursing component reflects relative differences in a resident's associated nursing and non-therapy ancillary (NTA) costs, based on various resident characteristics, such as resident comorbidities, and treatments. The therapy component reflects relative differences in a resident's associated therapy costs, which is based on a combination of PT, OT, and SLP services. Resident classification under the existing therapy component is based primarily on the amount of therapy the SNF chooses to provide to a SNF resident. Under the RUG–IV model, residents are classified into rehabilitation groups, where payment is determined primarily based on the intensity of therapy services received by the resident, and into nursing groups, based on the intensity of nursing services received by the resident and other aspects of the resident's care and condition. However, only the higher paying of these groups is used for payment purposes. For example, if a resident is classified into a both the RUA (Rehabilitation) and PA1 (Nursing) RUG–IV groups, where RUA has a higher per-diem payment rate than PA1,

the RUA group is used for payment purposes. It should be noted that the vast majority of Part A covered SNF days (over 90 percent) are paid using a rehabilitation RUG. A variety of concerns have been raised with the current SNF PPS, specifically the RUG–IV model, which we discuss below.

When the SNF PPS was first implemented (63 FR 26252), we developed the RUG–III case-mix classification model, which tied the amount of payment to resident resource use in combination with resident characteristic information. Staff time measurement (STM) studies conducted in 1990, 1995, and 1997 provided information on resource use (time spent by staff members on residents) and resident characteristics that enabled us not only to establish RUG–III, but also to create CMIs. This initial RUG–III model was refined by changes finalized in the FY 2006 SNF PPS final rule (70 FR 45032), which included adding nine case-mix groups to the top of the original 44-group RUG–III hierarchy, which created the RUG–53 case-mix model.

In the FY 2010 SNF PPS proposed rule (74 FR 22208), we proposed a revised RUG–IV model based on, among other reasons, concerns that incentives in the SNF PPS had changed the relative amount of nursing resources required to treat SNF residents (74 FR 22220). These concerns led us to conduct a new Staff Time Measurement (STM) study, the Staff Time and Resource Intensity Verification (STRIVE) project, which served as the basis for developing the current SNF PPS case-mix classification model, RUG–IV, which became effective in FY 2011. At that time, we considered alternative case mix models, including predictive models of therapy payment based on resident characteristics; however, we had a ''great deal of concern that by separating payment from the actual provision of services, the system, and more importantly, the beneficiaries would be vulnerable to underutilization.'' (74 FR 22220). Other options considered at the time included a non-therapy ancillary (NTA) payment model based on resident characteristics (74 FR 22238) and a DRG-based payment model that relied on information from the prior inpatient stay (74 FR 22220); these and other options are discussed in detail in a CMS Report to Congress issued in December 2006 (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/Downloads/RC_2006_PC-PPSSNF.pdf*).

In the years since we implemented the SNF PPS, finalized RUG–IV, and made statements regarding our concerns about underutilization of services in previously considered models, we have witnessed a significant trend that has caused us to reconsider these concerns. More specifically, as discussed in section V.E. of the FY 2015 SNF PPS proposed rule (79 FR 25767), we documented and discussed trends observed in therapy utilization in a memo entitled ''Observations on Therapy Utilization Trends'' (which may be accessed at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/Downloads/Therapy_Trends_Memo_04212014.pdf*). The two most notable trends discussed in that memo were that the percentage of residents classifying into the Ultra-High therapy category has increased steadily and, of greater concern, that the percentage of residents receiving just enough therapy to surpass the Ultra-High and Very-High therapy thresholds has also increased. In that memo, we state ''the percentage of claims-matched MDS assessments in the range of 720 minutes to 739 minutes, which is just enough to surpass the 720 minute threshold for RU groups, has increased from 5 percent in FY 2005 to 33 percent in FY 2013'' and this trend has continued since that time. While it might be possible to attribute the increasing share of residents in the Ultra-High therapy category to increasing acuity within the SNF population, we believe the increase in ''thresholding'' (that is, of providing just enough therapy for residents to surpass the relevant therapy thresholds) is a strong indication of service provision predicated on financial considerations rather than resident need. We discussed this issue in response to comments in the FY 2015 SNF PPS final rule, where, in response to comments regarding the lack of ''current medical evidence related to how much therapy a given resident should receive,'' we stated the following:

> With regard to the comments which highlight the lack of existing medical evidence for how much therapy a given resident should receive, we would note that . . . the number of therapy minutes provided to SNF residents within certain therapy RUG categories is, in fact, clustered around the minimum thresholds for a given therapy RUG category. However, given the comments highlighting the lack of medical evidence related to the appropriate amount of therapy in a given situation, it is all the more concerning that practice patterns would appear to be as homogenized as the data would suggest. (79 FR 45651)

In response to comments related to factors which may explain the observed trends, we stated the following:

> With regard to the comment which highlighted potential explanatory factors for the observed trends, such as internal pressure within SNFs that would override clinical judgment, we find these potential explanatory factors troubling and entirely inconsistent with the intended use of the SNF benefit. Specifically, the minimum therapy minute thresholds for each therapy RUG category are certainly not intended as ceilings or targets for therapy provision. As discussed in Chapter 8, Section 30 of the Medicare Benefit Policy Manual (Pub. 100–02), to be covered, the services provided to a SNF resident must be ''reasonable and necessary for the treatment of a patient's illness or injury, that is, are consistent with the nature and severity of the individual's illness or injury, *the individual's particular medical needs,* and accepted standards of medical practice.'' (emphasis added) Therefore, services which are not specifically tailored to meet the individualized needs and goals of the resident, based on the resident's condition and the evaluation and judgment of the resident's clinicians, may not meet this aspect of the definition for covered SNF care, and we believe that internal provider rules should not seek to circumvent the Medicare statute, regulations and policies, or the professional judgment of clinicians. (79 FR 45651 through 45652)

In addition to this discussion of observed trends, others have also identified potential areas of concern within the current SNF PPS. The two most notable sources are the Office of the Inspector General (OIG) and the Medicare Payment Advisory Commission (MedPAC).

With regard to the OIG, three recent OIG reports describe the OIG's concerns with the current SNF PPS. In December 2010, the OIG released a report entitled ''Questionable Billing by Skilled Nursing Facilities'' (which may be accessed at *https://oig.hhs.gov/oei/reports/oei-02-09-00202.pdf*). In this report, among its findings, the OIG found that ''from 2006 to 2008, SNFs increasingly billed for higher paying RUGs, even though beneficiary characteristics remained largely unchanged'' (OEI–02–09–00202, ii), and among other things, recommended that we should ''consider several options to ensure that the amount of therapy paid for by Medicare accurately reflects beneficiaries' needs'' (OEI–02–09–00202, iii). Further, in November 2012, the OIG released a report entitled ''Inappropriate Payments to Skilled Nursing Facilities Cost Medicare More Than a Billion Dollars in 2009'' (which may be accessed at *https://oig.hhs.gov/oei/reports/oei-02-09-00200.pdf*). In this report, the OIG found that ''SNFs billed one-quarter of all claims in error in 2009'' and that the ''majority of the claims in error were upcoded; many of these claims were for ultrahigh

therapy.'' (OEI–02–09–00200, Executive Summary). Among its recommendations, the OIG stated that ''the findings of this report provide further evidence that CMS needs to change how it pays for therapy'' (OEI–02–09–00200, 15). Finally, in September 2015, the OIG released a report entitled ''The Medicare Payment System for Skilled Nursing Facilities Needs to be Reevaluated'' (which may be accessed at *https://oig.hhs.gov/oei/reports/oei-02-13-00610.pdf*). Among its findings, the OIG found that ''Medicare payments for therapy greatly exceed SNFs' costs for therapy,'' further noting that ''the difference between Medicare payments and SNFs' costs for therapy, combined with the current payment method, creates an incentive for SNFs to bill for higher levels of therapy than necessary'' (OEI–02–13–00610, 7). Among its recommendations, the OIG stated that CMS should ''change the method of paying for therapy,'' further stating that ''CMS should accelerate its efforts to develop and implement a new method of paying for therapy that relies on beneficiary characteristics or care needs.'' (OEI–02–13–00610, 12).

With regard to MedPAC's recommendations in this area, Chapter 8 of MedPAC's March 2017 Report to Congress (available at *http://www.medpac.gov/docs/default-source/reports/mar17_medpac_ch8.pdf*) includes the following recommendation: ''The Congress should . . . direct the Secretary to revise the prospective payment system (PPS) for skilled nursing facilities'' and ''. . . make any additional adjustments to payments needed to more closely align payment with costs.'' (March 2017 MedPAC Report to Congress, 220). This recommendation is seemingly predicated on MedPAC's own analysis of the current SNF PPS, where they state that ''almost since its inception the SNF PPS has been criticized for encouraging the provision of excessive rehabilitation therapy services and not accurately targeting payments for nontherapy ancillaries'' (March 2017 MedPAC Report to Congress, 202). Finally, with regard to the possibility of changing the existing SNF payment system, MedPAC stated that ''since 2015, [CMS] has gathered four expert panels to receive input on aspects of possible design features before it proposes a revised PPS'' and further that ''the designs under consideration are consistent with those recommended by the Commission'' (March 2017 MedPAC Report to Congress, 203).

The combination of the observed trends in the current SNF PPS discussed above (which strongly suggest that providers may be basing service provision on financial reasons rather than resident need), the issues raised in the OIG reports discussed above, and the issues raised by MedPAC, has caused us to consider significant revisions to the existing SNF PPS, in keeping with our overall responsibility to ensure that payments under the SNF PPS accurately reflect both resident needs and resource utilization.

Under the RUG–IV system, therapy service provision determines not only therapy payments, but also nursing payments. This is because, as noted above, only one of a resident's assigned RUG groups, rehabilitation or nursing, is used for payment purposes. Each rehabilitation group is assigned a nursing CMI to reflect relative differences in nursing costs for residents in those rehabilitation groups, which is less specifically tailored to the individual nursing costs for a given resident than the nursing CMIs assigned for the nursing RUGs. Given that, as mentioned above, most resident days are paid using a rehabilitation RUG, and since assignment into a rehabilitation RUG is based on therapy service provision, this means that therapy service provision effectively determines nursing payments for those residents who are assigned to a rehabilitation RUG. Thus, we believe any attempts to revise the SNF PPS payment methodology to better account for therapy service provision under the SNF PPS would need to be comprehensive and affect both the therapy and nursing case-mix components. Moreover, in the FY 2015 SNF PPS final rule, in response to comments regarding access for certain ''specialty'' populations (such as those with complex nursing needs), we stated the following:

> With regard to the comment on specialty populations, we agree with the commenter that access must be preserved for all categories of SNF residents, particularly those with complex medical and nursing needs. As appropriate, we will examine our current monitoring efforts to identify any revisions which may be necessary to account appropriately for these populations. (79 FR 45651)

In addition, MedPAC, in their March 2017 Report to Congress, stated that they have previously recommended that we revise the current SNF PPS to ''base therapy payments on patient characteristics (not service provision), remove payments for NTA services from the nursing component, [and] establish a separate component within the PPS that adjusts payments for NTA services'' (March 2017 MedPAC Report to Congress, 202). Accordingly, we note that included among the potential revisions we discuss in this ANPRM, are revisions to the SNF PPS to address longstanding concerns regarding the ability of the RUG–IV system to account for variation in nursing and NTA services, as described in sections III.D.3.d and III.D.3.e. of this ANPRM.

In the sections that follow, we solicit comments on comprehensive revisions to the current SNF PPS case-mix classification system. Specifically, we discuss a potential alternative to the existing RUG–IV, called RCS–I, which we are considering. We solicit comment on the extent to which RCS–I addresses the issues we outline above. As further discussed below, we believe that the RCS–I model represents an improvement over the RUG–IV model because it would better account for resident characteristics and care needs, thus better aligning SNF PPS payments with resource use and eliminating therapy provision-related financial incentives inherent in the current payment model used in the SNF PPS. To better ensure that resident care decisions appropriately reflect each resident's actual care needs, we believe it is important to remove, to the extent possible, service-based metrics from the SNF PPS and derive payment from objective resident characteristics.

B. Summary of the Skilled Nursing Facility Payment Models Research Project

As noted above, since 1998, Medicare Part A has paid for SNF services on a per diem basis through the SNF PPS. Currently, therapy payments under the SNF PPS are based primarily on the amount of therapy furnished to a patient, regardless of that patient's specific characteristics and care needs. Beginning in 2013, we contracted with Acumen, LLC to identify potential alternatives to the existing methodology used to pay for services under the SNF PPS. The recommendations developed under this contract, entitled the SNF PMR project, form the basis of the ideas contained in the sections below.

The SNF PMR operated in three phases. In the first phase of the project, which focused exclusively on therapy payment issues, Acumen reviewed past research studies and policy issues related to SNF PPS therapy payment and options for improving or replacing the current therapy payment methodology. After consideration of multiple potential alternatives, such as competitive bidding and a hybrid model combining resource-based pricing (for example, how therapy payments are made under the current SNF PPS) with resident characteristics, we identified a model that relies on resident

characteristics rather than the amount of therapy received as the most appropriate replacement for the existing therapy payment model. As stated above, we believe that relying on resident characteristics would improve the resident-centeredness of the model and discourage resident care decisions predicated on service-based financial incentives. A report summarizing Acumen's activities and recommendations during the first phase of the SNF PMR contract, the SNF Therapy Payment Models Base Year Final Summary Report, is available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/Downloads/Summary_Report_20140501.pdf.*

In the second phase of the project, Acumen used the findings from the Base Year Final Summary Report as a guide to identify potential models suitable for further analysis. During this phase of the project, in an effort to establish a comprehensive approach to Medicare Part A SNF payment reform, we expanded the scope of the SNF PMR to encompass other aspects of the SNF PPS beyond therapy. Although we always intended to ensure that any revisions specific to therapy payment would be considered as part of an integrated approach with the remaining payment methodology, we felt it prudent to examine potential improvements and refinements to the overall SNF PPS payment system as well.

During this phase of the SNF PMR, Acumen hosted four Technical Expert Panels (TEPs), which brought together industry experts, stakeholders, and clinicians with the research team to discuss different topics within the overall analytic framework. In February 2015, Acumen hosted a TEP to discuss questions and issues related to therapy case-mix classification. In November 2015, Acumen hosted a second TEP focused on questions and issues related to nursing case-mix classification, as well as to discuss issues related to payment for NTAs. In June 2016, Acumen hosted a third TEP to provide stakeholders with an outline of a potential revised SNF PPS payment structure, including new case-mix adjusted components and potential companion policies, such as variable per diem payment adjustments. Finally, in October 2016, Acumen hosted a fourth TEP, during which Acumen presented the case-mix components for a potential revised SNF PPS, as well as an initial impact analysis associated with the potential revised SNF PPS payment model. The presentation slides used during each of the TEPs, as well as a summary report for each TEP, is available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

In the final phase of the contract, which is ongoing, we tasked Acumen to assist in developing supporting language and documentation, most notably a technical report, related to the alternative SNF PPS case-mix classification model we are considering, which we have named the RCS–I.

This ANPRM solicits comments on the issues with the current SNF PPS, and what steps should be taken to refine the existing SNF PPS in response to those issues. In particular, in this ANPRM, we discuss and are soliciting comments regarding how we could replace the existing RUG–IV case-mix classification model with a potential alternative such as the RCS–I case-mix classification model. We solicit comments on the adequacy and appropriateness of the RCS–I case-mix model to serve as a replacement for the RUG–IV model. Our goals in developing a potential alternative are as follows:

- To create a model that compensates SNFs accurately based on the complexity of the particular beneficiaries they serve and the resources necessary in caring for those beneficiaries; and
- To address our concerns, along with those of OIG and MedPAC, about current incentives for SNFs to deliver therapy to beneficiaries based on financial considerations, rather than the most effective course of treatment for beneficiaries; and
- To maintain simplicity by, to the extent possible, limiting the number and type of elements we use to determine case-mix, as well as limiting the number of assessments necessary under the payment system.

We solicit comment on the goals outlined above and how effective the RCS–I system we outline below is at addressing those goals.

In addition to the general discussion of RCS–I, we also discuss and are soliciting public comment on certain complementary policies that we believe could also serve to improve the SNF PPS. To provide commenters with an appropriate basis for comment on RCS–I, we also discuss the potential impact to providers of implementing this type of model. We also solicit public comment on certain logistical aspects of implementing revisions to the current SNF PPS, such as whether those revisions should be implemented in a budget neutral manner, and how much lead time providers and other stakeholders should receive before any finalized changes would be implemented. Finally, we are soliciting public comment on other potential issues CMS should consider in implementing revisions to the current SNF PPS, such as potential effects on state Medicaid programs, potential behavioral changes, and the type of education and training that would be necessary to implement successfully any changes to the SNF PPS.

In the sections below, we outline each aspect of the RCS–I case-mix classification model we are considering, as well as additional revisions to the SNF PPS which may be considered along with potential implementation of the RCS–I classification model. We invite comments on any and all aspects of the RCS–I case-mix model, including the research analyses described in this ANPRM and in the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*), as well as on any of the other considerations discussed in this ANPRM.

III. Potential Revisions to SNF PPS Payment Methodology

A. Revisions to SNF PPS Federal Base Payment Rate Components

1. Background on SNF PPS Federal Base Payment Rates and Components

Section 1888(e)(4) of the Act requires that the SNF PPS per diem federal payment rates be based on FY 1995 costs, updated for inflation. These base rates are then required to be adjusted to reflect differences in patient case-mix. In keeping with this statutory requirement, the base per diem payment rates were set in 1998 and reflect average SNF costs in a base year (FY 1995), updated for inflation to the first period of the SNF PPS, which was the 15-month period beginning on July 1, 1998. The federal base payment rates were calculated separately for urban and rural facilities and based on allowable costs from the FY 1995 cost reports of hospital-based and freestanding SNFs, where allowable costs included all routine, ancillary, and capital-related costs (excluding those related to approved educational activities) associated with SNF services provided under Part A, and all services and items for which payment could be made under Part B prior to July 1, 1998.

In general, routine costs are those included by SNFs in a daily service charge and include regular room, dietary, and nursing services, medical social services and psychiatric social services, as well as the use of certain facilities and equipment for which a separate charge is not made. Ancillary

costs are directly identifiable to residents and cover specialized services, including therapy, drugs, and laboratory services. Lastly, capital-related costs include the costs of land, building, and equipment and the interest incurred in financing the acquisition of such items. (63 FR 26253)

There are four federal base payment rate components which may factor into SNF PPS payment. Two of these components, ''nursing case-mix'' and ''therapy case-mix,'' are case-mix adjusted components, while the remaining two components, ''therapy non-case-mix'' and ''non-case-mix,'' are not case-mix adjusted. While we discuss the details of the RCS–I payment model and justifications for certain associated policies we are considering in section III.D. of this ANPRM, we note that, as part of the RCS–I case-mix model under consideration, we would bifurcate both the ''nursing case-mix'' and ''therapy case-mix'' components of the federal base payment rate into two components each, thereby creating four case-mix adjusted components. More specifically, we would separate the ''therapy case-mix'' rate component into a ''Physical Therapy/Occupational Therapy'' (PT/OT) component and a ''Speech-Language Pathology'' (SLP) component. Our rationale for bifurcating the therapy case-mix component in this manner is presented in section III.D.3.b. of this ANPRM. Based on the results of the SNF PMR, we would also separate the ''nursing case-mix'' rate component into a ''nursing'' component and a ''Non-Therapy Ancillary'' (NTA) component. Our rationale for bifurcating the nursing case-mix component in this manner is presented in section III.D.3.e. of this ANPRM. Given that all SNF residents, under the RCS–I model, would be assigned to a classification group for each of the two therapy-related case-mix adjusted components as further discussed below, we believe that we could eliminate the ''therapy non-case-mix'' rate component under the RCS–I model. The existing non-case-mix component could be maintained as it is currently constituted under the existing SNF PPS. Although the case-mix components of the RCS–I case-mix classification system would address costs associated with individual resident care based on an individual's specific needs and characteristics, the non-case-mix component addresses consistent costs that are incurred for all residents, such as room and board and various capital-related expenses. As these costs are not likely to change, regardless of what changes we might make to the SNF PPS, we believe it would be appropriate to continue using the non-case-mix component as it is currently used.

