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Research Report

FEDERAL EMERGENCY MANAGEMENT AGENCY CORONAVIRUS DISEASE 2019 PUBLIC ASSISTANCE TECHNICAL ASSISTANCE STUDY DEVELOPMENT AND IMPLEMENTATION GROUP

Methods of Assessing Duplication of Benefits with Patient Care Revenue

As Applied by the Federal Emergency Management Agency to Health Care Providers' Public Assistance Claims During the COVID-19 Emergency

The Federal Emergency Management Agency's (FEMA's) Public Assistance (PA) program provides federal assistance to government organizations and certain private nonprofit entities following major disasters or emergencies declared by the President. Federal law prohibits FEMA's PA program from reimbursing an applicant for costs that are covered by other sources of funding (i.e., it prohibits duplication of benefits [DoB]), which could include patient care revenue (PCR) from insurance and other private or public funding.[1] FEMA has perfected its approach to evaluating DoB when infrastructure has been damaged by a natural disaster but faces significant challenges in evaluating and addressing DoB for health care applicants that responded to the coronavirus disease 2019 (COVID-19) public health emergency (PHE). To address this challenge, FEMA engaged the Homeland Security Operational Analysis Center (HSOAC) to develop procedures for accurately evaluating DoB using a standard method and using alternative methods developed by applicants. In addition to accuracy, FEMA and HSOAC aimed to require minimal additional data from applicants and to create procedures that would allow most evaluations to be completed in 15 business days each.

The remainder of this introduction describes the PA program, challenges that FEMA faces in distributing PA to health care applicants while avoiding duplication, and HSOAC's role in providing technical assistance to address these challenges. Chapter 1 describes the Standard Method for addressing DoB with PCR. Chapter 2 describes our approach to evaluating applicant methods of addressing DoB, and Chapter 3 provides brief conclusions. We have also

included two appendixes: Appendix A provides two examples of reasonable Alternate Methods, and Appendix B lists the expert-panel members' names, roles, and affiliations.

The Federal Emergency Management Agency's Public Assistance Program for the COVID-19 Public Health Emergency

In cooperation with state and local emergency management agencies, FEMA's PA program is designed to support communities in their recovery by offering funding for the repair, replacement, or restoration of damaged infrastructure and for emergency protective measures, hazard mitigation, debris removal, and direct financial assistance. Once a presidential declaration is made, an eligible entity can apply for assistance. After a review process, an approved project receives a federal cost share, with the remaining amount covered by the state or the applicant. Importantly, FEMA PA policy states, "FEMA is prohibited from providing financial assistance where such assistance would duplicate funding available from another program, insurance, or any other source for the same purpose" (FEMA, 2021, p. 12).[2]

On March 13, 2020, President Donald Trump declared a nationwide emergency pursuant to Section 501(b) of the Stafford Act, which enabled FEMA to provide emergency protective measures, including direct federal assistance, under the PA program for the COVID-19 PHE. Additionally, on January 21, 2021, President Joseph Biden issued a memorandum (Biden, 2021) stating that the full capacity and capability of the federal government would be used to combat and respond to COVID-19. Biden's memorandum also includes specific direction on FEMA's PA program eligibility and authority for an increased federal cost share. Following Trump's emergency declaration, all states, tribal governments, territories, and the District of Columbia were eligible to request PA funding to assist with their COVID-19 response efforts. Among those eligible for assistance were a broad variety of governmental and private nonprofit health care organizations. Although FEMA had a well-developed approach to providing assistance after a natural disaster, the agency had not previously developed the capability to respond to a PHE and was required to adapt the PA program to cover hospitals' eligible COVID-19–related expenses. These expenses included costs related to safe reopening and treatment of patients with COVID-19.

Abbreviations

AMRM	Alternate Method review memo
ARM	applicant review memo
CMS	Centers for Medicare and Medicaid Services
COVID-19	coronavirus disease 2019
DoB	duplication of benefits
DSH	disproportionate-share hospital
FEMA	Federal Emergency Management Agency
HCRIS	Healthcare Cost Report Information System
HSOAC	Homeland Security Operational Analysis Center
PA	Public Assistance
PCR	patient care revenue
PHE	public health emergency
PPE	personal protective equipment
PRM	project review memo
QA	quality assurance
RN	registered nurse

The Federal Emergency Management Agency's Challenge Distributing COVID-19 Public Assistance to Health Care Providers

FEMA faces unprecedented challenges in evaluating DoB for health care systems because of the complex and opaque nature of health care financing (both payments and expenses). In the majority of disasters to which FEMA responds, the agency processes line-item costs in PA projects that can be verified as not having associated revenues. However, hospitals typically do not track costs across

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specific groups of patients and do not apportion PCR to specific expenses. Instead, hospitals generally use PCR to pay for nearly all expenses that are directly or indirectly related to providing patient care, meaning that there is no direct link between payments and specific costs. PCR sources include government programs (e.g., Medicare and Medicaid) and commercial insurance (e.g., insurance that individuals purchase or receive through employment), which pay for most medical care. PCR also includes patients' out-of-pocket payments, capitation or premium payments (i.e., set payments that providers receive in exchange for providing care to patients over a period of time), and appropriations (subsidies) from state or local governments. In most cases, medical insurance pays for services based on diagnostic information and case severity without explicitly paying for the costs incurred to provide the services (e.g., nursing care, housekeeping, medical supplies used), and the costs incurred for a service vary among patients without any adjustment in revenue.