In the next section, we discuss the methodology we used to bifurcate the federal base payment rates for each of the two existing case-mix adjusted components, as well as the data sources used in this calculation. The methodology does not calculate new federal base payment rates, but simply splits the existing base rate case-mix components for therapy and nursing. The methodology and data used in this calculation are based on the data and methodology used in the calculation of the original federal payment rates in 1998, as further discussed below.

2. Data Sources Utilized for Revision of Federal Base Payment Rate Components

Section II.A.2. of the interim final rule with comment period that initially implemented the SNF PPS (63 FR 26256 through 26260) provides a detailed discussion of the data sources used to calculate the original federal base payment rates in 1998. We are considering using the same data sources to determine the portion of the therapy case-mix component base rate that would be assigned to the SLP component base rate. As described in section III.C.3. of this ANPRM, the methodology for bifurcating the nursing component base rate is different than the methodology used for bifurcating the therapy component base rate, despite using the same data sources. The portion of the nursing component base rate that corresponds to NTA costs was already calculated using the same data source used to calculate the federal base payment rates in 1998. As explained below, we used the previously calculated percentage of the nursing component base rate corresponding to NTA costs to set the NTA base rate, and verified this calculation with the analysis described in section III.C.3 of this ANPRM. Therefore, the steps described below address the calculations performed to bifurcate the therapy base rate alone.

The percentage of the current therapy case-mix component of the federal base payment rates that would be assigned to the SLP component of the federal base payment rates was determined using cost information from FY 1995 cost reports, after making the following exclusions and adjustments: First, only settled and as-submitted cost reports for hospital-based and freestanding SNFs for periods beginning in FY 1995 and spanning 10 to 13 months were included. This set of restrictions replicates the restrictions used to derive the original federal base payment rates as set forth in the 1998 interim final rule with comment period (63 FR 26256). Following the methodology used to derive the SNF PPS base rates, routine and ancillary costs from ''as submitted'' cost reports were adjusted down by 1.31 and 3.26 percent, respectively. As discussed in the 1998 interim final rule with comment period, the specific adjustment factors were chosen to reflect average adjustments resulting from cost report settlement and were based on a comparison of as-submitted and settled reports from FY 1992 to FY 1994 (63 FR 26256); these adjustments are in accordance with section 1888(e)(4)(A)(i) of the Act. We used similar data, exclusions, and adjustments as in the original base rates calculation so the resulting base rates for the components would resemble as closely as possible what they would have been had they been established in 1998. However, there were two ways in which the SLP percentage calculation deviates from the 1998 base rates calculation. First, the 1998 calculation of the base rates excluded reports for facilities exempted from cost limits in the base year. The available data do not identify which facilities were exempted from cost limits in the base year, so this restriction was not implemented. We do not believe this had a notable impact on our estimate of the SLP percentage, because only a small fraction of facilities were exempted from cost limits. Consistent with the 1998 base rates calculation, we excluded facilities with per diem costs more than three standard deviations higher than the geometric mean across facilities. Therefore, facilities with unusually high costs did not influence our estimate. Second, the 1998 calculation of the base rates excluded costs related to exceptions payments and costs related to approved educational activities. The available cost report data did not identify costs related to exceptions payments nor indicate what percentage of overall therapy costs or costs by therapy discipline were related to approved educational activities, so these costs are not excluded from the SLP percentage calculation. Because exceptions were only granted for routine costs, we believe the inability to exclude these costs should not affect our estimate of the SLP percentage (as exceptions would not apply to therapy costs). Additionally, the data indicate that educational costs made up less than one-hundredth of 1 percent of overall SNF costs. If the proportion of educational costs is relatively uniform across cost categories, the inability to

exclude these costs should have a negligible impact on our estimate.

In addition to Part A costs from the cost report data, the 1998 federal base rates calculation incorporated estimates of amounts payable under Part B for covered SNF services provided to Part A SNF residents, as required by section 1888(e)(4)(A)(ii) of the Act. In calculating the SLP percentage, we also estimated the amounts payable under Part B for covered SNF services provided to Part A residents. All Part B claims associated with Part A SNF claims overlapping with FY 1995 cost reports were matched to the corresponding facility's cost report. For each cost center (for example, SLP, PT, OT) in each cost report, a ratio was calculated to determine the amount by which Part A costs needed to be increased to account for the portion of costs payable under Part B. This ratio for each cost center was determined by dividing the total charges from the matched Part B claims by the total charges from the Part A SNF claims overlapping with the cost report.

Finally, the 1998 federal base rates calculation standardized the cost data for each facility to control for the effects of case-mix and geographic-related wage differences, as required by section 1888(e)(4)(C) of the Act. When calculating the SLP share of the current therapy base rate, we replicated the method used in 1998 to standardize for wage differences, as described in the 1998 interim final rule with comment period (63 FR 26259 through 26260). We applied a hospital wage index to the labor-related share of costs, estimated at 75.888 percent, and used an index composed of hospital wages from FY 1994. The SLP percentage calculation did not include the case-mix adjustment used in the 1998 calculation because the 1998 adjustment relied on the obsolete RUG–III classification system. In the 1998 federal base rates calculation, information from SNF and inpatient claims was mapped to RUG–III clinical categories at the resident level to case-mix adjust facility per diem costs. However, the 1998 interim final rule did not document this mapping, and the data used as the basis for this adjustment are no longer available, and therefore this step could not be replicated. Because the case-mix adjustment was applied at the facility level, the inability to replicate this step should not impact our estimate of the SLP percentage, as we expect the case-mix adjustment would affect the estimates of SLP and total therapy per diem costs to the same degree.

3. Methodology Used for the Calculation of Revised Federal Base Payment Rate Components

As discussed above, we are considering separating the current therapy components into a PT/OT component and an SLP component. To do this, we considered calculating the percentage of the current therapy component of the federal base rate that corresponds to each of the two RCS–I components (PT/OT and SLP) in accordance with the methodology set forth below.

The data described in section III.C.2. of this ANPRM provides cost estimates for the Medicare Part A SNF population for each cost report that met the inclusion criteria. Cost reports stratify costs by a number of cost centers that indicate different types of services. For instance, costs are reported separately for each of the three therapy disciplines (PT, OT, and SLP). Cost reports also include the number of Medicare Part A utilization days during the cost reporting period. This allows us to calculate both average SLP costs per day and average therapy costs per day in the facility during the cost reporting period. Therapy costs are defined as the sum of costs for the three therapy disciplines.

The goal of this methodology is to estimate the fraction of therapy costs that corresponds to SLP costs. We use the facility-level averages developed from cost reports to derive a federal average for both therapy costs and SLP costs. To do this, we followed the methodology outlined in section II.A.3 of the 1998 interim final rule with comment period (63 FR 26260), which was used by CMS (then known as HCFA) to create the federal base payment rates:

(1) For each of the two measures of cost (SLP costs per day and total therapy costs per day), we computed the mean based on data from freestanding SNFs only. This mean was weighted by the total number of Medicare days of the facility.

(2) For each of the two measures of cost (SLP costs per day and total therapy costs per day), we computed the mean based on data from both hospital-based and freestanding SNFs. This mean was weighted by the total number of Medicare days of the facility.

(3) For each of the two measures of cost (SLP costs per day and total therapy costs per day), we calculated the arithmetic mean of the amounts determined under steps (1) and (2) above.

In section 3.11.3 of the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*), we show the results of each of these calculations.

The three steps outlined above produce a measure of SLP costs per day and a measure of therapy costs per day. We divided the SLP cost measure by the therapy cost measure to obtain the percentage of the therapy component that corresponds to SLP costs. We believe that following a methodology to derive the SLP percentage that is consistent with the methodology used to determine the base rates in the 1998 interim final rule with comment period is appropriate because a consistent methodology helps to ensure that the resulting base rates for the components resemble what they would be had they been established in 1998 and that the methodology is as consistent as possible with the relevant statutory requirements, as discussed in section III.A.1 above. We found that 16 percent of the therapy component of the base rate for urban SNFs and 18 percent of the therapy component of the base rate for rural SNFs correspond to SLP costs. Under the RCS–I model we are considering, the current therapy case-mix component would be separated into a Physical Therapy/Occupational Therapy component and a Speech-Language Pathology component using the percentages derived above. This process is done separately for urban and for rural facilities. In section 3.11.3 of the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*), we provide the specific cost centers used to identify SLP costs and total therapy costs.

In addition, we are considering separating the current nursing case-mix component into a nursing case-mix component and an NTA component. Similar to the therapy component, we are considering calculating the percentage of the current nursing component of the federal base rates that corresponds to each of the two RCS–I components (NTA and nursing). The 1998 reopening of the comment period for the interim final rule (63 FR 65561, November 27, 1998) states that NTA costs comprise 43.4 percent of the current nursing component of the urban federal base rate, and the remaining 56.6 percent accounts for nursing and social services salary costs. These percentages for the nursing component of the federal base rate for rural facilities are 42.7 percent and 57.3 percent, respectively (63 FR 65561). Therefore, we are considering assigning 43 percent of the current nursing component of the federal base rates to the new NTA

component of the federal base rate, and to assign the remaining 57 percent to the new nursing component of the federal base rate.

We verified the 1998 calculation of the percentages of the nursing component federal base rates that correspond to NTA costs by developing a measure of NTA costs per day for urban and rural facilities. We used the same data and followed the same methodology described above to develop measures of SLP costs per day and total therapy costs per day. The measure of NTA costs per day produced by this analysis is $47.70 for urban facilities and $47.30 for rural facilities. The original 1998 federal base rates for the nursing component, which relied on a similar methodology, were $109.48 for urban facilities and $104.88 for rural facilities. Therefore, our measure of NTA costs in urban facilities was equivalent to 43.6 percent of the urban 1998 federal nursing base rate, and our measure of NTA costs in rural facilities was equivalent to 45.1 percent of the rural 1998 federal nursing base rate. These results are similar to the estimates published in the 1998 reopening of the comment period for the interim final rule (63 FR 65561, November 27, 1998), which we believe supports the validity of the 43 percent figure stated above.

For illustration purposes, Tables 1 and 2 set forth what the unadjusted federal per diem rates would be for each of the case-mix adjusted components if we were to apply the RCS–I case-mix classification model to the proposed FY 2018 base rates (as set forth in the FY 2018 SNF PPS proposed rule. These are derived by dividing the proposed FY 2018 SNF PPS base rates according to the percentages described above. Tables 1 and 2 also show what the unadjusted federal per diem rates for the non-case-mix component would be, which are not affected by the change in case-mix methodology from the RUG–IV to the RCS–I. We use these unadjusted federal per diem rates in calculating the impact analysis discussed in section III.H. of this ANPRM.

TABLE 1—RCS–I UNADJUSTED FEDERAL RATE PER DIEM—URBAN

Rate component	Nursing	NTA	PT/OT	SLP	Non-case-mix
Per Diem Amount	$100.91	$76.12	$126.76	$24.14	$90.35

TABLE 2—RCS–I UNADJUSTED FEDERAL RATE PER DIEM—RURAL

Rate component	Nursing	NTA	PT/OT	SLP	Non-case-mix
Per Diem Amount	$96.40	$72.72	$141.47	$31.06	$92.02

We invite comments on the data sources and methodology we are considering for calculating the unadjusted federal per diem rates and components that would be used in conjunction with the RCS–I case-mix classification model.

4. Updates and Wage Adjustments of Revised Federal Base Payment Rate Components

In section III.B. of the FY 2017 SNF PPS final rule (81 FR 51972), we describe the process used to update the federal per diem rates each year. Additionally, as discussed in section III.B.4 of the FY 2017 SNF PPS final rule (81 FR 51978), SNF PPS rates are adjusted for geographic differences in wages using the most recent hospital wage index. Under the RCS–I case-mix model we are considering, we would continue to update the federal base payment rates and adjust for geographic differences in wages following the current methodology used for such updates and wage index adjustments under the SNF PPS. Specifically, under the RCS–I case-mix model, we would continue the practice of using the SNF market basket, adjusted as described in section III.B. of the FY 2017 SNF PPS final rule, and of adjusting for geographic differences in wages as described in section III.B.4 of the FY 2017 SNF PPS final rule. We invite comments on these ideas.

B. Potential Design and Methodology for Case-Mix Adjustment of Federal Rates

1. Background on Resident Classification System, Version I

Section 1888(e)(4)(G)(i) of the Act requires that the Secretary provide for an appropriate adjustment to account for case mix and that such an adjustment shall be based on a resident classification system that accounts for the relative resource utilization of different patient types. The current case-mix classification system uses a combination of resident characteristics and service intensity metrics (for example, therapy minutes) to assign residents to one of 66 RUGs, each of which has a set of CMIs indicative of the relative cost to a SNF of treating residents within that classification category. However, as noted in section III.A. of this ANPRM, incorporating service-based metrics into the payment system can incentivize the provision of services based on a facility's financial considerations rather than resident needs. To better ensure that resident care decisions appropriately reflect each resident's actual care needs, we believe it is important to remove, to the extent possible, service-based metrics from the SNF PPS and derive payment from objective resident characteristics that are resident, and not facility, centered. To that end, RCS–I was developed to be a payment model which derives almost exclusively from verifiable resident characteristics.

Additionally, the current RUG–IV case-mix classification system reduces the varied needs and characteristics of a resident into a single RUG–IV group that is used for payment. As of FY 2016, of the 66 possible RUG classifications, over 90 percent of covered SNF PPS days are billed using one of the 23 Rehabilitation RUGs, with over 60 percent of covered SNF PPS days billed using one of the three Ultra-High Rehabilitation RUGs. The implication of this pattern is that more than half of the days billed under the SNF PPS effectively utilize only a resident's therapy minutes and Activities of Daily Living (ADL) score to determine the appropriate payment for all aspects of a resident's care. Both of these metrics, more notably a resident's therapy minutes, may derive not so much from the resident's own characteristics, but rather, from the type and amount of care the SNF decides to provide to the resident. Even assuming that the facility takes the resident's needs and unique characteristics into account in making these service decisions, the focus of payment remains centered, to a potentially great extent, on the facility's

own decision making and not on the resident's needs.

While the RUG–IV model utilizes a host of service-based metrics (type and amount of care the SNF decides to provide) to classify the resident into a single RUG–IV group, the RCS–I model under consideration would separately identify and adjust for the varied needs and characteristics of a resident's care and then combine them together. We believe that the RCS–I classification model could improve the SNF PPS by basing payments predominantly on clinical characteristics rather than service provision, thereby enhancing payment accuracy and strengthening incentives for appropriate care.

2. Data Sources Utilized for Developing RCS–I

To understand, research, and analyze the costs of providing Part A services to SNF residents, Acumen utilized a variety of data sources in the course of their research. In this section, we discuss these sources and how they were used in the SNF PMR in developing the RCS–I case-mix classification model. A more thorough discussion of the data sources used during the SNF PMR is available in section 3.1 of the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*).

a. Medicare Enrollment Data

Beneficiary enrollment and demographic information was pulled from the CMS enrollment database (EDB) and Common Medicare Environment (CME). Beneficiaries' Medicare enrollment was used to apply restrictions to create a study population for analysis. For example, beneficiaries were required to have continuous Medicare Part A enrollment during a stay. Demographic characteristics (for example, age) were incorporated as being predictive of resource use. Furthermore, enrollment and demographic information from these data sources were used to assess the impact of the RCS–I model under consideration on subpopulations of interest. In particular, the EDB and CME include indicators for potentially vulnerable subpopulations, such as those dually-enrolled in Medicaid.

b. Medicare Claims Data

Medicare Parts A and B claims from the CMS Common Working Files (CWF) and Prescription Drug Event (PDE) claims from the PDE database were used to conduct claims analyses as part of the SNF PMR. The claims data analyzed derived from SNF claims. SNF claims (CMS–1450 form, OMB control number 0938–0997), including type of bill (TOB) 21x (SNF Inpatient Part A) and 18x (hospital swing bed), were used to identify Medicare Part A stays paid under the SNF PPS. Part A stays were constructed by linking claims that share the same beneficiary identifier, facility CMS Certification Number (CCN), and admission date. Information from the claims, such as RUGs, diagnoses, and assessment dates, were aggregated across a stay. Stays created from SNF claims were linked to other claims data and assessment data via beneficiary identifiers.

Acute care hospital stays that qualified the beneficiary for the SNF benefit were identified using Medicare inpatient hospital claims. More specifically, the dates of the qualifying hospital stay listed in the span codes of the SNF claim were used, connecting inpatient claims with those dates listed as the admission and discharge dates. Although there are exceptions, the claims from the preceding inpatient hospitalization commonly contain clinical and service information relevant to the care administered during a SNF stay. Components of this information were used in the regression models predicting therapy and NTA costs or to better understand patterns of post-acute care referrals for patients requiring SNF services. Additionally, the most recent hospital stay was matched to the SNF stay, which often (though not always) was the same as the preceding inpatient hospitalization, and used in the regression models.

Other Medicare claims, including outpatient hospital, physician, home health, hospice, durable medical equipment, and drug prescriptions, were incorporated, as necessary, into the analysis in one of three ways: (i) To verify information found on assessment and SNF or inpatient claims data; (ii) to provide additional resident characteristics to test outside of those found in assessment and SNF and inpatient claims data; and (iii) to stratify modeling results to identify effects of the system on beneficiary subpopulations. These claims were linked to SNF claims using beneficiary identifiers.

c. Assessment Data

MDS assessments were the primary source of resident characteristics used to explain service use and payment in the SNF setting. Acumen's data repositories include MDS assessments submitted by SNFs and swing-bed hospitals. MDS version 2.0 assessments were submitted until October 2010, at which point MDS version 3.0 assessments began. MDS data were extracted from the Quality Improvement Evaluation System (QIES). MDS assessments were then matched to SNF claims data using the beneficiary identifier, assessment indicator, assessment date, and Resource Utilization Group (RUG).

The SNF PMR also used assessment data not available in the SNF setting. Data from the IRF Patient Assessment Instrument (IRF–PAI) and Outcome and Assessment Information Set (OASIS) were used to identify characteristics that are predictive of service use and costs in the IRF and home health settings, to consider potential similarities with service use in the SNF setting. IRF–PAI and OASIS include assessments for all Medicare IRF and home health patients, regardless of fee-for-service or Medicare Advantage enrollment. While the care furnished in the IRF and home health settings may differ from that furnished in a SNF, there are similarities in the patient populations across PAC settings. IRF–PAI and OASIS data were used for exploratory analyses but were not used to develop RCS–I payment components.

d. Facility Data

Facility characteristics, while not considered as explanatory variables when modeling service use, were used for impact analyses. By incorporating this facility-level information, we could identify any disproportionate effects of the new case-mix classification system on different types of facilities.

Facility-level characteristics were taken from the Certification and Survey Provider Enhanced Reports (CASPER). From CASPER, we draw facility-level characteristics such as ownership, chain affiliation, facility size, and staffing levels. CASPER data were supplemented with information from publicly available data sources. The principal data sources that are publicly available include the Medicare Cost Reports (Form 2540–10, 2540–96, and 2540–92) extracted from the Healthcare Cost Report Information System (HCRIS) files, Provider-Specific Files (PSF), Provider of Service files (POS), and Nursing Home Compare (NHC). These data sources have information on facility costs and payment and characteristics that directly affect PPS calculations.

3. Resident Classification Under RCS–I

a. Background

As noted above, section 1888(e)(4)(G)(i) of the Act requires that the Secretary provide for an appropriate adjustment to account for case mix and that such an adjustment shall be based

on a resident classification system that accounts for the relative resource utilization of different patient types. RCS–I was developed to be a model of payment which derives almost exclusively from resident characteristics. More specifically, the RCS–I model under consideration separately identifies and adjusts four different case-mix components for the varied needs and characteristics of a resident's care and then combines these together with the non-case-mix component to form the full SNF PPS per diem rate for that resident.

As with any case-mix classification system, the predictors that were found to be part of case-mix classification under RCS–I are those which our analysis associated with variation in the costs for the given case-mix component. The federal per diem rates discussed above serve as ''base rates'' specifically because they set the basic average cost of treating a typical SNF resident. Based on the presence of certain needs or characteristics, caring for certain residents may cost more or less than that average cost. A case-mix system identifies certain aspects of a resident or of a resident's care which, when present, lead to average costs for that group being higher or lower than the average cost of treating a typical SNF resident. For example, if we found that therapy costs were the same for two residents regardless of having a particular condition, then that condition would not be relevant in predicting increases in therapy costs. If, however, we found that, holding all else constant, the presence of a given condition was correlated with an increase in therapy costs for residents with that condition over those without that condition, then this could mean that this condition is indicative, or predictive, of increased costs relative to the average cost of treating SNF residents generally.

In the subsections that follow, we describe each of the four case-mix adjusted components under the RCS–I classification model we are considering, and the basis for each of the predictors that would be used within the RCS–I model to classify residents for payment purposes. In the final subsection under this section of the ANPRM, we outline two hypothetical payment scenarios utilizing the same set of resident characteristics, one using the existing RUG–IV classification model and one using the RCS–I classification model, to demonstrate the increased flexibility and resident-focused approach of the RCS–I model.

b. Physical and Occupational Therapy Case-Mix Classification

A fundamental aspect of the RCS–I case-mix classification model is to use resident characteristics to predict the costs of furnishing similarly situated residents with SNF care. Costs derived from the charges on claims and CCRs on facility cost reports were used as the measure of resource use to develop the RCS–I system. Costs better reflect differences in the relative resource use of residents as opposed to charges, which partly reflect decisions made by providers about how much to charge payers for certain services. Costs derived from charges are reflective of therapy utilization as they are correlated to therapy minutes recorded for each therapy discipline. Under the current RUG–IV case-mix model, therapy minutes for all three therapy disciplines (physical therapy (PT), occupational therapy (OT), and speech-language pathology (SLP)) are added together to determine the appropriate case-mix classification for the resident. However, when we began to investigate resident characteristics predictive of therapy costs for each therapy discipline, summary statistics revealed that there exists little correlation between PT and OT costs per day with SLP costs per day (correlation coefficient of 0.04). The set of resident characteristics from the MDS that predicted PT and OT utilization was different than the set of characteristics predicting SLP utilization. Additionally, many predictors of high PT and OT costs per day predicted lower SLP costs per day, and vice versa. For example, residents with cognitive impairments receive less physical and occupational therapy but receive more speech-language pathology. As a result of this analysis, we found that isolating predictors of total therapy costs per day obscured differences in the determinants of PT/OT and SLP utilization.

In contrast, the correlation coefficient between PT and OT costs per day was high (0.62), and regression analyses found that predictors of high PT costs per day were also predictive of high OT costs per day. For example, the analyses found that late-loss ADLs are strong predictors of both PT and OT costs per day. Acumen then ran regression analyses of a range of resident characteristics on PT and OT costs per day separately and found that the coefficients in both models followed similar patterns. Finally, resident characteristics were found to be better predictors of the sum of PT and OT costs per day than for either PT or OT costs separately. These analyses used a variety of variables from the MDS, as well as PT, OT, and SLP costs per day. More information on these analyses can be found in section 3.3.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

Given the results of this analytic work, we are considering combining PT and OT costs under a single case-mix adjusted component, while addressing SLP costs through a separate case-mix adjusted component. The next step in our analysis was to identify resident characteristics that were best predictive of PT/OT costs per day. To accomplish this, we conducted cost regressions with a host of variables from the MDS assessment, the prior inpatient claims, and the SNF claims that may have been predictive of relative increases in PT/OT costs. The variables were selected with the goal of being as inclusive as possible of the characteristics recorded on the MDS assessment, and also included information from the prior inpatient stay. The selection also incorporated clinical input. These initial costs regressions were exploratory and meant to identify a broad set of resident characteristics that are predictive of PT/OT resource utilization. The results were used to inform which variables should be investigated further and ultimately included in the payment system. A table of all of the variables considered as part of this analysis appears in the Appendix of the SNF PMR Technical Report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* Based on our regression analyses, we found that the three most relevant predictors of PT/OT costs per day were the clinical reasons for the SNF stay, the resident's functional status, and the presence of a cognitive impairment. More information on this analysis can be found in section 3.4.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

Under the RUG–IV case-mix model, residents are first categorized based on being a rehabilitation resident or a non-rehabilitation resident, and then categorized further based on additional aspects of the resident's care. Under the RCS–I case-mix model, for the purposes of determining the resident's PT/OT group and, as will be discussed below, the resident's SLP group, the resident is first categorized based on the clinical reasons for the resident's SNF stay. Empirical analyses demonstrated that the clinical basis for the resident's stay

(that is, the primary reason the resident is in the SNF) proved a strong predictor of therapy costs. More detail on these analyses can be found in section 3.4.1 of the SNF PMR Technical Report. In consultation with stakeholders (industry representatives, beneficiary representatives, clinicians, and payment policy experts) at multiple technical expert panels (TEPs), we created a set of ten inpatient clinical categories that we believe capture the range of general resident types which may be found in a SNF. These clinical categories are provided in Table 3.

TABLE 3—CLINICAL CATEGORIES

Major Joint Replacement or Spinal Surgery.	Cancer.
Non-Surgical Orthopedic/Musculoskeletal.	Pulmonary.
Orthopedic Surgery (Except Major Joint).	Cardiovascular and Coagulations.
Acute Infections	Acute Neurologic.
Medical Management	Non-Orthopedic Surgery.

Once we identified these clinical categories as being generally predictive of resource utilization in a SNF, we then undertook the necessary work to identify those categories predictive of PT/OT costs specifically. We conducted additional regression analyses to determine if any of these categories predicted similar levels of PT/OT as other categories, which may provide a basis for combining categories together where similar resident costs were predicted. As a result of this analysis, we found that the ten inpatient clinical categories could be collapsed into five clinical categories, which predict varying degrees of PT/OT costs. Acute infections, cancer, pulmonary, cardiovascular and coagulations, and medical management were collapsed into one clinical category entitled ''Medical Management'' because their residents had similar PT/OT costs. Similarly, orthopedic surgery (except major joint) and non-surgical orthopedic/musculoskeletal were collapsed into a new ''Other Orthopedic'' category for equivalent reasons. The remaining three categories (Acute Neurologic, Non-Orthopedic Surgery, and Major Joint Replacement or Spinal Surgery) showed distinct PT/OT cost profiles and were thus retained as independent categories. More information on this analysis can be found in section 3.4.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* These collapsed categories, which would be used to categorize a resident initially under the PT/OT case-mix component, are presented in Table 4.

TABLE 4—PT/OT CLINICAL CATEGORIES

Major Joint Replacement or Spinal Surgery.
Other Orthopedic.
Non-Orthopedic Surgery.
Acute Neurologic.
Medical Management.

With regard to operationalizing this categorization, we are considering using item I8000 on the MDS 3.0 to allow providers to report the resident's primary diagnosis. More specifically, the first line in item I8000 would be used by providers to report the ICD–10–CM code which represents the primary reason for the resident's SNF Part A stay.

In addition to the resident's initial clinical categorization, as discussed previously in this section, regression analyses demonstrated that the resident's functional status is also predictive of PT/OT costs. However, the existing ADL scale used to classify residents into a RUG–IV group captures little variation in PT/OT costs, though this is unsurprising as the existing ADL scale was never intended for this purpose. Therefore, we found it appropriate to consider revisions to the ADL scale used to categorize the functional status of residents under the PT/OT component in a manner that is predictive of PT/OT costs.

Under the RUG–IV case-mix system, a resident's ADL or functional score is calculated based on a combination of self-performance and support items coded by SNFs in Section G of the MDS 3.0 for four ADL areas: Transfers; eating; toileting; and bed mobility. Each ADL may be scored for four points, with a potential total score as high as 16 points. Under the RCS–I case-mix model, a resident would be categorized, as it pertains to function, using only three of these ADL areas, specifically transfers, eating, and toileting. We removed bed mobility from this list, based on feedback we received from clinicians working on the research project and verified through presentation to stakeholders during our TEPs, that bed mobility depends partly on the type of bed, and therefore it is likely confounded by facility procedures, rather than exclusively providing information about the resident's function. Therefore, to help eliminate potential determinants of a resident's functional level which may be related to facility decisions on support provided to a resident regardless of need, we believe it would be more appropriate to focus on those ADL areas which are most relevant to the resident's actual capabilities and needs. To this end, the functional score used as part of the RCS–I case-mix model for purposes of categorizing residents under the PT/OT case-mix component would only use the self-performance items for these three ADL areas and ignore the support items coded for these areas. We believe that the self-performance items are a closer reflection of the resident's ability to perform a task, while the support items are more descriptive of the staff's practices and level of effort, which may not be consistent across facilities. We believe that the self-performance items better represent the actual needs of the resident, while the support items represent facility resource decisions. Therefore, we believe that a resident's ADL score, which would be used to categorize a resident under RCS–I's PT/OT case-mix component, should be based on only the self-performance items for the transfer, eating, and toileting areas in Section G of the MDS 3.0.

In addition to these changes, we also are considering that, for purposes of classifying a resident under RCS–I's PT/OT case-mix component, each of these ADL areas would be scored for a total of 6 points, rather than the current 4 points under the RUG–IV model, where the number of points increases with predicted increases in the resident's PT/OT costs. Using 6 points would allow us to consider the impact on PT/OT costs for each of the 6 possible performance levels in the ADL self-performance items. Under the RUG–IV model, if the SNF codes that the ''activity did not occur'' or ''occurred only once'', then these items are ignored for purposes of categorizing the resident for ADL purposes. However, cost regressions revealed that these two codes can predict lower costs for PT/OT services, which we believe is an important aspect of generally predicting PT/OT costs. Therefore, these two codes would be incorporated into the scoring for a resident's ADL score under the PT/OT component of the RCS–I case-mix model. In Table 5, we provide the scoring algorithm used for each of the three ADL areas and how many points would be scored for each potential response for each area. We determined the ADL scoring scale by first testing the relationship between each possible response to the three selected ADL items and PT/OT costs per day. This investigation revealed that therapy costs

first increase, then decrease with increasing dependence on the transfer and toileting items. Residents who require assistance to perform these ADLs tend to have higher PT/OT costs than both residents who are completely independent and residents who are completely dependent. However, costs consistently decrease with increasing dependence on the eating item. The points are assigned to each possible response to the three selected ADL items based on the observed cost patterns. As Table 5 shows, the points assigned to each response mirror the inverse U-shape of the dependence-cost curve for the transfer and toileting items and the monotonic decrease in costs associated with increasing dependence on the eating item. This produces a functional score that ranges from 0 to 18. As opposed to the ADL score used in RUG–IV, the functional score has a linear relationship with PT/OT costs: As the score increases, PT/OT costs per day also increase. In section 3.4.1 of the SNF PMR Technical report, we provide additional information on the analyses that led to the construction of this ADL score.

TABLE 5—PT/OT ADL SCORING SCALE

ADL self-performance score	Transfer	Toileting	Eating
Independent	+3	+3	+6
Supervision	+4	+4	+5
Limited Assistance	+6	+6	+4
Extensive Assistance	+5	+5	+3
Total Dependence	+2	+2	+2
Activity Occurred only Once or Twice	+1	+1	+1
Activity did not Occur	+0	+0	+0

The final aspect of categorizing a resident under the PT/OT component of the RCS–I case-mix model is related to the resident's cognitive status. Currently under the SNF PPS, cognitive status is used to classify a small portion of residents that fall into the Behavioral Symptoms and Cognitive Performance RUG–IV category. For all other residents, cognitive status is not used in determining the appropriate payment for a resident's care. However, industry representatives and clinicians at multiple TEPs suggested that a resident's cognitive status can have a significant impact on a resident's predicted PT/OT costs. This was reinforced by empirical analyses conducted by Acumen. Sections 3.3.1, 3.4.1, and 3.4.2 of the SNF PMR Technical report contains more information on these analyses (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*). Therefore, we believe that a resident's cognitive status should be considered as a predictor of PT/OT costs.

Under the RUG–IV model, cognitive status is assessed using the Brief Interview for Mental Status (BIMS) on the MDS 3.0. The BIMS is based on three items: ''Repetition of three words;'' ''temporal orientation;'' and ''recall.'' The sum of these numbers is the BIMS summary score. The BIMS score is from 0 to 15, with 0 assigned to residents with the worst cognitive performance and 15 assigned to residents with the highest performance. Residents with a BIMS score less than or equal to 9 classify for the Behavioral Symptoms and Cognitive Performance category.

However, in approximately 15 percent of 5-day MDS assessments, a BIMS is not completed: In 12 percent of cases the interview is not attempted, and for 3 percent of cases the interview is attempted but cannot be completed. The MDS directs assessors to skip the BIMS if the resident is rarely or never understood (this is scored as ''skipped''). In these cases, the MDS requires assessors to complete the Staff Assessment for Mental Status (items C0700–C1000). The Cognitive Performance Scale (CPS) is used to assess cognitive function based on the Staff Assessment for Mental Status. The Staff Assessment for Mental Status consists of four items: ''Short-term Memory OK,'' ''Long-term Memory OK,'' ''Memory/Recall Ability,'' and ''Cognitive Skills for Daily Decision Making.'' However, only ''Short-term Memory OK'' and ''Cognitive Skills for Daily Decision Making'' are currently used for payment. In MDS 2.0, the CPS was used as the sole measure of cognitive status. A resident was assigned a CPS score from 0 to 6 based on responses to several items on the MDS, with 0 indicating the resident was cognitively intact and 6 indicating the highest level of cognitive impairment. Any score of 3 or above was considered cognitively impaired. The CPS on the current version of the MDS (3.0) functions very similarly. Instead of assigning a score to each resident, a resident is determined to be cognitively impaired if he or she meets the criteria to receive a score of 3 or above on the CPS. Residents who meet this criteria are classified in the Behavioral Symptoms and Cognitive Performance category under RUG–IV, if they do not meet the criteria for a higher-paying category.

Given that the 15 percent of residents who are not assessed on the BIMS must be assessed using a different scale that relies on a different set of MDS items, there is currently no single measure of cognitive status that allows comparability across all residents. To address this issue, Thomas et al., in a 2015 paper, proposed use of a new cognitive measure, the Cognitive Function Scale (CFS), which combines scores from the BIMS and CPS into one scale that can be used to compare cognitive function across all residents (Thomas KS, Dosa D, Wysocki A, Mor V; *The Minimum Data Set 3.0 Cognitive Function Scale.* Med Care. *https://www.ncbi.nlm.nih.gov/pubmed/?term=25763665*). Following a suggestion from the June 2016 TEP, we explored using the CFS as a measure of cognition, and found that there is a relationship between the different levels of the cognitive scale and resident costs. More information on this analysis can be found in section 3.4.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* Therefore, we are considering using the CFS as a cognitive measure in the RCS–I system. The RUG–IV system also incorporates both the BIMS and CPS score, but the CFS blends them together into one measure of cognitive status. Details on how the BIMS score and CPS score are determined using the MDS assessment are described above. The CFS places residents into one of four cognitive performance categories based on their score on either the BIMS or CPS, as shown in Table 6.

TABLE 6—CFS CLASSIFICATION METHODOLOGY

CFS cognitive scale	BIMS score	CPS score
Cognitively Intact	13–15	.....
Mildly Impaired	8–12	0–2
Moderately Impaired	0–7	3–4
Severely Impaired	.....	5–6

Once each of these variables—clinical reasons for the SNF stay, the resident's functional status, and the presence of a cognitive impairment—in predicting resident PT/OT costs was identified, we then used a statistical regression technique called the Classification and Regression Tree (CART) to determine the most appropriate splits in resident PT/OT case-mix groups using these three variables. In other words, CART was used to determine how many PT/OT case-mix groups should exist under the RCS–I model under consideration and what types of residents or score ranges should be combined to form each of those PT/OT case-mix groups. CART is a non-parametric decision tree learning technique that produces either classification or regression trees, depending on whether the dependent variable is categorical or numeric, respectively. Using the CART technique to create payment groups is advantageous because it is both immune to outliers and resistant to irrelevant parameters. The CART was used to create payment groups in other Medicare settings. For example, it determined Case Mix Groups (CMGs) splits within rehabilitation impairment groups (RICs) when the inpatient rehabilitation facilities (IRF) PPS was developed. This methodology is more thoroughly explained in section 3.4.2 of the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*).

Based on the CART algorithm, we determined that 30 case-mix groups would be necessary to classify residents adequately in terms of their PT/OT costs, in a manner that captures sufficient variation in PT/OT costs without creating unnecessarily granular separations. In addition, the PT/OT case-mix groups also reflect certain administrative decisions made by our project team. For example, while CART may have created different breakpoints for the functional score in different clinical categories, we believed that using a consistent split in scores across clinical categories would improve the simplicity of the case-mix model without compromising its accuracy. Therefore, we used the splits created by the CART algorithm as the basis for the consistent splits selected for the case-mix groups, simplifying the CART output while retaining important features of the CART-generated splits. Characteristics such as age, which CART did not select as an important criterion for classifying residents, were dropped, while splits that recurred across clinical categories, such as dividing residents into cognitively intact (CFS=1,2) and cognitively impaired (CFS=3,4) were retained. To confirm that the consistent splits approach did not require a notable sacrifice in payment accuracy, we used regression analysis to test the ability of the CART-generated splits and the consistent splits to predict PT/OT costs per day. We found that using the consistent splits resulted in only a minor reduction in predictive ability (a decrease of 0.004 in the R-squared). Section 3.4.2 of the SNF PMR Technical Report contains more details on these analyses (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*).