The challenges associated with measuring the cost of individual patient care episodes increased during the PHE. As hospitals responded to surges in COVID-19–related care needs, they often required labor, supplies, and equipment at higher-than-normal prices and in higher-than-normal volumes. In addition to facing potentially higher expenses for providing direct patient care, hospitals faced expenses related to maintaining safe operations (e.g., visitor screenings, employee quarantines, facility modifications). Hospitals and health systems received revenue for nearly all patients through standard commercial or government insurance programs and special programs designed to support treatment of uninsured patients. Furthermore, facilities received additional payments from Medicare programs for inpatient COVID-19 treatment, and multiple programs supported testing and vaccine administration. Given the COVID-19–related increases in both revenues and costs, evaluating whether expenses for the PHE exceeded associated revenues has been challenging and differs among health care applicants. As a result, there is a risk that nearly all such applicants' PA cost claims have already been partially or fully covered by PCR, leading to a potential DoB. The rest of this report describes the methods that we developed to minimize this risk.

The Homeland Security Operational Analysis Center's Technical Assistance Role

When providing guidance to HSOAC, FEMA leadership highlighted the importance of fulfilling the following aims:

- Provide PA funds in a timely fashion.
- Limit applicant burden.
- Treat applicants equitably and consistently.
- Avoid duplication with PCR.

Beginning in January 2021, FEMA requested technical assistance from HSOAC to support the scalable and equitable delivery of the COVID-19 PA program in line with FEMA's aims. The first phase of HSOAC's technical assistance involved collaborating with FEMA to develop new methods to estimate DoB with PCR. In addition to developing methods, HSOAC has been tasked with reviewing high-risk COVID-19 PA projects.[3] These reviews follow one of two streams, which provide the applicant with some flexibility in how its PA requests will be assessed:

- If an applicant has provided its own method of estimating DoB with PCR, we review that method (described in Chapter 2).
- If an applicant has not provided its own reasonable method that appropriately addresses DoB with PCR or if directed by FEMA, we use the method we have developed and agreed on with FEMA (the Standard Method) using applicant-specific financial data to identify needed project reductions (described in Chapter 1).

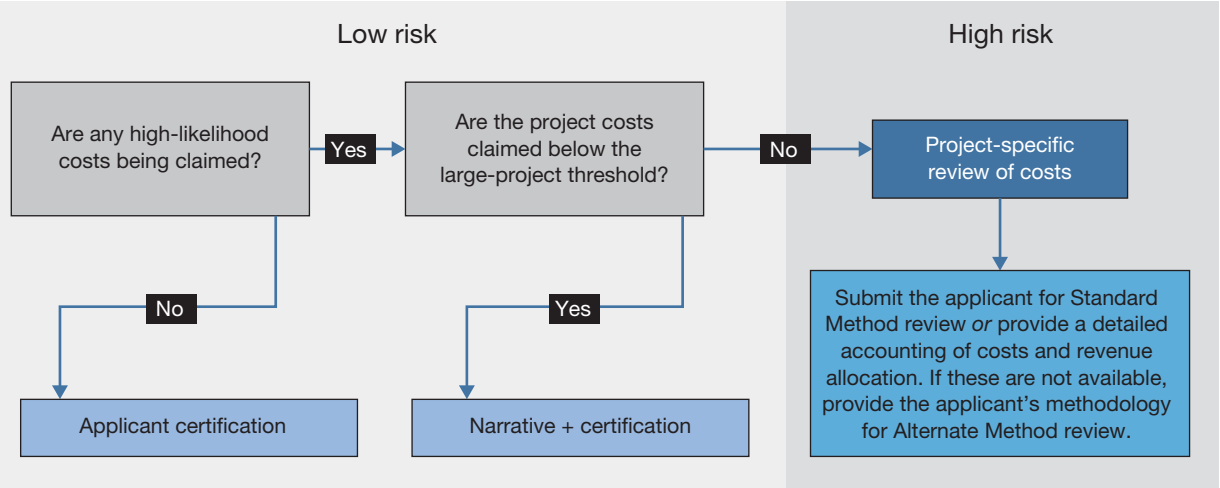
For both approaches, estimates of DoB with PCR require conceptually sound methods for evaluation and sufficient and correct data for implementation of those methods. Of note, in both streams, we address solely DoB from PCR, not DoB from other revenue sources, including other federal COVID-19 relief programs.[4]

The Federal Emergency Management Agency's Risk-Based Approach to Reviews

The risk of DoB from PCR does not exist for all FEMA COVID-19 PA applicants—some applicants have no established system for billing patients and health insurance, so they are highly unlikely to have any PCR (e.g., public health departments that delivered mass screening). FEMA labels these applicants as low risk for DoB and does not assign them to the DoB assessment process. Applicants that are characterized as high-risk can be passed on to HSOAC for review in one of the two streams mentioned above. Figure 1 depicts how FEMA defines high-risk applicants that will receive an assessment for DoB with PCR.

FIGURE 1

The Federal Emergency Management Agency's Risk-Based Approach to Potential Duplication of Benefits with Patient Care Revenue



SOURCE: Adapted from FEMA, 2023, Figure 1, p. 3.

NOTE: A large project is one with costs that are at least $131,100 (if funds are obligated before August 3, 2022) *or* at least $1 million (if obligated on or after August 3, 2022). *Certification* refers to an applicant's attestation that a claim is not covered by another source of revenue and is sometimes accompanied by an explanatory narrative.

Cost Reimbursements with Low Likelihood of Duplicating Patient Care Revenue

Claimed costs that have a high likelihood of having at least some associated PCR (*high-likelihood costs*) require a method of estimating DoB with PCR, but claimed costs that are unlikely to be covered at all by PCR (*low-likelihood costs*) do not require evaluation for DoB with PCR:[5]

- For each Standard Method review, we classify each individual cost item in the project based on its use in an activity that normally (directly or indirectly) generates PCR. FEMA reimbursement for those cost items used in activities that normally generate PCR would have a high likelihood of incurring at least some DoB. For example, expenses with a high likelihood of having at least some associated PCR include intravenous catheters and housekeeping supplies that are not directly billed to patients but are generally used in patient care that generates PCR. An HSOAC working group of physician researchers and health economists developed guidance for these classifications of low versus high likelihood (see Table 1). Working group members independently rated expenses that are commonly included in hospitals' PA reimbursement claims (drawn from early project reviews),[6] engaged in discussions, and then arrived at a consensus for each cost item or cost category.[7]
- For each Alternate (i.e., applicant-provided) Method review, we examine the project to determine whether it includes costs that—if reimbursed by FEMA—would have a high likelihood of DoB. Then we evaluate the applicant's approach to reducing its reimbursement claims to account for those high-likelihood costs.

TABLE 1

Summary of Likelihood of Duplication with Patient Care Revenue, by Cost Category

Cost Category	Likelihood of at Least Some DoB with PCR	Note
Force account and contract clinical labor[a]	High	Medical billing amounts paid by patients or insurers are based on prepandemic wage rates, which should generally cover most or all clinical labor costs. However, if more-expensive or greater volumes of labor were used during the pandemic, the cost premium of that labor is likelier to be beyond what is covered through health insurance reimbursements.
Medical equipment	High	Medical bills implicitly include medical equipment costs.
Medical supplies	High	Costs for therapeutics and medical supplies are assumed to be fully (or largely) covered by medical insurance payments unless there is evidence of a cost increase or quantity-per-patient increase in eligible therapeutics and supplies relative to prepandemic costs or quantities.
Therapeutics (medications)	High	
PPE	Low	Because both the usage and price of PPE increased dramatically, we expect the vast majority of claimed PPE costs to be beyond what is covered by standard PCR.
Facility modification; setup of temporary and expanded facilities or isolation areas (including nonmedical supplies and equipment required to set up these facilities)	Low	New, additional costs of maintaining safe operations during a pandemic can reasonably be assumed to be low likelihood. Supplies, equipment, and labor used for clinical care in temporary facilities are assumed to be at high likelihood of duplication.
Air disinfection	Low	New, additional costs of maintaining safe operations during a pandemic can reasonably be assumed to be low likelihood.
COVID-19 testing for employees	Low	

NOTE: PPE = personal protective equipment. These determinations of likelihood of duplication with PCR were made in December 2021 using a consensus-based process with a panel of experts with backgrounds in health care delivery, economics, and accounting. For a more detailed and comprehensive list of expense items and their likelihood ratings, see Appendix B of FEMA, 2023. The separation of low- and high-likelihood items is a process that several applicants have also used when performing their own reductions using their own methods.

[a] In this context, *force account* refers to the staff labor the applicant directly employs (not contracted labor).