We provide the criteria for each of these groups, along with the CMI for each group, in Table 7. As shown in the table, three factors are used to classify each resident for PT/OT payment: Clinical category, function score, and the presence of moderate or severe cognitive impairment. Each case-mix group corresponds to one clinical category, one function score range, and the presence or absence of moderate/severe cognitive impairment. Based on these three factors, we are considering classifying a resident into one of the 30 groups shown in Table 7.

To help ensure that payment reflects the average relative resource use at the per diem level, CMIs would be set to reflect relative case-mix related differences in costs across groups. CMIs for the PT/OT component would be calculated based on two factors. One factor is the average per diem costs of a case-mix group relative to the population average. Relative differences in costs due to different length of stay distribution across groups are removed from this calculation (as further discussed in the description of variable per diem payments in section III.D.4 of this ANPRM). The other factor is the average variable per diem adjustment factor of the group relative to the population average. In this calculation, average per diem costs equal total PT/OT costs in the group divided by number of utilization days in the group, and similarly the average variable per diem adjustment factor equals the sum of PT/OT variable per diem adjustment factors for all utilization days in the group divided by the number of utilization days. More information on the variable per diem adjustment factor is discussed in section III.D.4 of this ANPRM. This method would help ensure that the share of payment for each case-mix group is equal to its share of total costs of the component. The full methodology used to develop CMIs is presented in section 3.12 of the SNF PMR Technical Report is available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

TABLE 7—PT/OT CASE-MIX CLASSIFICATION GROUPS

Clinical category	Function score	Moderate/severe cognitive impairment	Case-mix group	Case-mix index
Major Joint Replacement or Spinal Surgery	14–18	No	TA	1.82
	14–18	Yes	TB	1.59
	8–13	No	TC	1.73
	8–13	Yes	TD	1.45
	0–7	No	TE	1.68
	0–7	Yes	TF	1.36
Other Orthopedic	14–18	No	TG	1.70
	14–18	Yes	TH	1.55
	8–13	No	TI	1.58
	8–13	Yes	TJ	1.39
	0–7	No	TK	1.38
	0–7	Yes	TL	1.14

TABLE 7—PT/OT CASE-MIX CLASSIFICATION GROUPS—Continued

Clinical category	Function score	Moderate/severe cognitive impairment	Case-mix group	Case-mix index
Acute Neurologic	14–18	No	TM	1.61
	14–18	Yes	TN	1.48
	8–13	No	TO	1.52
	8–13	Yes	TP	1.36
	0–7	No	TQ	1.47
	0–7	Yes	TR	1.17
Non-Orthopedic Surgery	14–18	No	TS	1.57
	14–18	Yes	TT	1.43
	8–13	No	TU	1.38
	8–13	Yes	TV	1.17
	0–7	No	TW	1.11
	0–7	Yes	TX	0.80
Medical Management	14–18	No	T1	1.55
	14–18	Yes	T2	1.39
	8–13	No	T3	1.36
	8–13	Yes	T4	1.17
	0–7	No	T5	1.10
	0–7	Yes	T6	0.82

Under the RCS–I case-mix model, all residents would be classified into one, and only one, of these 30 PT/OT case-mix groups. As opposed to the RUG–IV system that determines therapy payments based only on the amount of therapy provided, these groups classify residents based on three resident characteristics shown to be predictive of PT/OT utilization. Thus, we believe that the PT/OT case-mix groups would provide a better measure of resource use and would provide for more appropriate payment under the SNF PPS. We invite comments on the series of ideas and the approach we are considering above associated with the PT/OT component of the RCS–I case-mix model.

c. Speech-Language Pathology Case-Mix Classification

As discussed above, many of the resident characteristics which we found to be predictive of increased PT/OT costs were predictive of lower SLP costs. As a result of this inverse relationship, using the same set of predictors to case-mix adjust a single therapy component would obscure important differences in predicting relative differences in resident therapy costs and make any predictive model that attempts to predict total therapy cost inherently less accurate. Therefore, we believe it is appropriate to have a separately adjusted case-mix SLP component that is specifically designed to predict relative differences in SLP costs. As discussed in the prior section, costs derived from the charges on claims and CCRs on facility cost reports were used as the measure of resource use to develop an alternative payment system. Costs are reflective of therapy utilization as they are correlated to therapy minutes recorded for each therapy discipline.

Following the same methodology we used to identify predictors of PT/OT costs, our project team conducted cost regressions with a host of variables from the MDS assessment, prior inpatient claims, and SNF claims that were identified as likely to be predictive of relative increases in SLP costs. The variables were selected with the goal of being as inclusive of the measures recorded on the MDS assessment as possible, and also included information from the prior inpatient stay. The selection also incorporated clinical input from TEP panelists, Acumen clinical staff, and CMS clinical staff. These initial costs regressions were exploratory and meant to identify a broad set of resident characteristics that are predictive of SLP resource utilization. The results were used to inform which variables should be investigated further and ultimately included in the payment system. A table of all of the variables considered in this analysis appears in the Appendix of the SNF PMR Technical Report. Based on these cost regressions, we identified a set of three categories of predictors relevant in predicting relative differences in SLP costs: Clinical reasons for the SNF stay, presence of a swallowing disorder or mechanically-altered diet, and the presence of an SLP-related comorbidity or cognitive impairment. A model using these predictors to predict SLP costs per day accounted for 14.5 percent of the variation in costs, while a very extensive model using 1,016 resident characteristics only predicted 19.3 percent of the variation. This shows that these predictors alone explain a large share of the variation in SLP costs per day that can be explained with resident characteristics. More information on this analysis can be found in section 3.5.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

As with the PT/OT component, we began with the set of clinical categories identified in Table 3 (meant to capture general differences in resident resource utilization) and ran cost regressions to determine which categories may be predictive of generally higher relative SLP costs. Through this analysis, we found that one clinical group was particularly predictive of increased SLP cost, which was the Acute Neurologic group. More detail on this investigation can be found in section 3.5.2 of the SNF PMR Technical Report. Therefore, to determine the initial resident classification into an SLP group under the RCS–I, residents would first be categorized, using the clinical reasons for the resident's SNF stay recorded on the first line of Item I8000 on the MDS assessment, into one of two groups, either the ''Acute Neurologic'' clinical category, or into a Non-Neurologic group that includes the remaining clinical categories found in Table 3: Major Joint Replacement or Spinal Surgery; Non-Surgical Orthopedic/Musculoskeletal; Orthopedic Surgery (Except Major Joint); Acute Infections, Cancer, Pulmonary; Non-Orthopedic Surgery; Cardiovascular and Coagulations; and Medical Management.

In addition to the clinical reason for the SNF stay, cost regressions and TEP members also identified the presence of a swallowing disorder or a mechanically-altered diet (which refers to food that has been altered to make it easier for the resident to chew and swallow to address a specific resident need), as a predictor of relative increases in SLP costs. First, residents who exhibited the signs and symptoms of a swallowing disorder, as identified using K0100Z on the MDS 3.0, demonstrated significantly higher SLP costs than those who did not exhibit such signs and symptoms. Therefore, we considered including the presence of a swallowing disorder as a component in predicting SLP costs. However, when this information was presented during the October 2016 TEP, stakeholders indicated that the signs and symptoms of a swallowing disorder may not be as readily observed when a resident is on a mechanically-altered diet, and requested that we also consider evaluating the presence of a mechanically-altered diet, as determined by item K0510C2 on the MDS 3.0, as an additional predictor of increased SLP costs. Our project team conducted this analysis and found that there was an associated increase in SLP costs when a mechanically-altered diet was present. Moreover, this analysis revealed that while SLP costs may increase when either a swallowing disorder or mechanically-altered diet is present, resident SLP costs increased even more when both of these items were present. More detail on this investigation and these analyses can be found in section 3.5.1 of the SNF PMR Technical Report. As a result, we agree with the stakeholders that including a mechanically-altered diet would be an important component of predicting relative increases in resident SLP costs, and thus, in addition to the clinical categorization, we are considering classifying residents as having either a swallowing disorder, being on a mechanically altered diet, both, or neither for purposes of classifying the resident under the SLP component.

As a final aspect of the SLP component case-mix adjustment, we found that the presence of a cognitive impairment or SLP-related comorbidity affected relative differences in SLP costs. More specifically, we found that the presence of certain SLP-related comorbidities or the presence of a mild to severe cognitive impairment (as defined by the CFS methodology described in Table 6 in section III.D.3.b. of this ANPRM) was correlated with relative increases in SLP costs. For each condition or service included as an SLP-related comorbidity, the presence of the condition or service was associated with at least a 43 percent increase in average SLP costs per day. The presence of a mild to severe cognitive impairment was associated with at least a 100 percent increase in average SLP costs per day. Similar to the analysis conducted in relation to the PT/OT component, the project team ran cost regressions on a broad list of possible conditions, with that list being available in section 3.5.1 of the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*). Based on that analysis, and in consultation with stakeholders during our TEPs and clinicians, we have identified the conditions listed in Table 8 to be those SLP-related comorbidities which we believe would best serve to predict relative differences in SLP costs. Acumen used diagnosis codes on the most recent inpatient claim for each SNF stay and the SNF claim to identify these diagnoses and found that residents with these conditions had much higher SLP costs per day. More detail on these analyses can be found in section 3.5.1 of the SNF PMR Technical Report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

TABLE 8—SLP-RELATED COMORBIDITIES

Aphasia	Laryngeal Cancer.
CVA, TIA, or Stroke	Apraxia.
Hemiplegia or Hemiparesis.	Dysphagia.
Traumatic Brain Injury	ALS.
Tracheostomy (while Resident).	Oral Cancers.
Ventilator (while Resident).	Speech and Language Deficits.

Once each of these variables—clinical reasons for the SNF stay, presence of a swallowing disorder or mechanically-altered diet, and the presence of an SLP-related comorbidity or cognitive impairment—found to be useful in predicting resident SLP costs was identified, we then used the CART algorithm, as we discussed above in relation to the PT/OT component, to determine the most appropriate splits in resident SLP case-mix groups using these three variables. This methodology and the results of our analysis are more thoroughly explained in sections 3.4.2 and 3.5.2 of the SNF PMR Technical Report. Based on the CART algorithm, we determined that 18 case-mix groups would be necessary to classify residents adequately in terms of their SLP costs, in a manner that captures sufficient variation in SLP costs without creating unnecessarily granular separations. The accuracy of this model was confirmed by comparing the ability of the CART model and various consistent split models to predict SLP costs per day. More information on this analysis can be found in section 3.5.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* We provide the criteria for each of these groups, along with the CMI for each group, in Table 9.

To help ensure that payments reflect the average relative resource use at the per diem level, CMIs would be set to reflect case-mix related relative differences in costs across groups. CMIs for the SLP component would be calculated based on the average per diem costs of a case-mix group relative to the population average. Relative differences in costs due to different length of stay distribution across groups are removed from the calculation. In this calculation, average per diem costs equal total SLP costs in the group divided by number of utilization days in the group. This method would help ensure that the share of payment for each case-mix group is equal to its share of total costs of the component. The full methodology used to develop CMIs is presented in section 3.12 of the SNF PMR Technical Report.

TABLE 9—SLP CASE-MIX CLASSIFICATION GROUPS

Clinical category	Presence of swallowing disorder or mechanically-altered diet	SLP-related comorbidity or mild to severe cognitive impairment	Case-mix group	Case-mix index
Acute Neurologic	Both	Both	SA	4.19
	Both	Either	SB	3.71
	Both	Neither	SC	3.37

TABLE 9—SLP CASE-MIX CLASSIFICATION GROUPS—Continued

Clinical category	Presence of swallowing disorder or mechanically-altered diet	SLP-related comorbidity or mild to severe cognitive impairment	Case-mix group	Case-mix index
	Either	Both	SD	3.67
	Either	Either	SE	3.12
	Either	Neither	SF	2.54
	Neither	Both	SG	2.97
	Neither	Either	SH	2.06
	Neither	Neither	SI	1.28
Non-Neurologic	Both	Both	SJ	3.21
	Both	Either	SK	2.96
	Both	Neither	SL	2.63
	Either	Both	SM	2.62
	Either	Either	SN	2.22
	Either	Neither	SO	1.70
	Neither	Both	SP	1.91
	Neither	Either	SQ	1.38
	Neither	Neither	SR	0.61

As with the PT/OT component, under the RCS–I case-mix model, all residents would be classified into one, and only one, of these 18 SLP case-mix groups. As opposed to the RUG–IV system that determines therapy payments based only on the amount of therapy provided, under the RCS–I case-mix model, residents are classified into SLP case-mix groups based on resident characteristics shown to be predictive of SLP utilization. Thus, we believe that the SLP case-mix groups would provide a better measure of resource use and would provide for more appropriate payment under the SNF PPS. We invite comments on the series of ideas and the approach we are considering above associated with the SLP component of the RCS–I case-mix model.

d. Nursing Case-Mix Classification

The RUG–IV classification system first divides residents into ''rehabilitation residents'' and ''non-rehabilitation residents'' based on the amount of therapy a resident receives and other aspects of a resident's care. For rehabilitation residents, where the primary driver of payment classification is the intensity of therapy services that a resident receives, differences in nursing needs can be obscured. For example, for two residents classified into the RUB RUG–IV category, which would occur on the basis of therapy intensity and ADL score alone, the nursing component for each of these residents would be multiplied by a CMI of 1.56. This reflects that residents in that group were found, during our previous STM work, to have nursing costs 56 percent higher than residents with a 1.00 index. We would note that while this CMI also includes adjustments made in FY 2010 and FY 2012 for budget-neutrality purposes, what is clear is that two residents, who may have significantly different nursing needs, are nevertheless deemed to have the very same nursing costs, and SNFs would receive the same nursing payment for each. Given the discussion above, which noted that approximately 60 percent of resident days are billed using one of three Ultra-High Rehabilitation RUGs (two of which have the same nursing index), the current case-mix model effectively classifies a significant portion of SNF therapy residents as having exactly the same degree of nursing needs and requiring exactly the same amount of nursing resources. As such, we believe that further refinement of the case-mix model would be appropriate to better differentiate among patients with different nursing needs.

An additional concern in the RUG–IV system is the use of therapy minutes to determine not only therapy payments, but also nursing payments. For example, residents classified into the RUB RUG fall in the same ADL score range as residents classified into the RVB RUG. The only difference between those residents is the number of therapy minutes that they received. However, the difference in payment that results from this difference in therapy minutes impacts not only the RUG–IV therapy component, but also the nursing component: Nursing payments for RUB residents are 40 percent higher than nursing payments for RVB residents. As a result of this feature of the RUG–IV system, the amount of therapy minutes provided to a resident is one of the main sources of variation in nursing payments, at the expense of other resident characteristics that may better reflect nursing needs.

We believe that the more nuanced and resident-centered classifications in current RUG–IV non-rehabilitation categories are obscured under the current payment system, which utilizes only a single RUG–IV category for payment purposes and which has over 90 percent of resident days billed using a rehabilitation RUG. The RUG–IV non-rehabilitation groups classify residents based on their ADL score, the use of extensive services, the presence of specific clinical conditions such as depression, pneumonia or septicemia, and the use of restorative nursing services, among other characteristics. These characteristics are associated with nursing utilization, and the STRIVE study accounted for relative differences in nursing staff time across groups. Therefore, we are considering continuing to use the existing non-rehabilitation RUGs for the purposes of resident classification under RCS–I, but also modify nursing payment so that a resident's non-rehabilitation RUG classification is always a factor in a resident's payment calculation.

For example, consider two residents. The first classifies into the RUB rehabilitation RUG (on the basis of the resident's therapy minutes) and into the CC1 non-rehabilitation RUG (on the basis of having Pneumonia), while the second classifies into the RUB rehabilitation RUG (on the basis of the resident's therapy minutes) and the HC1 non-rehabilitation RUG (on the basis of the resident being a Quadriplegic with a high ADL score). Under the current RUG–IV based payment model, the billing for both residents would utilize only the RUB rehabilitation RUG, despite clear differences in their associated nursing needs and resident characteristics. We are considering an

approach where, under the RCS–I payment model, for purposes of determining payment under the nursing component, the first resident would be classified into CC1, while the second would be classified into HC1. We believe that classifying the residents in this manner for payment purposes would capture variation in nursing costs in a more accurate and granular way than relying on the rehabilitation RUG's nursing CMI.

In addition to considering the use of the resident's non-rehabilitation RUG–IV classification for purposes of RCS–I payments, we also are considering the possibility of revising the existing nursing CMIs and updating these indexes through use of the STRIVE STM data which were originally used to create these indexes. Under the current payment system, non-rehabilitation nursing indexes were calculated to capture variation in nursing utilization by using only the staff time collected for the non-rehabilitation population. We believe that, to provide a more accurate sense of the relative nursing resource needs of the SNF population, the nursing indexes should reflect nursing utilization for all residents. To accomplish this, Acumen first replicated the methodology described in the FY 2010 SNF PPS rule (74 FR 22236 through 22238), but classified the full STRIVE study population under non-rehabilitation RUGs using updated wage data. That methodology proceeded according to the following steps:

(1) Calculate average wage-weighted staff time (WWST) for each STRIVE study resident using FY 2015 SNF wages.

(2) Assign the full STRIVE population to the appropriate non-rehabilitation RUG.

(3) Apply sample weights to WWST estimates to allow for unbiased population estimates. The reason for this weighting is that the STRIVE study was not a random sample of residents. Certain key subpopulations, such as residents with HIV/AIDS, were over-sampled to ensure that there were enough residents to draw conclusions on the subpopulations' resource use. As a result, STRIVE researchers also developed sample weights, equal to the inverse of each resident's probability of selection, to permit calculation of unbiased population estimates. Applying the sample weights to a summary statistic results in an estimate that is representative of the actual population. The sample weight method is explained in Phase I of the STRIVE study. A link to the STRIVE study is available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/TimeStudy.html.*

(4) Smooth WWST estimates that do not match RUG hierarchy, as was done during the STRIVE study. RUG–IV, from which the nursing RUGs are derived, is a hierarchical classification in which payment should track clinical acuity. It is intended that residents who are more clinically complex or who have other indicators of acuity, including a higher ADL score, depression, or restorative nursing services, would receive higher payment. When STRIVE researchers estimated WWST for each RUG, several inversions occurred because of imprecision in the means. These are defined as WWST estimates that are not in line with clinical expectations. The methodology used to smooth WWST estimates is explained in Phase II of the STRIVE study. A link to the STRIVE study is available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/TimeStudy.html.*

(5) Calculate nursing indexes, which reflect the average WWST for each non-rehabilitation RUG divided by the average WWST for the study population used throughout our research. This analysis is presented in section 3.6.6 of the SNF PMR Technical Report.

Through this refinement, we believe the nursing indexes under the RCS–I classification model would better reflect the varied nursing resource needs of the full SNF population. In Table 10, we provide the nursing indexes under the RCS–I classification model.