CHAPTER 1

The Federal Emergency Management Agency's Standard Method of Estimating Duplication

A health care provider can apply for FEMA PA without presenting its own method to assess DoB with PCR. To deal with such cases, the HSOAC team and FEMA developed an approach to calculate duplication. This method (the Standard Method) relies on applicant-specific financial data, which the applicant can provide directly to FEMA or might have already made public. FEMA requires any applicant with at least one project requesting more than $25 million to provide financial data for project reviews. At FEMA's request, we use the Standard Method to review each applicant's PA project for duplication with PCR. For each such review, we summarize findings in an applicant review memo (ARM).[8] We also provide a project review memo (PRM) for each project, summarizing any estimated duplication associated with that project's claimed costs.[9]

Conceptual Basis for the Standard Method

The Standard Method uses the prepandemic (calendar year 2019) baseline relationships between

an applicant's total PCR and its expenses in each of three cost categories—labor, supplies and services, and equipment—to apportion pandemic-year PCR to costs in each cost category. For example, the applicant illustrated in Figure 2 had, in one pandemic year, labor expenses greater than its PCR apportioned to labor. The portion of this applicant's labor expenses (across all of its projects for that year) that FEMA could reimburse without causing duplication (i.e., the allowable reimbursement ceiling) is shown in black on the far-left side of the figure.[10]

The allowable reimbursement ceiling increases or decreases according to how the hospital's PCR changed relative to how its operational expenses changed. Here is an example:

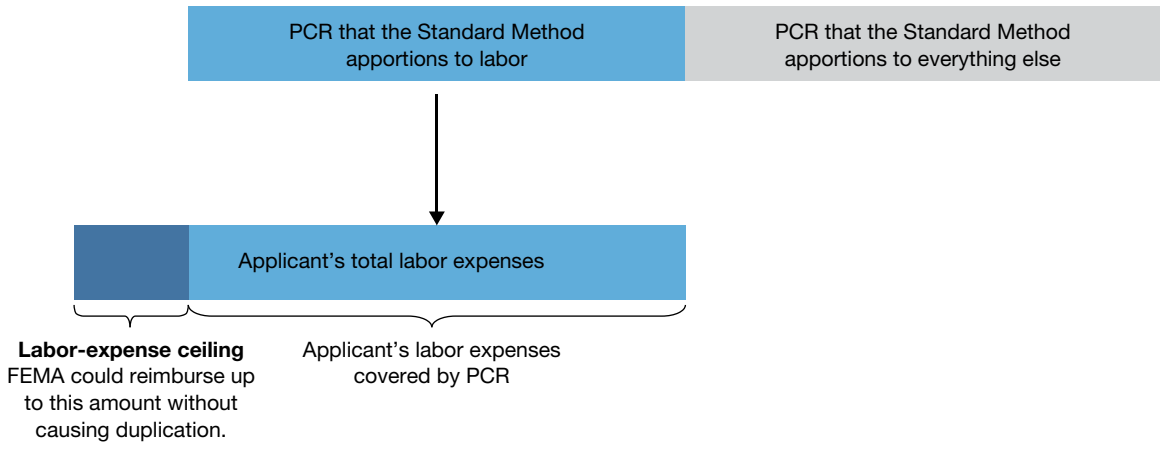
- If, compared with prepandemic norms, PCR remained flat but labor costs doubled (from a prepandemic calendar year 2019 to a pandemic calendar year 2020, for example), there are significant uncompensated labor costs. The applicant would have a very high reimbursement ceiling for labor, and it could receive significant PA funding for labor without incurring DoB.
- However, if a hospital's percentage growth in revenue exceeded its percentage growth in labor costs (from 2019 to 2020, for example), there is adequate PCR to fully cover those higher labor costs. The allowable reimbursement ceiling for labor would be 0, and any FEMA PA grant for labor that has a high likelihood of generating PCR would result in a DoB.

FEMA is authorized to reimburse COVID-19 treatment costs that are not already covered by PCR and costs related to safe reopening. The Standard Method makes several assumptions about how surpluses or deficits in parts of the applicant organization or across time are treated and how to treat the applicant organization's overall surplus or deficit—especially any surplus or deficit that preceded the pandemic:

- If the applicant had a positive operating margin (a budget surplus) prior to the pandemic, FEMA's policies and methods do not force the organization to apply that prepandemic (2019) surplus to pandemic-related operating expenses before allowing FEMA to pay for expenses. The Standard Method does not include an organization's 2019 operating surplus in DoB estimates; instead, it shields that surplus from having to be applied to operating expenses.
- Conversely, if the applicant had a negative operating margin prior to the pandemic, FEMA is not responsible for compensating

FIGURE 2

Conceptual Basis for the Standard Method for a Calendar Year Using Labor as an Example



for that budget shortfall. FEMA is focused on budget shortfalls caused by COVID-19 expenditures. The Standard Method is designed to estimate only the budget shortfalls attributable to COVID-19 expenses; we assume that budget shortfalls that existed before the pandemic were not caused by COVID-19.