To help ensure that payment reflects the average relative resource use at per diem level, nursing CMIs would be set to reflect case-mix related relative differences in WWST across groups. Nursing CMIs would be calculated based on the average per diem nursing WWST of a case-mix group relative to the population average. In this calculation, average per diem WWST equals total WWST in the group divided by number of utilization days in the group. The full methodology used to develop CMIs is presented in section 3.12 of the SNF PMR Technical Report.

TABLE 10—NURSING INDEXES UNDER RCS–I CLASSIFICATION MODEL

RUG–IV category	Current nursing case-mix index	Nursing case-mix index
ES3	3.58	3.84
ES2	2.67	2.90
ES1	2.32	2.77
HE2	2.22	2.27
HE1	1.74	2.02
HD2	2.04	2.08
HD1	1.60	1.86
HC2	1.89	2.06
HC1	1.48	1.84
HB2	1.86	1.88
HB1	1.46	1.67
LE2	1.96	1.88
LE1	1.54	1.68
LD2	1.86	1.84
LD1	1.46	1.64
LC2	1.56	1.55
LC1	1.22	1.39
LB2	1.45	1.48
LB1	1.14	1.32
CE2	1.68	1.84
CE1	1.50	1.60
CD2	1.56	1.74
CD1	1.38	1.51
CC2	1.29	1.49
CC1	1.15	1.30
CB2	1.15	1.37
CB1	1.02	1.19
CA2	0.88	1.03
CA1	0.78	0.89
BB2	0.97	1.05
BB1	0.90	0.97
BA2	0.70	0.74
BA1	0.64	0.68
PE2	1.50	1.60
PE1	1.40	1.47
PD2	1.38	1.48
PD1	1.28	1.36
PC2	1.10	1.23
PC1	1.02	1.13
PB2	0.84	0.98
PB1	0.78	0.90
PA2	0.59	0.68
PA1	0.54	0.63

As with the previously discussed components, under the RCS–I case-mix model, all residents would be classified into one, and only one, of these 43 nursing case-mix groups.

We also used the STRIVE data to quantify the effects of HIV/AIDS diagnosis on nursing resource use. Acumen controlled for case mix by including the RCS–I resident groups (in this case, the nursing RUGs) as independent variables. The results show that even after controlling for nursing RUG, HIV/AIDS status is associated with a positive and significant increase in nursing utilization. Based on the results of regression analyses, we found that wage-weighted nursing staff time is 19 percent higher for residents with HIV/AIDS. (The weighting adjusted this estimate to account for the deliberate over-sampling of certain sub-populations in the STRIVE study, as described above.) Based on these findings, we concluded that the RCS–I nursing groups may not completely

capture the additional nursing costs associated with HIV/AIDS residents. More information on this analysis can be found in section 3.8.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* Thus, as part of the case-mix adjustment of the nursing component, we are considering a 19 percent increase in payment for the nursing component for residents with HIV/AIDS. This adjustment would be applied based on the presence of ICD–10–CM code B20 on the SNF claim.

We invite comments on the series of ideas and the approach we are considering above associated with the nursing component of the RCS–I case-mix model.

e. Non-Therapy Ancillary Case-Mix Classification

Currently under the SNF PPS, payments for NTA costs incurred by SNFs are incorporated into the nursing component, which means that the CMIs used to adjust the nursing component of the SNF PPS are intended to reflect not only differences in nursing resource use, but also NTA costs. However, there have been concerns that the current nursing CMIs do not accurately reflect the basis for or the magnitude of relative differences in resident NTA costs. In its March 2016 Report to Congress, MedPAC wrote that ''Almost since its inception, the SNF PPS has been criticized for encouraging the provision of unnecessary rehabilitation therapy services and not accurately targeting payments for nontherapy ancillary (NTA) services such as drugs (Government Accountability Office 2002, Government Accountability Office 1999, White et al. 2002).'' (available at *http://medpac.gov/docs/default-source/reports/chapter-7-skilled-nursing-facility-services-march-2016-report-.pdf*). While the PT/OT and SLP components were designed to address the first criticism raised by MedPAC above, the NTA component discussed in this section was designed to address the second criticism—specifically, that the current manner of case-mix adjusting for NTAs under the RUG–IV case-mix system is inadequate in adjusting, in a targeted manner, for relative differences in resident NTA costs. As noted in the quotation from MedPAC above, MedPAC is not the only group to offer this critique of the SNF PPS. Just as the aforementioned criticisms that MedPAC cited have existed almost since the inception of the SNF PPS itself, ideas for addressing this concern have a similarly long history.

In response to comments on the 1998 interim final rule which served to establish the SNF PPS, we published a final rule on July 30, 1999 (64 FR 41644). In this final rule, we acknowledged the commenters' concerns about the new system's ability to account accurately for NTA costs, such as the following:

> There were a number of comments expressing concern with the adequacy of the PPS rates to cover the costs of ancillary services other than occupational, physical, and speech therapy (non-therapy ancillaries), including such things as drugs, laboratory services, respiratory therapy, and medical supplies. Prescription drugs or medication therapy were frequently noted areas of concern due to their potentially high cost for particular residents. Some commenters suggested that the RUG–III case-mix classification methodology does not adequately provide for payments that account for the variation in, or the real costs of, these services provided to their residents. (64 FR 41647)

In response to those comments, we stated that ''we are funding substantial research to examine the potential for refinements to the case-mix methodology, including an examination of medication therapy, medically complex patients, and other nontherapy ancillary services.'' (64 FR 41648). Since that time, we have discussed various research initiatives engaged in identifying a more appropriate means to case-mix adjust SNF PPS payments to reflect relative differences in resident NTA costs. In this ANPRM, we are considering such a methodology, which we believe would case-mix adjust SNF PPS payments more appropriately to reflect differences in NTA costs.

Following the same methodology we used for the PT/OT and SLP components, the project team ran cost regression models to determine which resident characteristics may be predictive of relative increases in NTA costs. The three cost-related resident characteristics identified through this analysis were resident comorbidities, the use of extensive services (services provided to residents that are particularly expensive and/or invasive), and resident age. A simple resident classification generated by CART using these three characteristics alone explained 11.7 percent of the variation in NTA costs per day. We would note that while we did find a correlation between relative differences in NTA costs and resident age, we also found that the correlation between NTA costs and resident comorbidities and extensive services was much stronger and heard concerns from TEP panelists during the June 2016 TEP, which led us to remove age from further consideration as part of the NTA component. Particularly, some panelists expressed concern that including age as a determinant of NTA payment could create access issues for the older population.

With regard to capturing comorbidity information, the project team first mapped ICD–10 diagnosis codes from the prior inpatient claim, SNF claim, and Section I of the 5-day MDS assessment to condition categories (CCs), which provide a broader sense of the impact of similar conditions on NTA costs. The full list of conditions and extensive services considered for inclusion in the NTA component appears in the Appendix of the SNF PMR Technical Report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* This list was meant to encompass as many conditions and extensive services as possible from the MDS assessment and the CCs. We found, using cost regressions, that certain comorbidity conditions and extensive services were highly predictive of relative differences in resident NTA costs. These conditions and services are identified in Table 11. More information on this analysis can be found in section 3.7.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* We would note that, based on our analysis and feedback from stakeholders at the June 2016 TEP, certain services which showed increased NTA costs were eliminated from consideration based on potential adverse incentives which may be created by linking these services to payment. Oxygen therapy and BiPAP/CPAP were excluded from consideration. Clinicians associated with the project team noted that these services are easily delivered and prone to overutilization. Additionally, the costs for these treatments for respiratory conditions are likely captured by the increase in costs associated with MDS item I6200 (asthma, COPD, or chronic lung disease). Finally, three CCs are excluded due to concerns about coding reliability: 33 (inflammatory bowel disease), 57 (personality disorders), and 66 (attention deficit disorder).

Having identified the list of relevant conditions and services for adjusting NTA payments, we considered different options for how to capture the variation in NTA costs explained by these identified conditions and services. One such method would be merely to count the number of comorbidities and services a resident receives and assign a score to that resident based on this

simple count. We found that this option did account for the additive effect of having multiple comorbidities and extensive services, but did not adequately reflect the relative differences in the impact of certain higher-cost conditions and services. We also considered a tier system similar to the one used in the IRF PPS, where SNF residents would be placed into payment tiers based on the costliest comorbidity or extensive service. However, we found that this option did not account for the additive effect noted above. To address both of these issues, we are considering the possibility of basing a resident's NTA score (which would be used to classify the resident into an NTA case-mix classification group) on a weighted-count methodology. Specifically, as shown in Table 11, each of the comorbidities and services which factor into a resident's NTA classification is assigned a certain number of points based on its relative impact on a resident's NTA costs. Those conditions and services with a greater impact on NTA costs are assigned more points, while those with less of an impact are assigned fewer points. Points are assigned by grouping together conditions and extensive services with similar ordinary least squares (OLS) regression estimates. The regression used the selected conditions and extensive services to predict NTA costs per day. More information on this methodology and analysis can be found in section 3.7.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* The effect of this methodology is that the NTA component would adequately reflect relative differences in NTA costs of each condition or service, as well as the additive effect of having multiple comorbidities.

A resident's total comorbidity/extensive services score, which would be the sum of the points associated with all of a resident's comorbidities and services, would be used to classify the resident into an NTA case-mix group. For conditions and services where the source is indicated as MDS item I8000, we would consider providing a crosswalk between the listed condition and the ICD–10–CM codes which may be coded to qualify that condition to serve as part of the resident's NTA classification. MDS item I8000 is an open-ended item in the MDS assessment where the assessment provider can fill in additional active diagnoses (in the form of ICD–10 codes) for the resident that are not explicitly on the MDS. In the case of Parenteral/IV Feeding, we are considering the possibility of separating this item into a high intensity item and a low intensity item, similar to how it is defined in the RUG–IV system. For a resident to qualify for the high intensity category, the percent of calories taken in by the resident by parenteral or tube feeding, as reported in item K0710A2 on the MDS 3.0, must be greater than 50 percent. To qualify for the low intensity category, the percent of calories taken in by the resident by parenteral or tube feeding, as reported in item K0710A2 on the MDS 3.0, must be greater than 25 percent but less than or equal to 50 percent, and the resident must receive an average fluid intake by IV or tube feeding of at least 501cc per day, as reported in item K0710B2 of the MDS 3.0. The criteria used to distinguish between high and low intensity parenteral or tube feeding is the same as is used to classify residents using this variable in the RUG–IV classification. We also want to note that the source of the HIV/AIDS score is listed as coming from the SNF claim. This is because certain states, comprising 16 in all, have state laws which prevent the reporting of HIV/AIDS diagnosis information to us through the current assessment system and/or prevent us from seeing such diagnosis information within that system, should that information be mistakenly reported. The states are Alabama, Alaska, California, Colorado, Connecticut, Idaho, Illinois, Massachusetts, Nevada, New Hampshire, New Jersey, New Mexico, South Carolina, Texas, Washington, and West Virginia.

Given this restriction, it would not be possible to have SNFs utilize the MDS 3.0 as the vehicle to report HIV/AIDS diagnosis information for purposes of determining a resident's NTA classification. We note that, currently, we use a claims reporting mechanism as the basis for the temporary AIDS add-on payment which exists under the current SNF PPS. To address the issue discussed above with respect to reporting of HIV/AIDS diagnosis information under the RCS–I model, we are considering utilizing this existing claims reporting mechanism to determine a resident's HIV/AIDS score for purposes of NTA classification. More specifically, HIV/AIDS diagnosis information reported on the MDS would be ignored by the GROUPER software used to classify a resident into an NTA case-mix group. Instead, providers would be instructed to report to us on the associated SNF claims the HIPPS code provided to the SNF on the validation report associated with that assessment. The provider would then, following current protocol, enter ICD–10–CM code B20 on the associated SNF claim, as if it were being coded to receive payment through the current AIDS add-on payment. The PRICER software, which we use to determine the appropriate per diem payment for a provider based on their wage index and other factors, would make the adjustment to the resident's NTA case-mix group, based on the presence of the B20 code on the claim, and adjust the associated per diem payment based on the adjusted resident HIPPS code. Again, we would note that this methodology follows the same logic as the SNF PPS currently uses to pay the temporary AIDS add-on adjustment, but merely changes the target and type of adjustment from the SNF PPS per diem to the NTA component of the RCS–I case-mix model. The difference is that while under the current system, the presence of the B20 code would lead to a 128 percent increase in the per diem rate, under RCS–I, the presence of the B20 code would mean the addition of 8 points (as determined by the OLS regression described above) to the resident's NTA score and categorize the resident into the appropriate NTA group, as well as an adjustment to the nursing component, as described in section III.D.3.d. of this ANPRM.

Table 11 provides the list of conditions and extensive services that would be used for NTA classification, the source of that information, the tier into which each item falls, and the associated number of points for that condition. The tier for each comorbidity condition and extensive service is determined based on the number of points assigned to that condition. For example, all comorbidities assigned 2 points are in the ''medium'' tier. The tiers are only used as a mechanism to simplify understanding of the points for each condition or extensive service. Only the points are factored into the determination of the comorbidity score and ultimately the NTA resident group classification.

TABLE 11—CONDITIONS AND EXTENSIVE SERVICES USED FOR NTA CLASSIFICATION

Condition/extensive service	Source	NTA tier	Points
HIV/AIDS	SNF Claim	Ultra-High	+8
Parenteral/IV Feeding—High Intensity	MDS Item K0510A2	Very-High	+7
IV Medication	MDS Item O0100H2	High	+5
Parenteral/IV Feeding—Low Intensity	MDS Item K0710A2, K0710B2	High	+5
Ventilator/Respirator	MDS Item O0100F2	High	+5
Transfusion	MDS Item O0100I2	Medium	+2
Kidney Transplant Status	MDS Item I8000	Medium	+2
Opportunistic Infections	MDS Item I8000	Medium	+2
Infection with multi-resistant organisms	MDS Item I1700	Medium	+2
Cystic Fibrosis	MDS Item I8000	Medium	+2
Multiple Sclerosis (MS)	MDS Item I5200	Medium	+2
Major Organ Transplant Status	MDS Item I8000	Medium	+2
Tracheostomy	MDS Item O0100E2	Medium	+2
Asthma, COPD, or Chronic Lung Disease	MDS Item I6200	Medium	+2
Chemotherapy	MDS Item O0100A2	Medium	+2
Diabetes Mellitus (DM)	MDS Item I2900	Medium	+2
End-Stage Liver Disease	MDS Item I8000	Low	+1
Wound Infection (other than foot)	MDS Item I2500	Low	+1
Transplant	MDS Item I8000	Low	+1
Infection Isolation	MDS Item O0100M2	Low	+1
MRSA	MDS Item I8000	Low	+1
Radiation	MDS Item O0100B2	Low	+1
Diabetic Foot Ulcer	MDS Item M1040B	Low	+1
Bone/Joint/Muscle Infections/Necrosis	MDS Item I8000	Low	+1
Highest Ulcer Stage is Stage 4	MDS Item M300D1	Low	+1
Osteomyelitis and Endocarditis	MDS Item I8000	Low	+1
Suctioning	MDS Item O0100D2	Low	+1
DVT/Pulmonary Embolism	MDS Item I8000	Low	+1

Given the NTA scoring methodology described above, and following the same methodology used for the PT/OT and SLP components, we then used the CART algorithm to determine the most appropriate splits in resident NTA case-mix groups. This methodology is more thoroughly explained in section 3.4.2 of the SNF PMR Technical Report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* Based on the CART algorithm, we determined that 6 case-mix groups would be necessary to classify residents adequately in terms of their NTA costs in a manner that captures sufficient variation in NTA costs without creating unnecessarily granular separations. More information on this analysis can be found in section 3.7.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* We provide the criteria for each of these groups, along with the CMI for each group, in Table 12.

To help ensure that payment reflects the relative resource use at the per diem level, CMIs would be set to reflect case-mix related relative differences in costs across groups. CMIs for the NTA component would be calculated based on two factors. One factor is the average per diem costs of a case-mix group relative to the population average. Relative differences in costs due to different length of stay distribution across groups are removed from this calculation. The other factor is the average variable per diem adjustment factor of the group relative to the population average. In this calculation, average per diem costs equal total NTA costs in the group divided by number of utilization days in the group, and similarly the average variable per diem adjustment factor equals the sum of NTA variable per diem adjustment factors for all utilization days in the group divided by the number of utilization days. More information on the variable per diem adjustments factor is discussed in section III.D.4 of this ANPRM. This method would help ensure that the share of payment for each case-mix group is equal to its share of total costs of the component, which is consistent with the notion that per diem payments reflect differences in average per diem relative resource use. The full methodology used to develop CMIs is presented in section 3.12 of the SNF PMR Technical Report.

TABLE 12—NTA CASE-MIX CLASSIFICATION GROUPS

NTA score range	NTA group	NTA case-mix index
11+	NA	3.33
8–10	NB	2.59
6–7	NC	2.02
3–5	ND	1.52
1–2	NE	1.16
0	NF	0.83

As with the previously discussed components, under the RCS–I case-mix model, all residents would be classified into one, and only one, of these 6 NTA case-mix groups. The RCS–I case-mix model creates a separate payment component for NTA services, as opposed to combining NTA and nursing into one component as in the RUG–IV system. This separation allows payment for NTA services to be based on resident characteristics that predict NTA resource utilization, rather than nursing staff time. Thus, we believe that the NTA case-mix groups would provide a better measure of resource utilization and would lead to more accurate payments under the SNF PPS.

We invite comments on the series of ideas and the approach we are considering above associated with the NTA component of the RCS–I case-mix model.

f. Payment Classifications Under RCS–I

The current SNF PPS case-mix classification system, RUG–IV, classifies each resident into a single RUG, with a single payment for all services. By contrast, the RCS–I case-mix classification system would classify each resident into four components (PT/OT; SLP; NTA; and nursing) and provide a single payment based on these classifications. The payment for each component would be calculated by multiplying the CMI for the resident's group by the component federal base payment rate, and then by the specific day in the variable per diem adjustment schedule (as discussed in section III.B.4. of this ANPRM). Additionally, for residents with HIV/AIDS indicated on their claim, the nursing portion of payment would be multiplied by 1.19 (as discussed in section III.B.3.d of this ANPRM). These payments would then be added together, along with the non-case-mix component payment rate, to create a resident's total SNF PPS per diem rate under RCS–I. This section describes how two hypothetical residents would be classified into payment groups under the current payment system and the RCS–I model we are considering. To begin, consider two residents, Resident A and Resident B, with the resident characteristics identified in Table 13.

TABLE 13—HYPOTHETICAL RESIDENT CHARACTERISTICS

Resident characteristics	Resident A	Resident B
Rehabilitation Received?	Yes	Yes.
Therapy Minutes	730	730.
Extensive Services	No	No.
ADL Score	9	9.
Clinical Category	Acute Neurologic	Major Joint Replacement.
Functional Score	15	15.
Cognitive Impairment	Moderate	Intact.
Swallowing Disorder?	No	No.
Mechanically Altered Diet?	Yes	No.
SLP Comorbidity?	No	No.
Comorbidity Score	7 (IV Medication and DM)	1 (DVT).
Other Conditions	Dialysis	Septicemia.
Depression?	No	Yes.

Currently under the SNF PPS, Resident A and Resident B would be classified into the same RUG–IV group. They both received rehabilitation, did not receive extensive services, received 730 minutes of therapy, and have an ADL score of 9. This places the two residents into the ''RUB'' RUG–IV group and SNFs would be paid at the same rate, despite the many differences between these two residents in terms of their characteristics, expected care needs, and predicted costs of care.