- The Standard Method also limits financial interactions across the three broad cost categories. If, for example, an applicant experienced lower labor costs during a pandemic year, FEMA does not require it to apply that labor budget surplus to nonlabor pandemic-related expenses. For example, if applicant revenues held steady during the pandemic and labor costs fell, FEMA does not require the applicant to use that surplus money from payroll to pay for FEMA-eligible supplies. The Standard Method does not force applicants to apply a budget surplus in one cost category to a budget deficit in another cost category. However, within a broad cost category, such as labor, the Standard Method does require an applicant to use, for example, any surplus in revenues normally apportioned to doctors to pay for the rising costs of contract nurses. This is reasonable because different types of labor are usually budgeted together as a group, and, in many cases, they support each other's work (such as a contract registered nurse [RN] working with force account RNs).

Data Requirements

Best Available Public Financial Data

When applying the Standard Method, we use the financial data that best match the applicant's organizational structure. For example, if a health care system applies for PA specifically for one hospital, we select the best available data for that single hospital rather than the data for the entire health care system. Furthermore, if possible, we extract expenses specific to clinical services (which are usually listed in a section labeled "Functional Expenses") rather than using expense data from the entire organization (which include nonclinical support services). Individual hospital financial data might be found in health systems' public financial statements but are not always available.

When published financial statements are not available or not suitable, we use data from the CMS Healthcare Cost Report Information System (HCRIS) reports.[11] HCRIS contains information from Medicare-certified institutional providers (including hospitals), which are required to submit such provider information as facility characteristics, utilization data, revenues, and costs by cost center (in total and for Medicare). These data are then organized and published on the RAND Hospital Data website (RAND Hospital Data, undated); we might use HCRIS financial data for an individual hospital or aggregate data from several hospitals, as appropriate to match the applicant. However, we prefer to use audited financial statements because HCRIS data are released long after audited statements and are not audited. In rare cases, in which an applicant's relevant public financial data are unavailable from any source, we recommend that FEMA request nonpublic financial data from the applicant.

Matching Public Assistance Claims to Publicly Reported Data

To apply the Standard Method, we calculate an applicant-specific allowable reimbursement ceiling each pandemic year for each of three cost categories: labor, supplies and services, and equipment. These three cost categories differ from the standard FEMA PA application's cost categories (labor, contract, material, rented equipment, and equipment) because the Standard Method must conform with how public hospital financial reports categorize expenses. To match PA claims to public financial data, we review PA project documentation, including invoice descriptions, and categorize expenses as labor, supplies and services, or equipment. We arrived at rules shown in Table 2 to match cost items with Standard Method categories

TABLE 2
Rules for Matching Cost Items with Standard Method Categories

Item	Labor	Supplies and Services	Equipment
Clinical contract labor	x		
Salary and benefit payments to nonstaff physicians or to staff	x		
Any labor-intensive purchased service paid on a lump-sum basis, such as construction, software contracts, and cleaning		x	
Rental equipment		x	
Any item with a unit cost less than $5,000		x	
Any durable, reusable item with a unit cost greater than $5,000			x

based on consultation with the expert panel about how hospitals report such expenses in public financial data.[12]

Financial-Report Line Items Used in the Standard Method

Public financial statements might refer to PCR and labor, supplies and services, and equipment expenses using a wide variety of terminology. Table 3 shows the line items commonly used in financial reports for each revenue or cost category. The table summarizes how we mapped various accounting line items to PCR and to each of the three expense categories used in the Standard Method. Capitation and premium revenue line items are sometimes excluded when they do not refer to PCR—they sometimes refer to revenue received for business activities unrelated to patient care, such as the operation of a health insurance plan. The Standard Method includes these components only if they refer to revenue generated from providing patient care. HCRIS data are reported using a standard set of variable names. The HCRIS line items reported in Table 3 are identical for all applicants. HCRIS data for a given applicant include only the revenue and expense line items reported by a relevant hospital.

Using Calendar Year Financial Data

We calculate allowable reimbursement ceilings for each cost category's calendar year using procedures that depend on data availability:

- First, we use annual financial statements if the applicant's fiscal year matches the calendar year, with the assumption that audited statements from the calendar year of interest are the best public information available.
- Second, if the applicant's fiscal year does not match the calendar year, we aggregate quarterly financial statements (when available) to create a calendar year of financial data.
- Third, if quarterly statements are not available, financial data (revenues and expenses) from multiple fiscal years are prorated according to the percentage of the fiscal year within the applicable calendar year; the prorated portions of each fiscal year are then added to estimate revenues and expenses for the calendar year.[13]
- Fourth, if the aforementioned three data sources are unavailable, we use HCRIS data that have already been synthesized from various CMS cost reports to create calendar year datasets, so no additional adjustment is needed (White, 2018).[14] Fifth, if none of these sources is available or if data are missing for a cost category, we indicate to FEMA that public financial data might be insufficient. FEMA can then request that an

TABLE 3
Line-Item Terms Commonly Used in Financial Reports

Revenue or Cost Category	Terms Used in Public Financial Statements	Term Used in HCRIS
PCR	Appropriations, capitation payments, capitation premium, health care premiums, insurance enrollment revenue, net patient service revenue, patient service revenue, physician practice revenue, premium revenue, provider fee, hospital or provider coverage assessment (negative revenue if tax or positive revenue if receipt)	Net patient revenue, income from government appropriations
Labor	Benefits; compensation and employee benefits; contract labor; employee benefits; employee compensation; employee health and welfare; fringe benefits and employer payroll taxes; nurse labor; personnel costs; physician salaries and wages; physician, resident, and professional fees; physicians' fees; professional fees and labor; professional fees and physician wages; salaries; salaries and related personnel costs; temp labor; wages	Total salaries, total costs of employee benefits, total cost of contract labor
Supplies and services	Contracted services, drugs and pharmaceuticals, fees, medical services to outside providers, medical supplies, outside providers, outside services, patient service supplies, pharmaceutical supplies, professional services, professional fees, purchased medical services, purchased services, purchased services and professional fees, supplies and other services	Central service and supply expenses (other than salaries), medical supplies charged to patients' expenses (other than salaries), pharmacy expenses (other than salaries), drugs charged to patients' expenses (other than salaries)
Equipment	Depreciation, depreciation and amortization	Total expenses for movable equipment

NOTE: The broad cost categories in the first column were determined in consultation with our expert panel and informed by the review and categorization of elements of audited financial statements.

applicant provide appropriate data or that an applicant provide its own method for review.

Review Procedures

To assess a project's estimated DoB with PCR using the Standard Method, we follow these steps:

1. Calculate an applicant's allowable reimbursement ceiling for each cost category in each calendar year using the applicant's financial data. Two analysts extract the applicant's public financial data independently, then compare their results to ensure accuracy.
2. Identify all the applicant's projects for which FEMA has determined that any claimed item is eligible for PA.
3. Categorize the applicant's claimed costs by calendar year and by cost category. Usually, project documentation makes clear which year each cost was incurred and claimed. However, equipment claims' period of use, and therefore the years in which equipment depreciation expenses were incurred, are often unknown during a Standard Method review and are calculated at the project's closeout. When an applicant does not specify whether a piece of equipment's fair market value should be deducted from a claim or does not specify the equipment's claimed period of use with corresponding depreciation expenses, we categorize the equipment's full purchase price as a claim distributed proportionally across the period that begins with the date of purchase and ends with the end of the PHE (May 11, 2023). These equipment claimed-cost totals or timing can be revised at project closeout.
4. Compare the applicant's claimed costs for a calendar year and cost category with the applicant's allowable reimbursement ceiling

for the same year and category. If claimed costs fall below an allowable reimbursement ceiling, we recommend no reduction beyond what the applicant might have already implemented. In such cases, FEMA might reimburse those claimed costs without incurring DoB.

5. If claimed costs exceed the allowable reimbursement ceiling for a given year in a given cost category, we first identify which claimed costs have a high likelihood of generating PCR and which have a low likelihood of generating PCR (see Table 1). Because FEMA reimbursement of these low-likelihood costs would not cause duplication with PCR, FEMA can reimburse fully.
6. With the remaining high-likelihood claimed costs, we recommend reductions within each cost category and calendar year until those costs no longer exceed the corresponding allowable ceiling.
7. For projects with recommended reductions, we debit from the allowable ceiling the costs that exceed that ceiling in the order in which the projects were created in FEMA's Grants Manager system.

We do not analyze any high-likelihood claimed costs belonging to a cost category and year for which no applicant financial data are available. A review of such costs can be completed after applicant financial data are available publicly or are provided by the applicant.

Establishing Allowable Ceilings

Apportioning Patient Care Revenues

To calculate the allowable reimbursement ceiling for each cost category, we first apportion PCR to each cost category. We calculate what percentage of the applicant's 2019 total PCR was sufficient to cover its 2019 expenses in each of three cost categories, then use that portion to attribute pandemic-year PCR to pandemic-year costs in each cost category.