Under the RCS–I case-mix model, however, these two residents would be classified very differently. With regard to the PT/OT component, Resident A would fall into group TN, as a result of his categorization in the Acute Neurologic group, functional score within the 14 to 18 range, and the presence of a moderate to severe cognitive impairment. Resident B, however, would fall into group TA for the PT/OT component, as a result of his categorization in the Major Joint Replacement group, a functional score within the 14 to 18 range, and the absence of any moderate or severe cognitive impairment. For the SLP component, Resident A would be classified into group SE., based on his categorization in the Acute Neurologic group, the presence of Mechanically-Altered Diet and presence of moderate cognitive impairment, while Resident B would be classified into group SR, based on his categorization in the Non-Neurologic group, the lack of any swallowing disorder or mechanically-altered diet, and absence of any SLP-related comorbidity or cognitive impairment. For the Nursing component, following the existing nursing case-mix methodology, Resident A would fall into group LC1, based on his use of dialysis services and an ADL score of 9, while Resident B would fall into group HC2, due to the diagnosis of septicemia, presence of depression, and ADL score of 9. Finally, with regard to NTA classification, Resident A would be classified in group NC, with an NTA score of 7, while Resident B would be classified in group NE., with an NTA score of 1. This demonstrates that, under the RCS–I case-mix model, more aspects of a resident's unique characteristics and needs factor into determining the resident's payment classification, which makes for a more resident-centered case-mix model while also eliminating, or greatly reducing, the number of service-based factors which are used to determine the resident's payment classification. Because the RCS–I system would be based on specific resident characteristics predictive of resource utilization for each component, we expect that payments would be better aligned with resident need.

4. Variable Per Diem Adjustment Factors and Payment Schedule

Section 1888(e)(4)(G)(i) of the Act provides that payments must be adjusted for case mix, based on a resident classification system which accounts for the relative resource utilization of different types of residents. Additionally, section 1888(e)(1)(B) of the Act specifies that payments to SNFs through the SNF PPS must be made on a per-diem basis. Currently under the SNF PPS, each RUG is paid at a constant per diem rate, regardless of how many days a resident is classified in that particular RUG. However, during the course of the SNF PMR project, analyses on cost over the stay for each of the case-mix adjusted components revealed different trends in resource utilization over the course of the SNF stay. These analyses utilized costs derived from claim charges as a measure of resource utilization. Costs were derived by multiplying charges from claims by the CCRs on facility-level costs reports. As described in section III.B.3.b of this ANPRM, costs better reflect differences in the relative resource use of residents as opposed to charges, which partly reflect decisions made by providers about how much to charge payers for certain services. In examining costs over a stay, we found that for certain categories of SNF services, notably therapy and NTA services, costs declined over the course

of a stay. Based on the claim submission schedule and variation in the point during the month when a stay began, we were able to estimate resource use for a specific day in a stay. Facilities are required to submit monthly claims. Each claim covers the period from the first day during the month a resident is in the facility to the end of the month. If a resident was admitted on the first day of the month and remains in the facility (and continues to have Part A SNF coverage) until the end of the month, the claim for that month will include all days in the month. However, if a resident is admitted after the first day of the month, the first claim associated with the resident's stay will be shorter than a month. To estimate resource utilization for each day in the stay, we used the marginal estimated cost from claims of varying length based on random variation in the day of a month when a stay began. To supplement this analysis, we also looked at changes in the number of therapy minutes reported in different assessments throughout the stay. Because therapy minutes are recorded on the MDS, the presence of multiple assessments throughout the stay provided information on changes in resource use. For example, it was clear whether the number of therapy minutes a resident received changed from the 5-day assessment to the 14-day assessment. The results from this analysis were consistent with the cost from claims analysis, and showed that on average, the number of therapy minutes is lower for assessments conducted later in the stay. This finding is consistent across different lengths of stay. More information on these analyses can be found in section 3.9.1 of the SNF PMR technical report is available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

Analyses of the SLP component revealed that the per diem costs remain relatively constant over time, while the PT/OT and NTA component cost analyses indicate that the per diem cost for these two components decline over the course of the stay. More specifically, in the case of the PT/OT component, costs start higher in the beginning of the stay and decline slowly over the course of the stay. The NTA component cost analyses indicate significantly increased NTA costs at the beginning of a stay, consistent with how most SNF drug costs are typically incurred at the outset of a SNF stay, and then drop to a much lower level that holds relatively constant over the remainder of the SNF stay. This indicates that resource utilization for PT/OT and NTA services change over the course of the stay. More information on these analyses can be found in section 3.9.1 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* We were unable to assess potential changes in the level of nursing costs over a resident's stay, in particular because nursing charges are not separately identifiable in SNF claims, and nursing minutes are not reported on the MDS assessments. However, stakeholders (industry representatives and clinicians) at multiple TEPs indicated that nursing costs tend to remain relatively constant over the course of a resident's stay.

Constant per diem rates, by definition, do not track variations in resource use throughout a SNF stay, and we believe may allocate too few resources for SNF providers at the beginning of a stay. Given the trends in resource utilization discussed above, and that section 1888(e)(4)(G)(i) of the Act requires the case-mix classification system to account for relative resource use, we are considering adjustments to the PT/OT and NTA components in the RCS–I model under consideration to account for the effect of length of stay on per diem costs (the variable per diem adjustments). We are not considering such adjustments to the SLP and nursing components based on findings and stakeholder feedback, as discussed above, that resource use tends to remain relatively constant over the course of a SNF stay.

As noted above and as discussed more thoroughly in section 3.9.4 of the SNF PMR Technical Report (available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*), PT/OT costs decline at a slower rate relative to the decline in NTA costs. Therefore, in addition to considering a variable per diem adjustment, we further are considering to have separate adjustment schedules and indexes for the PT/OT component and the NTA component to more closely reflect the rate of decline in resource utilization for each component. Table 14 provides the adjustment factors and schedule we are considering for the PT/OT component, while Table 15 provides the adjustment factors and schedule we are considering for the NTA component.

In Table 14, the adjustment factor is 1.00 for days 1 to 14. This is because the analyses described above indicated that PT/OT costs remain relatively high for the first 14 days and then decline. The estimated daily rate of decline for PT/OT costs relative to the initial fourteen days is 0.34 percent. Therefore, we believe a convenient and appropriate way to reflect this in the adjustment factors would be to have a decline of 1 percent every 3 days after day 14. The 0.34 percent rate of decline is derived from a regression model that estimates the level of resource use for each day in the stay relative to the beginning of the stay. The regression methodology and results are presented in section 3.9.3 of the SNF PMR Technical Report.

NTA resource utilization, as described above, exhibits a somewhat different pattern. NTA costs are very high at the beginning of the stay, drop rapidly after the first three days, and remain relatively stable from the fourth day of the stay. Starting on day 4 of a stay, the per diem costs drop to roughly one-third of the per diem costs in the initial 3 days. This suggests that many NTA services are provided in the first few days of a SNF stay. Therefore, we are considering setting the NTA adjustment factor for days 1 to 3 at 3.00 to reflect the extremely high initial costs, and then setting it at 1.00 (two-thirds lower than the initial level) for subsequent days. The adjustment factor was set at 3.00 for the first 3 days and 1.00 after (rather than, for example, 1.00 and 0.33, respectively) for simplicity.

Case-mix adjusted federal per diem payment for a given component and a given day would be equal to the base rate for the relevant component (either urban or rural), multiplied by the CMI for that resident, multiplied by the variable per diem adjustment factor for that specific day, as applicable. Additionally, as described in further detail in section III.B.3.d of this ANPRM, an additional 19 percent would be added to the nursing per-diem payment to account for the additional nursing costs associated with residents who have HIV/AIDS. These payments would then be added together, along with the non-case-mix component payment rate, to create a resident's total SNF PPS per diem rate under the RCS–I model under consideration.

We invite comments on the ideas and the approach we are considering, as discussed above.

TABLE 14—VARIABLE PER-DIEM ADJUSTMENT FACTORS AND SCHEDULE—PT/OT

Medicare payment days	Adjustment factor
1–14	1.00
15–17	0.99
18–20	0.98
21–23	0.97

TABLE 14—VARIABLE PER-DIEM ADJUSTMENT FACTORS AND SCHEDULE—PT/OT—Continued

Medicare payment days	Adjustment factor
24–26	0.96
27–29	0.95
30–32	0.94
33–35	0.93
36–38	0.92
39–41	0.91
42–44	0.90
45–47	0.89
48–50	0.88
51–53	0.87
54–56	0.86
57–59	0.85
60–62	0.84
63–65	0.83
66–68	0.82
69–71	0.81
72–74	0.80
75–77	0.79
78–80	0.78
81–83	0.77
84–86	0.76
87–89	0.75
90–92	0.74
93–95	0.73
96–98	0.72
99–100	0.71

TABLE 15—VARIABLE PER-DIEM ADJUSTMENT FACTORS AND SCHEDULE—NTA

Medicare payment days	Adjustment factor
1–3	3.0
4–100	1.0

C. Use of the Resident Assessment Instrument—Minimum Data Set, Version 3

1. Potential Revisions to Minimum Data Set (MDS) Completion Schedule

Consistent with section 1888(e)(6)(B) of the Act, to classify residents under the SNF PPS, we use the MDS 3.0 Resident Assessment Instrument. Within the SNF PPS, there are two categories of assessments, scheduled and unscheduled. In terms of scheduled assessments, SNFs are required to complete assessments on or around Days 5, 14, 30, 60, and 90 of a resident's Part A SNF stay, including certain grace days. Payments based on these assessments depend upon standard Medicare payment windows associated with each scheduled assessment. More specifically, each of the Medicare-required scheduled assessments has defined days within which the Assessment Reference Date (ARD) must be set. The ARD is the last day of the observation (or ''look-back'') period that the assessment covers for the resident. The facility is required to set the ARD on the MDS form itself or in the facility software within the appropriate timeframe of the assessment type being completed. The clinical data collected from the look-back period is used to determine the payment associated with each assessment. For example, the ARD for the 5-day PPS Assessment is any day between Days 1 to 8 (including Grace Days). The clinical data collected during the look-back period for that assessment is used to determine the SNF payment for Days 1 to 14. Section 413.343(b), MDS 3.0 RAI Manual Chapter 2.5, 2.8. Unscheduled assessments, such as the Start of Therapy (SOT) Other Medicare Required Assessment (OMRA), the End of Therapy OMRA (EOT OMRA), the Change of Therapy (COT) OMRA, and the Significant Change in Status Assessment (SCSA or Significant Change), may be required during the resident's Part A SNF stay when triggered by certain defined events. For example, if a resident is being discharged from therapy services, but remaining within the facility to continue the Part A stay, then the facility may be required to complete an EOT OMRA. Each of the unscheduled assessments affects payment in different and defined manners. A description of the SNF PPS scheduled and unscheduled assessments, including the criteria for using each assessment, the assessment schedule, payment days covered by each assessment, and other related policies, are set forth in the MDS 3.0 RAI manual on the CMS Web site (available at *https://downloads.cms.gov/files/MDS-30-RAI-Manual-V114-October-2016.pdf*). Table 16 outlines when each SNF PPS assessment is required to be completed and its effect on SNF PPS payment.

TABLE 16—CURRENT PPS ASSESSMENT SCHEDULE

Scheduled PPS assessments			
Medicare MDS assessment schedule type	Assessment reference date	Assessment reference date grace days	Applicable standard Medicare payment days
5-day	Days 1–5	6–8	1 through 14.
14-day	Days 13–14	15–18	15 through 30.
30-day	Days 27–29	30–33	31 through 60.
60-day	Days 57–59	60–63	61 through 90.
90-day	Days 87–89	90–93	91 through 100.
Unscheduled PPS assessments			
Start of Therapy OMRA	5–7 days after the start of therapy		Date of the first day of therapy through the end of the standard payment period.
End of Therapy OMRA	1–3 days after all therapy has ended		First non-therapy day through the end of the standard payment period.
Change of Therapy OMRA.	Day 7 (last day) of the COT observation period		The first day of the COT observation period until End of standard payment period, or until interrupted by the next COT–OMRA assessment or scheduled or unscheduled PPS Assessment.
Significant Change in Status Assessment.	No later than 14 days after significant change identified		ARD of Assessment through the end of the standard payment period.

An issue which has been raised in the past with regard to the existing SNF PPS assessment schedule is that the sheer number of assessments, as well as the complex interplay of the assessment rules, significantly increases the

administrative burden associated with the SNF PPS. Case-mix classification under the RCS–I model under consideration relies to a much lesser extent on characteristics that may change very frequently over the course of a resident's stay (for example, therapy minutes may change due to resident refusal or unexpected changes in resident status), but instead relies on more stable predictors of resource utilization by tying case-mix classification, to a much greater extent, to resident characteristics such as diagnosis information. In view of the greater reliance of the RCS–I case-mix classification system under consideration (as compared to the RUG–IV model) on resident characteristics that are relatively stable over a stay and our general focus on reducing administrative burden for providers across the Medicare program, if we were to implement the RCS–I model, we are considering the possibility of reducing the administrative burden on providers by concurrently revising the assessments that would be required under the RCS–I model. Specifically, we are considering the possibility of using the 5-day SNF PPS scheduled assessment to classify a resident under the RCS–I model under consideration for payment purposes for the entirety of his or her Part A SNF stay, except as described below. If we were to finalize this policy, we would revise the regulations at § 413.343(b) so that such regulations would no longer reflect the RUG–IV assessment schedule.

We understand that Medicare beneficiaries are each unique and can experience clinical changes which may require a SNF to reassess the resident to capture significant changes in the resident's condition. Therefore, to allow SNFs to capture these types of significant changes, under the RCS–I model we are considering, we would permit providers to reclassify residents from the initial 5-day classification using the Significant Change in Status Assessment (SCSA), which is a Comprehensive assessment (that is, an MDS assessment which includes both the completion of the MDS, as well as completion of the Care Area Assessment (CAA) process and care planning), but only in cases where the criteria for a significant change are met. A ''significant change,'' according to the MDS manual, is a major decline or improvement in a resident's status that: (1) Will not normally resolve itself without intervention by staff or by implementing standard disease-related clinical interventions, and is not ''self-limiting'' (for declines only); (2) Affects more than one area of the resident's health status; and (3) Requires interdisciplinary review and/or revision of the care plan. See the regulations at 42 CFR 483.20(b)(2)(ii), and the MDS 3.0 RAI Manual, Chapter 2.6.

In addition to providing for the completion of the SCSA, as described above, we have also considered the implications of a SNF completing an SCSA on the variable per diem adjustment schedule described in section III.B.4. of this ANPRM. More specifically, we have considered whether an SNF completing an SCSA should cause a reset in the variable per diem adjustment schedule for the associated resident. While we do believe that a significant change may be sufficient to cause a change in the resident's RCS–I classification, we do not believe that, in most instances, such a change would require a SNF to expend all of the resources that would be necessary to treat an individual who initially presented with that condition at admission. Furthermore, we are concerned that by providing for the variable per diem adjustment schedule to be reset after an SCSA is completed, providers may be incentivized to conduct multiple SCSAs during the course of a resident's stay to reset the variable per diem adjustment schedule each time the adjustment is reduced. Therefore, in cases where an SCSA is completed, we are considering an approach in which this assessment could reclassify the resident for payment purposes as outlined in Table 17, but the resident's variable per diem adjustment schedule would continue rather than being reset on the basis of completing the SCSA.

Finally, under the RCS–I model we are considering, SNFs would continue to be required to complete a PPS Discharge Assessment. In addition, we are considering the possibility of adding certain items to this PPS Discharge Assessment that would allow CMS to track therapy minutes over the course of a resident's Part A stay. We believe that the combination of the 5-day Scheduled PPS Assessment, the Significant Change in Status Assessment, and the PPS Discharge Assessment would provide flexibility for providers to capture and report accurately the resident's condition, as well as accurately reflect resource utilization associated with that resident, while minimizing the administrative burden on providers under the RCS–I model being considered.

Table 17 sets forth the PPS assessment schedule that we are considering, incorporating our ideas above.

TABLE 17—PPS ASSESSMENT SCHEDULE

Medicare MDS assessment schedule type	Assessment reference date	Applicable standard medicare payment days
5-day Scheduled PPS Assessment	Days 1–8	All covered Part A days until Part A discharge (unless a Significant Change in Status assessment is completed).
Significant Change In Status Assessment (SCSA).	No later than 14 days after significant change is identified.	ARD of the assessment through Part A discharge (unless another Significant Change in Status assessment is completed).
PPS Discharge Assessment	Equal to the End Date of the Most Recent Medicare Stay (A2400C).	N/A.

We would note that, as in previous years, we intend to continue to work with providers and software developers in understanding changes we might consider to the MDS. We invite comments on our ideas for revisions to the SNF PPS assessment schedule and related policies as discussed above. We also solicit comment on the extent to which implementing these ideas would reduce provider burden.

2. Potential Revisions to Therapy Provision Policies Under the SNF PPS

Currently, almost 90 percent of residents in a Medicare Part A SNF stay receive therapy services. Under the current RUG–IV model, therapy services are case mix-adjusted primarily based on the therapy minutes reported on the MDS. When the original SNF PPS model was developed, most therapy services were furnished on an individual basis, and the minutes reported on the MDS served as a proxy for the staff resource time needed to provide the therapy care. Over the years, we have monitored

provider behavior and have made policy changes as it became apparent that, absent safeguards like quality measurement to ensure that the amount of therapy provided did not exceed the resident's actual needs, there were certain inherent incentives for providers to furnish as much therapy as possible. Thus, for example, in the SNF PPS FY 2010 final rule (74 FR 40315 through 40319), we decided to allocate concurrent therapy minutes for purposes of establishing the RUG–IV group to which the patient belongs, and to limit concurrent therapy to two patients at a time who were performing different activities.

Following the decision to allocate concurrent therapy, using STRIVE data as a baseline, we found two significant provider behavior changes with regard to therapy provision under the RUG–IV payment system. First, there was a significant decrease in the amount of concurrent therapy that was provided in SNFs. Simultaneously, we observed a significant increase in the provision of group therapy, which was not subject to allocation at that time. We concluded that the manner in which group therapy minutes were counted in determining a patient's RUG–IV group created a payment incentive to provide group therapy rather than individual therapy or concurrent therapy, even in cases where individual therapy (or concurrent therapy) was more appropriate for the resident. Thus, we made two policy changes regarding group therapy in the FY 2012 SNF PPS final rule (76 FR 48511 through 48517). We defined group therapy as exactly four residents who are performing the same or similar therapy activities simultaneously. Additionally, we allocated group therapy among the four patients participating in group therapy—meaning that the total amount of time that a therapist spent with a group would be divided by 4 (the number of patients that comprise a group) to establish the RUG–IV group to which the patient belongs.