To understand how the Standard Method calculates the portion of expenses in each cost category already covered by PCR, consider the following example. Say that public financial reports indicate that, in 2019, just prior to the COVID-19 PHE, an applicant had labor costs (salaries, wages, and benefits) of $1 billion and received $2 billion in PCR. Therefore, the portion of PCR that was sufficient to cover labor costs in 2019 was $1 billion ÷ $2 billion = 50 percent. This method of estimating duplicative payments for labor uses this applicant-specific labor 2019 baseline (50 percent of PCR) to apportion each pandemic year of revenues to the labor cost category. During the first pandemic year (calendar year 2020), the applicant's revenues decreased slightly to $1.9 billion. As shown in the above equation and based on its 2019 data, 50 percent of those 2020 revenues ($950 million) are apportioned to pay for 2020 labor costs: $1.9 billion in 2020 PCR × 50% = $950 million in 2020 PCR apportioned to 2020 labor.

The goal of the Standard Method is to ensure that the amount of an applicant's PCR plus FEMA grant never exceeds total expenses—in other words, the FEMA grant should not pay for any expense that PCR has already covered. However, PCR represents payment, not reimbursement; most payment mechanisms are not directly linked to the amount or cost of work performed. When apportioning revenues to costs that are indirectly related to patient care performed, there is more than one fair, legal, or commonly practiced allocation method.[15] Accountants and other cost-estimation professionals often apportion money that is not precisely traceable to work inputs using, for example, square footage of the facility where work is performed, personnel head count, sales, or revenues (AccountingTools, 2023)—that is, some available measure that can be used to approximate the distribution of work-related costs across an organization. As described, the Standard Method relies on each of three cost categories' 2019 share of revenues to apportion revenues in 2020, 2021, 2022, and 2023. This approach is reasonable because many costs are not traceable to related revenues;

furthermore, identifying actual costs and revenues exclusively for patients with COVID-19 would require applying complex estimation procedures to patient-level health records, which is not feasible at this scale given that patient-level health records are restricted from public use and are difficult to obtain and analyze and because every applicant would have slightly different forms of patient data. Revenues that are not generated from specific episodes of patient care but are meant to pay for patient care (such as state and local subsidies) are also untraceable to specific episodes of patient care and are therefore apportioned using the same assumptions.

The Standard Method apportions PCR in a way that conforms with FEMA policy,[16] which is applied consistently to maximize fairness in instances in which an applicant does not provide its own reasonable method. Nevertheless, given that there is more than one reasonable way to apportion PCR, FEMA allows an applicant to provide its own method for apportioning revenues and calculating duplication with PCR (see Chapter 2).

Calculating the Allowable Reimbursement Ceiling

Once each pandemic year of PCR has been apportioned to each cost category, we calculate the allowable reimbursement ceiling (term 1) by subtracting apportioned PCR (terms 3 × 4) from the applicant's total actual expenses in that category (term 2), as shown in Figure 3.

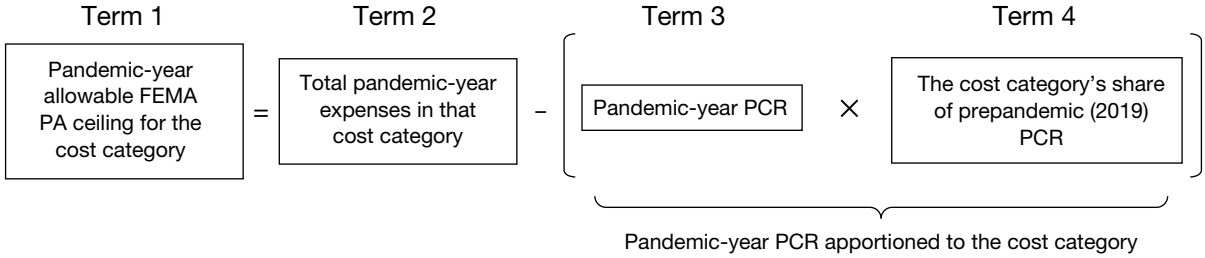
Potential Standard Method Outcomes

When comparing an applicant's claimed high-likelihood costs for a calendar year and cost category with that applicant's allowable reimbursement ceiling for the same year and category, any of the three following outcomes is possible:

- **If costs claimed are lower than or equal to the allowable reimbursement ceiling**, no duplication with PCR has been identi-

FIGURE 3

Equation to Calculate a Cost Category's Allowable Reimbursement Ceiling



where

- The pandemic-year allowable FEMA PA ceiling for the cost category is the maximum PA grant (for the given cost category in the given year) that FEMA could disburse without incurring DoB with PCR.
- The total pandemic-year expenses in that cost category are the total expenses for the given cost category during the calendar year corresponding to the FEMA PA grant request.
- The pandemic-year PCR consists of all payments for patient care services performed during the calendar year corresponding to the FEMA PA grant request.[a]
- The cost category's share of prepandemic (2019) PCR is the percentage of 2019 PCR that was sufficient to cover all 2019 expenses in that cost category. This is calculated by dividing each prepandemic category cost by the total 2019 PCR (e.g., 2019 labor expenditures divided by 2019 PCR). FEMA uses this percentage to apportion pandemic-year PCR to a given cost category.