Since we began allocating group therapy and concurrent therapy, these modes of therapy (group and concurrent) represent less than one percent of total therapy provided to SNF residents. Based on prior experience with the provision of concurrent and group therapy in SNFs, we again are concerned that if we were to implement the RCS–I model we are considering, providers may base decisions regarding the particular mode of therapy to use for a given resident on financial considerations rather than on the clinical needs of SNF residents. Because the RCS–I case-mix model would not use the minutes of therapy provided to a resident to classify the resident for payment purposes, we are concerned that SNFs may once again become incentivized to emphasize group and concurrent therapy, over the kind of individualized therapy which is tailored to address each beneficiary's specific care needs which we believe is generally the most appropriate mode of therapy for SNF residents.

Since the inception of the SNF PPS, we have limited the amount of group therapy provided to each SNF Part A resident to 25 percent of the therapy provided to them. As stated in the FY 2000 final rule (64 FR 41662):

> Although we recognize that receiving PT, OT, or ST as part of a group has clinical merit in select situations, we do not believe that services received within a group setting should account for more than 25 percent of the Medicare resident's therapy regimen during the SNF stay. For this reason, no more than 25 percent of the minutes reported in the MDS may be provided within a group setting. This limit is to be applied for each therapy discipline; that is, only 25 percent of the PT minutes reported in the MDS may be minutes received in a group setting and, similarly, only 25 percent of the OT, or the ST minutes reported may be minutes received in a group setting.

Although we recognize that group and concurrent therapy may have clinical merit in specific situations, we also continue to believe that individual therapy is generally the best way of providing therapy to a resident because it is most tailored to that specific resident's care needs. As such, we believe that individual therapy should represent at least the majority of the therapy services received by SNF residents. To ensure that SNF residents would receive the majority of therapy services on an individual basis, if we were to implement the RCS–I model, we believe concurrent therapy should be limited to no more than 25 percent of a SNF resident's therapy minutes, consistent with the existing 25 percent limit on group therapy. In combination, these two limits would ensure that at least 50 percent of a resident's therapy minutes are provided on an individual basis. For this reason, and because of the change in how therapy services would be used to classify residents under the RCS–I, and the concern that providers may begin to utilize more group and concurrent therapy due to financial considerations, we are considering setting a 25 percent limit on concurrent therapy, in addition to the 25 percent limit on group therapy that was established at the inception of the SNF PPS. Further, as with current policy as it relates to the group therapy cap, we are considering making the concurrent therapy limit discipline-specific. For example, if a resident received 800 minutes of physical therapy, no more than 200 minutes of this therapy could be provided on a concurrent basis and no more than 200 minutes of this therapy could be provided on a group basis.

With a 25 percent limit on group therapy and a 25 percent limit on concurrent therapy, providers would be permitted to provide a total of 50 percent of the total therapy furnished to each resident in a mode other than individual therapy. We believe that individual therapy is usually the best mode of therapy provision as it permits the greatest degree of interaction between the resident and therapist, and should therefore represent, at a minimum, the majority of therapy provided to an SNF resident. However, we recognize that, in very specific clinical situations, group or concurrent therapy may be the more appropriate mode of therapy provision, and therefore, we would want to allow providers the flexibility to be able to utilize these modes. We continue to stress that group and concurrent therapy should not be utilized to satisfy therapist or resident schedules, and that all group and concurrent therapy should be well documented in a specific way to demonstrate why they are the most appropriate mode for the resident and reasonable and necessary for his or her individual condition. We have also considered a combined limit on both concurrent and group therapy of 25 percent, but believe that this may not afford sufficient flexibility to SNFs to provide services as appropriate given the needs of the resident. We invite comments on the ideas discussed here and other ways in which these limits may be applied.

3. Interrupted Stay Policy

Under section 1812(a)(2)(A) of the Act, Medicare Part A covers a maximum of 100 days of SNF services per spell of illness, or ''benefit period''. A benefit period starts on the day the beneficiary begins receiving inpatient hospital or SNF benefits under Medicare Part A. (See section 1861(a) of the Act; § 409.60). SNF coverage also requires a prior qualifying, inpatient hospital stay of at least 3 consecutive days' duration (counting the day of inpatient admission but not the day of discharge). (See section 1861(i) of the Act; § 409.30(a)(1)). Once the 100 available days of SNF benefits are used, the current benefit period must end before a beneficiary can renew SNF benefits under a new benefit period. For the

current benefit period to end so a new benefit period can begin, a period of 60 consecutive days must elapse throughout which the beneficiary is neither an inpatient of a hospital nor receiving skilled care in a SNF. (See section 1861(a) of the Act; § 409.60). Once a benefit period ends, the beneficiary must have another qualifying 3-day inpatient hospital stay and meet the other applicable requirements before Medicare Part A coverage of SNF care can resume. (See section 1861(i); § 409.30)

While the majority of SNF benefit periods, approximately 77 percent, involve a single SNF stay, it is possible for a beneficiary to be readmitted multiple times to a SNF within a single benefit period, and such cases represent the remaining 23 percent of SNF benefit periods. For instance, a resident can be readmitted to a SNF within 30 days after a SNF discharge without requiring a new qualifying 3-day inpatient hospital stay or beginning a new benefit period. SNF admissions that occur between 31 and 60 days after a SNF discharge require a new qualifying 3-day inpatient hospital stay, but fall within the same benefit period. (See sections 1861(a) and (i) of the Act; §§ 409.30, 409.60)

Other Medicare post-acute care (PAC) benefits have ''interrupted stay'' policies that provide for a payment adjustment when the beneficiary temporarily goes to another setting, such as an acute care hospital, and then returns within a specific timeframe. In the inpatient rehabilitation facility (IRF) and inpatient psychiatric facility (IPF) settings, for instance, an interrupted stay occurs when a patient returns to the same facility within 3 days of discharge. The interrupted stay policy for long-term care hospitals (LTCHs) is more complex, consisting of several policies depending on the length of the interruption and, at times, the discharge destination: An interruption of 3 or fewer days is always treated as an interrupted stay, which is similar to the IRF PPS and IPF PPS policies; if there is an interruption of more than 3 days, the length of the gap required to trigger a new stay varies depending on the discharge setting. In these three settings, when a beneficiary is discharged and returns to the facility within the interrupted stay window, Medicare treats the two segments as a single stay.

While other PAC benefits have interrupted stay policies, the SNF benefit under the RUG–IV case-mix model has had no need for such a policy because given a resident's case-mix group, payment does not change over the course of a stay. In other words, assuming no change in a patient's condition or treatment, the payment rate is the same on Day 1 of a covered SNF stay as it is at Day 7. Accordingly, a beneficiary's readmission to the SNF—even if only a few days may have elapsed since a previous discharge—could essentially be treated as a new and different stay without affecting the payment rates.

However, as discussed in section III.B.4 of this ANPRM, under the RCS–I case-mix model, we are considering adjusting the PT/OT and NTA components of the per diem rate across the length of a stay (the variable per diem adjustment) to better reflect how and when costs are incurred and resources used over the course of the stay, such that earlier days in a given stay receive higher payments, with payments trending lower as the stay continues. In other words, the adjusted payment rate on Day 1 and Day 7 of a SNF stay would not be the same. Although we believe this variable per diem adjustment schedule more accurately reflects the increased resource utilization in the early portion of a stay for *single-stay benefit periods* (which represent the majority of cases), we have considered whether and how such an adjustment should be applied to payment rates for cases involving multiple stays per benefit period. In other words, if a resident has a Part A stay in a SNF, leaves the facility for some reason, and then is readmitted to the same SNF or a different SNF, we have considered how this readmission should be viewed in terms of both resident classification and the variable per diem adjustment schedule under the RCS–I model under consideration. Application of the variable per diem adjustment is of particular concern because providers may consider discharging a resident and then readmitting the resident shortly thereafter to reset the resident's variable per diem adjustment schedule and maximize the payment rates for that resident.

Given the potential harm which may be caused to the resident if discharged inappropriately, and other concerns outlined above, we are considering the possibility of adopting an interrupted stay policy under the SNF PPS, in conjunction with the implementation of the RCS–I case-mix model. Specifically, as further explained below, in cases where a resident is discharged from a SNF and returns to the same SNF within 3 calendar days after having been discharged, we are considering the possibility of treating the resident's stay as a continuation of the previous stay for purposes of both resident classification and the variable per diem adjustment schedule. In cases where the resident is readmitted to the same SNF *more than 3 calendar days* after having been discharged, or in any case where the resident is readmitted to a different SNF, we are considering the possibility of treating the readmission as a new stay, in which the resident would receive a new 5-day assessment upon admission and the variable per diem adjustment schedule for that resident would reset to Day 1. For the purposes of the interrupted stay policy, the source of the readmission would not be relevant. That is, the beneficiary may be readmitted from the community, from an intervening hospital stay, or from a different kind of facility and the interrupted stay policy would operate in the same manner. The only relevant factors in determining if the interrupted stay policy would apply are the number of days between the resident's discharge from a SNF and subsequent readmission to a SNF, and whether the resident is re-admitted to the same or a different SNF.

Consider the following examples, which we believe aid in clarifying how this policy would be implemented:

Example A: A beneficiary is discharged from a SNF stay on Day 3 of admission. Four days after the date of discharge, the beneficiary is then readmitted (as explained above, this readmission would be in the same benefit period). The SNF would conduct a new 5-day assessment at the start of the second admission and reclassify the beneficiary accordingly. In addition, for purposes of the variable per diem adjustment schedule, the payment schedule for the second admission would reset to Day 1 payment rates for the beneficiary's new case-mix classification.

Example B: A beneficiary is discharged from a SNF stay on Day 7 and is readmitted to the same SNF before midnight of the date 3 calendar days from the day of discharge. For the purposes of classification and payment, this would be considered a continuation of the previous stay (an interrupted stay). The SNF would not conduct a new assessment to reclassify the patient and for purposes of the variable per diem adjustment schedule, the payment schedule would continue where it left off; in this case, the first day of the second stay would be paid at the Day 8 per diem rates under that schedule.

We have also considered alternatives ways of structuring the interrupted stay policy. For example, we have considered possible ranges for the interrupted stay window other than the three calendar day window discussed in this ANPRM. For example, we considered windows of fewer than 3

days (for example, 1 or 2 day windows for readmission) as well as windows of more than 3 days (for example, 4 or 5 day windows for readmission). However, we believe that 3 days represents a reasonable window after which it is more likely that a resident's condition and resource needs will have changed. We also believe that consistency with other payment systems, like that of IRF and IPF, is helpful in providing clarity and consistency to providers in understanding Medicare payment systems, as well as making progress toward standardization among PAC payment systems. We invite comments on the appropriate length of the window for an interrupted stay policy.

In addition, to determine how best to operationalize an interrupted stay policy within the SNF setting, we have considered three broad categories of benefit periods consisting of multiple stays. The first type of scenario, SNF-to-SNF transfers, is one in which a resident is transferred directly from one SNF to a different SNF. The second case we have considered, and the most common of all three multiple-stay benefit period scenarios, is a benefit period that includes a readmission following a new hospitalization between the two stays—for instance, a resident who was discharged from a SNF back to the community, re-hospitalized at a later date, and readmitted to a SNF (the same SNF or a different SNF) following the new hospital stay. The last case we have considered was a readmission to the same SNF or a different SNF following a discharge to the community, with no intervening re-hospitalization. Since benefit periods with exactly two stays account for a large majority of all benefit periods with multiple stays, we primarily examined benefit periods with two stays. Of these cases, over three quarters (76.4 percent) consist of re-hospitalization and readmission (to the same SNF or a different SNF). Community discharge and readmission without re-hospitalization cases represent approximately 14 percent of cases, while direct SNF-to-SNF transfers represent approximately 10 percent.

For each of these case types, in which a resident was readmitted to a SNF no more than 3 days after discharge, we examined whether (1) the variable per diem adjustment schedule should be ''reset'' back to the Day 1 rates at the outset of the second stay versus ''continuing'' the variable per diem adjustment schedule at the point at which the previous stay ended, and (2) a new 5-day assessment and resident classification should be required at the start of the second, or other subsequent, SNF stay.

With regard to the first question above, specifically whether or not a re-admission to a SNF no more than three calendar days after discharge from that SNF would reset the resident's variable per diem adjustment schedule, in each of the cases described above, we were concerned generally that an interrupted stay policy that ''restarts'' the variable per diem adjustment schedule to Day 1 after readmissions could incentivize unnecessary discharges with quick readmissions. This concern is particularly notable in the second and third cases described above, as the beneficiary may return to the same facility. Regression analyses showed that the second stay following a direct SNF-to-SNF transfer had similar costs to the first stay in a benefit period. As a result, the first case described above was excluded from the interrupted stay policy, which is restricted to readmissions to the same SNF. These types of transfers were also excluded from the interrupted stay policy because including such stays could potentially incentivize frequent discharge and readmission issues among facilities that share common ownership. In the second and third cases, the second stay tended to have lower costs than the first stay, suggesting that it is reasonable not to reset the resident's variable per diem adjustment schedule to address the incentive concerns described above.

With regard to the first question above, we examined changes in costs from the first to second admission for the three scenarios described above (SNF-to-SNF direct transfers, readmissions following re-hospitalization, and readmissions following community discharge). Regression analyses showed that costs from the first to second admission were similar for SNF-to-SNF transfers and slightly lower for readmissions following re-hospitalizations. For readmissions following community discharges, costs were notably lower when residents returned to the same provider but similar when residents were admitted to a different facility. Because these results showed that an admission to a different SNF, regardless of the length of the gap between discharge and readmission, resulted in similar costs to the first admission, we are considering the possibility of always resetting the variable per diem adjustment schedule to Day 1 whenever residents are discharged and readmitted to a different SNF. We acknowledge that this could lead to patterns of inappropriate readmission that could be inconsistent with the intent of this policy; for example, we would be concerned about patients in SNF A consistently being admitted to SNF B to the exclusion of other SNFs in the area. However, because of the concern that a SNF provider could discharge and promptly readmit a resident to reset the variable per diem adjustment schedule to Day 1, in cases where a resident returns to the same provider we are considering allowing the payment schedule to reset only when the resident has been out of the facility for at least 3 days. More information on these analyses can be found in section 3.10.3 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.*

With regard to the question of whether or not SNFs would be required to complete a new 5-day assessment and reclassify the resident after returning to the SNF no more than 3 calendar days after discharge from the SNF, we investigated changes in resident characteristics from the first to the second stay within a benefit period. First, we looked at changes in clinical categories from the first to second stay for residents with an intervening re-hospitalization. This analysis could only be conducted for residents with a re-hospitalization because, as described in section 3.10.2 of the SNF PMR technical report, for research purposes classification into clinical categories was based on the diagnosis from the prior inpatient stay. Both SNF-to-SNF direct transfers and residents readmitted after a community discharge lacked a new hospitalization that would allow them to change clinical categories. (As described in section III.B.3.b of the ANPRM, classification into clinical categories would be operationalized under the RCS–I model under consideration using the primary diagnosis from item I8000 on the MDS 3.0. This information is not currently available; therefore, we used the prior inpatient diagnosis for research purposes.) For those residents who had a re-hospitalization and therefore could be reclassified into a new clinical category, we found that the vast majority fell into either the same category as in their first stay or the lowest-payment clinical category (medical management). For residents without a re-hospitalization between discharge and readmission, we examined changes in functional status from the first to second stay. Specifically, we looked at whether the RCS–I PT/OT group into which they were classified based on the 5-day

assessment of the second stay was associated with higher or lower functional status relative to the PT/OT group they were placed in based on the 5-day assessment of the first stay. We found that a large majority of these residents were classified into PT/OT groups associated with the same functional status across the first and second stays. More information on these analyses can be found in section 3.10.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* Additionally, we note that under the approach discussed in section III.C.1 of this ANPRM, providers would be afforded the flexibility to use the SCSA, which would allow for reclassification in cases where a SCSA is warranted. Thus, we believe it would be appropriate to maintain the classification from the first stay for those residents returning to the SNF no more than 3 calendar days after discharge from the same facility.

We invite comments on our ideas above.

D. Relationship of RCS–I to Existing Skilled Nursing Facility Level of Care Criteria

Since the case-mix adjustment aspect of the SNF PPS has been based, in part, on the beneficiary's need for skilled nursing care and therapy, we have coordinated claims review procedures with the existing resident assessment process and case-mix classification system. This approach includes an administrative presumption that utilizes a beneficiary's initial classification in one of the upper 52 RUGs of the existing 66-group RUG–IV system to assist in making certain SNF level of care determinations.

We are considering the possibility of adopting a similar approach under the RCS–I case-mix classification model, by retaining an administrative presumption mechanism that would utilize a beneficiary's initial classification into one of the designated upper groups to assist in making certain SNF level of care determinations. This designation would reflect an administrative presumption under the RCS–I model that beneficiaries who are correctly assigned to one of the designated groups on the initial 5-day, Medicare-required assessment are automatically classified as meeting the SNF level of care definition up to and including the assessment reference date on the 5-day Medicare required assessment.

As under the existing administrative presumption, a beneficiary who is not assigned to one of the designated groups would not automatically be classified as either meeting or not meeting the definition, but instead would receive an individual level of care determination using the existing administrative criteria. This presumption would recognize the strong likelihood that beneficiaries assigned to one of the designated upper groups during the immediate post-hospital period require a covered level of care, which would be less likely for those beneficiaries assigned to one of the lower groups.

We note that the most direct crosswalk between the existing RUG–IV model and the RCS–I model under consideration would involve nursing services, for which each resident would be classified into one of the 43 existing non-rehabilitation RUG–IV groups. Under the approach being considered, effective in conjunction with the implementation of the RCS–I model, the administrative presumption would continue to apply to those of the 43 groups that currently comprise the designated nursing categories under the existing RUG–IV model:

- Extensive Services;
- Special Care High;
- Special Care Low; and,
- Clinically Complex.

In addition, along with the continued use of the remaining, nursing portion of the RUG–IV model, we also are considering the possibility of applying the administrative presumption using those other classifiers under the RCS–I model under consideration that we believe would relate the most directly to a given patient's acuity. As explained below, we would designate such classifiers for this purpose based on their ability to fulfill the administrative presumption's role as described in the FY 2000 SNF PPS final rule—that is, to identify those ''. . . situations that involve a high probability of the need for skilled care . . . when taken in combination with the characteristic tendency . . . for an SNF resident's condition to be at its most unstable and intensive state at the outset of the SNF stay'' (64 FR 41668 through 41669, July 30, 1999).

Specifically, we are considering the possibility of utilizing the PT/OT component's functional score, as well as the NTA component's comorbidity score for this purpose, which would be effective in conjunction with the implementation of the RCS–I model. Under this approach, those residents not classifying into one of the designated nursing RUG categories under the RCS–I model under consideration on the initial, 5-day Medicare-required assessment could nonetheless still qualify for the administrative presumption on that assessment, either by receiving the most intensive functional score (14 to 18) under the PT/OT component, or by receiving the uppermost comorbidity score (11+) under the NTA component. We believe that these particular clinical indicators would appropriately serve to fulfill the administrative presumption's role of identifying those cases with the highest probability of requiring an SNF level of care throughout the initial portion of the SNF stay. We note that to help improve the accuracy of these newly-designated groups in serving this function, we would continue to review the new designations going forward and could make further adjustments to the designations over time as we gain actual operating experience under the new classification model.

We note that affording a streamlined and simplified administrative procedure for readily identifying such cases has been the basic purpose of the SNF PPS's level of care presumption ever since its inception. In this context, we wish to reiterate that an individual beneficiary's inability to qualify for the administrative presumption would not in itself serve to disqualify that resident from receiving SNF coverage. Instead, as we have noted repeatedly in previous rulemaking, while such residents are not automatically presumed to require a skilled level of care, neither are they automatically classified as requiring nonskilled care. Rather, any resident who does not qualify for the presumption would instead receive an individual level of care determination using the existing administrative criteria. As we explained in the FY 2016 SNF PPS final rule, this approach serves ''. . . specifically to ensure that the presumption does not disadvantage such residents, by providing them with an individualized level of care determination that fully considers all pertinent factors'' (80 FR 46406, August 4, 2015).

We invite comments on the ideas and the approach we are considering, as discussed above.

E. Effect of RCS–I on Temporary AIDS Add-on Payment

Section 511(a) of the MMA amended section 1888(e)(12) of the Act to provide for a temporary increase of 128 percent in the PPS per diem payment for any SNF residents with Acquired Immune Deficiency Syndrome (AIDS), effective with services furnished on or after October 1, 2004. This special add-on for SNF residents with AIDS was intended to be of limited duration, as the MMA legislation specified that it was to remain in effect only until the Secretary

certifies that there is an appropriate adjustment in the case mix to compensate for the increased costs associated with such residents.

The temporary add-on for SNF residents with AIDS is also discussed in Program Transmittal #160 (Change Request #3291), issued on April 30, 2004, which is available online at *www.cms.gov/transmittals/downloads/r160cp.pdf*. In the SNF PPS final rule for FY 2010 (74 FR 40288, August 11, 2009), we did not address this certification in that final rule's implementation of the case-mix refinements for RUG–IV, thus allowing the add-on payment required by section 511 of the MMA to remain in effect for the time being.

In the House Ways and Means Committee Report that accompanied the MMA, the explanation of the MMA's temporary AIDS adjustment notes the following under *Reason for Change:* ''According to prior work by the Urban Institute, AIDS patients have much higher costs than other patients in the same resource utilization groups in skilled nursing facilities. The adjustment is based on that data analysis'' (H. Rep. No. 108–178, Part 2 at 221). The data analysis from that February 2001 Urban Institute study (entitled ''Medicare Payments for Patients with HIV/AIDS in Skilled Nursing Facilities''), in turn, had been conducted under a Report to Congress mandated under a predecessor provision, section 105 of the BBRA. This earlier BBRA provision, which ultimately was superseded by the MMA's temporary AIDS add-on provision, had amended section 1888(e)(12) of the Act to provide for ''Special consideration for facilities serving specialized patient populations'' (that is, those who are ''immuno-compromised secondary to an infectious disease, with specific diagnoses as specified by the Secretary).

We note that at this point, over 15 years have elapsed since the Urban Institute conducted its study on AIDS patients in SNFs, a period that has seen major advances in the state of medical practice in treating this condition. These advances have notably included the introduction of powerful new drugs and innovative prescription regimens that have dramatically improved the ability to manage the viral load (the amount of human immunodeficiency virus (HIV) in the blood). The decrease in viral load secondary to medications has contributed to a shift from intensive nursing services for AIDS-related illnesses to an increase in antiretroviral therapy. This phenomenon, in turn, is reflected in a recent analysis of differences in SNF resource utilization, which indicates that while the overall historical disparity in costs between AIDS and non-AIDS patients has not entirely disappeared, that disparity is now far greater with regard to drugs than it is for nursing. Specifically, NTA costs per day for residents with AIDS were 151 percent higher than those for other residents, while the difference in wage-weighted nursing staff time between the two groups was only 19 percent. More information on this analysis can be found in section 3.8.3 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*.

As discussed previously in section III.B.3.e. of this ANPRM, the RCS–I model would include an NTA adjustment that we believe appropriately takes into account and compensates for those NTA costs, including drugs, which specifically relate to residents with AIDS. Regression analysis indicated that the case-mix adjustment for AIDS in the NTA component successfully accounts for the increased NTA resource utilization for residents with AIDS. Additionally, this analysis indicated that the case-mix adjustment of the NTA component accounts for most of the current disparity in payments between these and other residents, as suggested by a comparison of payments in RUG–IV and payments in RCS–I for residents with and without AIDS. More information on these analyses can be found in section 3.8.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*. Therefore, if we were to implement the RCS–I model we are considering, we believe it would be appropriate to issue the prescribed certification under section 511(a) of the MMA on the basis of the RCS–I model's NTA adjustment alone, as effectively representing the required appropriate adjustment in the case mix to compensate for the increased costs associated with such residents. However, to further ensure that the RCS–I model under consideration would account as fully as possible for any remaining disparity with regard to nursing costs, as discussed in section III.B.3.d., we are additionally considering the possibility of including a specific AIDS adjustment as part of the case-mix adjustment of the nursing component. As discussed in section III.B.3.d. of this ANPRM, we used the STRIVE data to quantify the effects of HIV/AIDS diagnosis on nursing resource use. Regression analyses found that wage-weighted nursing staff time is 19 percent higher for residents with HIV/AIDS, controlling for the non-rehabilitation RUG of the resident. More information on this analysis can be found in section 3.8.2 of the SNF PMR technical report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*. Thus, we are considering a 19 percent increase in payment for the nursing component for residents with HIV/AIDS under the RCS–I model under consideration to account for the increased nursing costs for such residents. Similar to the NTA adjustment for residents with HIV/AIDS discussed in section III.B.3.e. of this ANPRM, this adjustment would be identified by ICD–10–CM code B20 on the SNF claim and would be processed through the PRICER software used by CMS to set the appropriate payment rate for a resident's SNF stay. The 19 percent adjustment would be applied to the unadjusted base rate for the nursing component, and then this amount would be further case-mix adjusted per the resident's RCS–I classification.

We believe that when taken collectively, these adjustments under the RCS–I case mix model that we discuss here would appropriately serve to justify issuing the certification prescribed under section 511(a) of the MMA effective with the conversion to the RCS–I model, which would permit the MMA's existing, temporary AIDS add-on to be replaced by a permanent adjustment in the case mix (under the RCS–I case mix model) that appropriately compensates for the increased costs associated with these residents. We invite comments on the ideas and the approach we are considering, as discussed above.

F. Potential Impacts of Implementing RCS–I

To assess the potential effect of implementing the RCS–I case mix model, this section outlines the projected impacts of implementing this new case-mix classification model under the SNF PPS. The impacts presented here assume implementation of the RCS–I case-mix model and associated policy ideas discussed throughout section III. of this ANPRM.

The impact analysis presented here makes a series of other assumptions as well, on all of which we solicit comment regarding their appropriateness. First, the impacts presented here assume consistent provider behavior in terms of how care is provided under RUG–IV and how care might be provided under RCS–I, as

we do not make any attempt to anticipate or predict provider reactions to the implementation of RCS–I. That being said, we acknowledge the possibility that implementing the RCS–I model could substantially affect resident care. Most notably, based on the concerns raised during a number of TEPs, we acknowledge the possibility that, as therapy payments under RCS–I would not have the same connection to service provision as they do under RUG–IV, it is possible that some providers may choose to reduce their provision of therapy services to increase margins under RCS–I. Additionally, we acknowledge that a number of states utilize some form of the RUG–IV case-mix classification system as part of their Medicaid programs and that any change in Medicare policy can have an impact on state programs. We solicit comments on this assumption that behavior would remain unchanged under RCS–I. To the extent that commenters may believe that behavior could change under RCS–I, we would ask that the commenters describe the types of behavioral changes we should expect. Additionally, we solicit comments on what type of impact on states we should expect from implementing the revisions considered in this ANPRM.

Another assumption made for these impacts is that, as with prior system transitions, we would implement the RCS–I case-mix system, along with the other policy changes discussed in section III of this ANPRM, in a budget neutral manner through application of a parity adjustment to the case-mix weights under the RCS–I model under consideration, as further discussed below. We make this assumption because, as with prior system transitions, in considering changes to the case-mix methodology, we do not intend to change the aggregate amount of Medicare payments to SNFs, but rather to utilize a case-mix methodology to classify residents in such a manner as to best ensure that payments made for specific residents are an accurate reflection of resource utilization without introducing potential incentives which could incentivize inappropriate care delivery, as we believe may exist under the current case-mix methodology. However, as we would not be required to implement RCS–I in a budget neutral manner, we solicit comment on whether we should consider implementing RCS–I in a manner that is not budget neutral.

For illustrative purposes, the impact analysis presented here assumes implementation of these changes in a budget neutral manner without a behavioral change. The prior sections describe how case-mix weights are set to reflect relative resource use for each case-mix group. RCS–I payment before application of a parity adjustment is calculated using the unadjusted CMI for each component, the variable per diem payment adjustment schedule, the different base rates for urban and rural facilities, the labor-related share, and the geographic wage indexes. In applying a parity adjustment to the case-mix weights, we maintained the relative value of each CMI, but multiplied every CMI by a ratio to achieve parity in overall SNF PPS payments under the RCS–I case-model and under the RUG–IV case-mix model. The multiplier is calculated through the following steps. First, we calculate total payment subtracted by pre-AIDS adjusted non-case mix payment under RUG–IV. Second, we calculate what total payment would have been under RCS–I before application of the parity adjustment. Third, we subtract non-case-mix component payments from both calculations, as this component does not change across systems. This subtraction does not include the temporary add-on for residents with HIV/AIDS in the RUG–IV system, therefore ensuring that the amount subtracted is the same for both RUG–IV and potential RCS–I payments, given the replacement of the temporary add-on described in section III.E. Lastly, we divide the remaining total RUG–IV payments over the remaining total RCS–I payments prior to the parity adjustment. This division yields a ratio (parity adjustment) by which the RCS–I CMIs are multiplied so that total estimated payments under the RCS–I model under consideration would be equal to total estimated payments under RUG–IV, assuming no changes in the population, provider behavior, and coding. More details regarding this calculation and analysis are described in section 3.12 of the SNF PMR Technical Report. The impact analysis presented in this section focuses on how payments under the RCS–I model under consideration would be re-allocated across different resident groups and among different facility types, assuming implementation in a budget neutral manner. We invite comments on this discussion and approach.

The projected resident-level impacts are presented in Table 18. The first column identifies different resident subpopulations and the second column shows what percent of SNF stays are represented by the given subpopulation. The third column shows the average change in payment for residents in a given subpopulation, represented as a percentage change from payments made for that subpopulation under RUG–IV versus those which would be made under the RCS–I model under consideration. Positive changes in this column represent a projected positive shift in payments for that subpopulation under the RCS–I model under consideration, while negative changes in this column represent projected negative shifts in payment for that subpopulation. More information on the construction of current payments under RUG–IV and payments under the RCS–I model for purposes of this impact analysis can be found in section 3.13 of the SNF PMR Technical Report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html*. Based on the data presented in Table 18, we observe that the most significant shift in payments created by implementation of the RCS–I case-mix model would be to redirect payments away from residents who are receiving very high amounts of therapy under the current SNF PPS (which strongly incentivizes the provision of therapy) to residents with more complex clinical needs. Other resident types that may see higher relative payments under the RCS–I system are residents with high NTA costs, dual-eligible residents, residents with ESRD, and residents with longer qualifying inpatient stays.

TABLE 18—RCS–I IMPACT ANALYSIS, RESIDENT-LEVEL

Resident characteristics	Percent of stays	Percent change
All stays	100.0	0.0
Sex:		
Female	62.1	−0.7
Male	37.9	1.2
Age:		
<65 years	9.6	5.4

TABLE 18—RCS–I IMPACT ANALYSIS, RESIDENT-LEVEL—Continued

Resident characteristics	Percent of stays	Percent change
65–74 years	21.3	2.7
75–84 years	34.0	−0.3
85–89 years	19.3	−2.3
90+ years	15.7	−2.8
Race/Ethnicity:		
White	85.2	−0.1
Black	10.6	0.4
Hispanic	1.6	−0.2
Asian	1.2	−0.8
Native American	0.4	6.6
Other or unknown	1.1	0.7
Medicare/Medicaid Dual Status:		
Dually enrolled	35.2	2.9
Not dually enrolled	64.8	−1.9
Original Reason for Medicare Enrollment:		
Aged	76.6	−1.2
Disabled	22.5	3.9
ESRD	0.9	10.0
Unknown	0.0	−3.3
Number of Utilization Days:		
1–15 days	33.3	15.9
16–30 days	31.6	0.6
31+ days	35.1	−2.5
Number of Utilization Days = 100:		
No	97.4	0.3
Yes	2.6	−2.7
Length of Qualifying Inpatient Stay:		
3 days	22.5	−2.3
4–30 days	73.6	0.5
31+ days	1.8	4.6
Presence of Complications in MS–DRG of Qualifying Inpatient Stay:		
No Complication	37.9	−2.3
CC/MCC	62.1	1.4
Stroke:		
No	87.5	−0.1
Yes	12.5	0.7
CFS Level:		
Cognitive Intact	54.3	−0.5
Mildly Impaired	22.8	1.6
Moderately Impaired	18.2	−1.8
Severely Impaired	4.6	6.1
HIV:		
No	99.7	0.2
Yes	0.3	−40.0
IV Medication:		
No	91.4	−2.0
Yes	8.6	22.9
Diabetes:		
No	65.0	−2.8
Yes	35.0	5.2
Wound Infection:		
No	97.8	−0.4
Yes	2.2	17.9
Amputation/Prosthesis Care:		
No	100.0	0.0
Yes	0.0	4.7
Most Common Therapy Level:		
RU	54.0	−9.1
RV	22.7	9.3
RH	7.7	24.4
RM	3.7	36.9
RL	0.1	49.3
Non-Rehabilitation	11.7	44.5
Number of Therapy Disciplines Used:		
0	5.4	20.0
1	3.3	37.3
2	51.4	1.6
3	39.9	−3.9
Physical Therapy Utilization:		
No	7.3	24.2
Yes	92.7	−1.0

TABLE 18—RCS–I IMPACT ANALYSIS, RESIDENT-LEVEL—Continued

Resident characteristics	Percent of stays	Percent change
Occupational Therapy Utilization:		
No	8.6	24.8
Yes	91.4	−1.2
Speech Language Pathology Utilization:		
No	58.4	3.2
Yes	41.6	−3.1
Therapy Utilization:		
PT+OT+SLP	39.9	−3.9
PT+OT Only	50.4	1.2
PT+SLP Only	0.6	22.9
OT+SLP Only	0.5	25.6
PT Only	1.9	34.9
OT Only	0.7	41.8
SLP Only	0.7	39.2
Non-therapy	5.4	20.0
NTA Costs:		
$0–$10	10.9	−2.6
$10–$50	44.1	−3.2
$50–$150	32.1	3.5
$150+	9.4	19.2
Unknown	3.5	3.3
Extensive Services Level:		
Tracheostomy and Ventilator/Respirator	0.4	18.1
Tracheostomy or Ventilator/Respirator	0.6	3.1
Infection Isolation	1.3	8.9
Neither	97.8	−0.3

Projected facility-level impacts are presented in Table 19. The first column identifies different facility subpopulations and the second column shows the percentage of SNFs represented by the given subpopulation. The third column shows the average change in payment for facilities in a given subpopulation, represented as a percentage change from payments made for that subpopulation under RUG–IV versus those which would be made under the RCS–I model under consideration. Positive changes in this column represent a projected positive shift in payments for that subpopulation under the RCS–I model under consideration, while negative changes in this column represent projected negative shifts in payment for that subpopulation. More information on the construction of current payments under RUG–IV and payments under the RCS–I model for purposes of this impact analysis can be found in section 3.13 of the SNF PMR Technical Report available at *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/SNFPPS/therapyresearch.html.* Based on the data presented in Table 19, we observe that the most significant shift in Medicare payments created by implementation of the RCS–I case-mix model would be from facilities with a high proportion of rehabilitation residents (more specifically, facilities with high proportions of Ultra-High Rehabilitation residents), to facilities with high proportions of non-rehabilitation residents. Other facility types that may see higher relative payments under the RCS–I system that we describe here are small facilities, non-profit facilities, government-owned facilities, and hospital-based and swing-bed facilities.

TABLE 19—RCS–I IMPACT ANALYSIS, FACILITY-LEVEL

Provider characteristics	Percent of providers	Percent change
All stays	100.0	0.0
Institution type:		
Freestanding	95.0	−0.5
Hospital-Based/Swing Bed	5.0	15.8
Ownership:		
For-profit	71.2	−1.1
Non-profit	23.9	3.1
Government	5.0	7.6
Location:		
Urban	70.6	−0.8
Rural	29.4	3.7
Bed Size:		
0–49	11.2	6.7
50–99	37.1	0.3
100–149	34.3	−0.6
150–199	11.2	−0.5
200+	6.1	−0.7
Census division:		

TABLE 19—RCS–I IMPACT ANALYSIS, FACILITY-LEVEL—Continued

Provider characteristics	Percent of providers	Percent change
New England	6.2	2.1
Middle Atlantic	11.2	−1.3
East North Central	19.9	0.2
West North Central	12.8	6.9
South Atlantic	15.4	−0.8
East South Central	6.6	1.0
West South Central	13.2	−1.5
Mountain	4.7	0.9
Pacific	10.1	−1.3
% of Stays with 100 Utilization Days:		
0–10%	90.4	0.3
10–25%	8.6	−3.2
25–100%	1.0	−3.9
% of Stays with Medicare/Medicaid Dual Enrollment:		
0–10%	8.4	−1.7
10–2%	17.2	−0.7
25–50%	35.5	0.6
50–75%	26.5	0.8
75–90%	8.5	−0.4
90–100%	3.8	−0.5
% of Utilization Days Billed as RU:		
0–10%	12.5	28.4
10–25%	9.8	13.6
25–50%	25.5	5.6
50–75%	37.2	−1.9
75–90%	13.0	−7.1
90–100%	2.1	−9.9
% of Utilization Days Billed as Non-Rehabilitation:		
0–10%	70.4	−2.2
10–25%	23.2	6.3
25–50%	4.6	20.2
50–75%	1.0	45.6
75–90%	0.2	44.8
90–100%	0.7	38.4

In addition to the impacts discussed throughout this section, we would also note that we expect a significant reduction in regulatory burden under the SNF PPS, due to the changes we are considering in the MDS assessment schedule, as discussed above in section III.C.1 of this ANPRM. We invite comments on the impact analysis presented here.

IV. Collection of Information Requirements

This ANPRM solicits comment on several options pertaining to the SNF PPS payment methodology. Since it does not propose any new or revised information collection requirements or burden, it need not be reviewed by the Office of Management and Budget (OMB) under the authority of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). Should the outcome of the ANPRM result in any new or revised information collection requirements or burden, the requirements and burden will be submitted to OMB for approval. Interested parties will also be provided an opportunity to comment on such information through subsequent proposed and final rulemaking documents.

V. Response to Comments

Because of the large number of public comments we normally receive on **Federal Register** documents, we are not able to acknowledge or respond to them individually. We will review all comments we receive by the date and time specified in the **DATES** section of this preamble, as we continue to consider the model presented in this ANPRM.

Dated: April 21, 2017.

Seema Verma

Administrator, Centers for Medicare & Medicaid Services.

Dated: April 21, 2017.

Thomas E. Price

Secretary, Department of Health and Human Services.

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