[a] As noted in other parts of this report, revenue is expected to include payments from Medicare, Medicaid, commercial insurance providers, out-of-pocket payments, Medicaid disproportionate-share hospital (DSH) payments, other third-party payers (e.g., the U.S. Department of Veterans Affairs, workers' compensation), state and local appropriations, and capitation payments (if applicable). A DSH is a hospital receiving Medicaid lump-sum supplemental payments.

fied and no reduction in reimbursement is recommended.
- **If costs claimed are higher than the allowable reimbursement ceiling**, one or more projects should be reduced to avoid exceeding the reimbursement ceiling (i.e., to avoid DoB).
- **If the ceiling is 0 or negative for the cost category that year**, all of the applicant's high-likelihood costs that year for that category are assumed to be fully covered by PCR. Because any FEMA payment would cause DoB, that year's high-likelihood project costs in that category are not reimbursable.

Communication of Results

The findings of the review are transmitted to FEMA in an ARM and PRMs after undergoing quality assurance (QA) review at HSOAC. An ARM summarizes an applicant's allowable ceiling and claimed costs in each of three cost categories, by calendar year. Then, the ARM compares claimed costs with corresponding allowable ceilings and contains our recommended reductions to claimed costs if any high-likelihood claimed costs exceed the corresponding allowable ceiling. The ARM summarizes these findings across all of the applicant's projects that can be reviewed at that time. In addition, PRMs are delivered to summarize the relevant information specific to each project discussed in the ARM.

Strengths and Limitations of the Federal Emergency Management Agency's Approach

Strengths

As noted in the introduction to this report, limited administrative burden and timely completion of reviews were two aims FEMA prioritized in developing this process. The Standard Method reduces administrative burden on applicants and on FEMA by using a single formula for all cost categories, requiring few data inputs, and relying on overall revenue and expense data that are routinely prepared by health care providers and are usually publicly available. The Standard Method can be applied in a standardized fashion, which reduces variability in review times. Additionally, by consistently using prepandemic baseline data, the method equitably tailors the DoB estimate to the applicant's baseline financial status, organizational structure, and cost categories without needing additional methodological complexity. The method allows every applicant and every claimed cost to be evaluated using the same protocol. The method accounts for other sources of PCR (e.g., capitation income and state or other government support) that cannot be traced to specific episodes of patient care. Finally, because the applicant has the option to provide its own data, the Standard Method's reliance on public data sources can reduce applicant burden and can be calculated using the applicant's supplied data instead of its published audited financial statements.

Limitations

This approach has a couple of limitations:

- First, the Standard Method assumes that 2019 prepandemic operating conditions are a reasonable baseline to apply to subsequent years; however, this might not be true for some organizations. For example, organizations that had atypical expenses or revenues (or both) in 2019 (e.g., abnormally poor or exceptionally strong financial performance). It is unlikely that there are systematic biases, and the overall effect is unlikely to disfavor applicants: Adversely affected applicants could offer longer-term baselines to better estimate baseline proportions of revenues devoted to labor and other cost categories.
- Second, because high-level financial data generally include pooled revenue and costs across entire organizations, this method does *not* use only financial data specific to care of patients with COVID-19 and instead makes the assumption that the PHE is solely responsible for changes in costs rela-

tive to revenues. As a result, an applicant can dispute the Standard Method's use of topline financial data or identify revenues and costs directly related to COVID-19 (see Chapter 2).

Given the dramatic effect that the PHE had on hospital finances, assuming that changes in hospital finances were related solely to COVID-19 would be unlikely to create large errors during the PHE. This assumption is equitable in that it is unlikely to systematically favor or disfavor applicants in general or any subset of applicants in particular. Even in cases in which excess applicant expenses are caused by unrelated cost increases (e.g., wage growth not caused by COVID-19), the method is unlikely to lead to excessive reimbursement of applicants because FEMA has strict eligibility rules to limit PA funds to direct costs related to COVID-19 care or safe reopening.

CHAPTER 2

Reviewing Alternate Methods of Estimating Duplication

If an applicant implements and describes its own Alternate Method to determine the extent to which PCR would duplicate funds requested (claimed costs) in PA project applications, we assess (when FEMA requests) whether an applicant has appropriately addressed DoB using reasonable methods, data, and calculations to ensure that reimbursing claimed costs would not duplicate PCR. We document each assessment in an Alternate Method review memo (AMRM), which summarizes each method; provides our assessment of whether the applicant has appropriately addressed DoB with PCR; and recommends how to revise the unreasonable methods, data, or calculations if the applicant has not appropriately addressed DoB with PCR.[17] If an Alternate Method has been deemed unreasonable, FEMA might request that we perform a Standard Method review instead of continuing to review revisions.

Method Documentation

An applicant that provides its own method is expected to provide the following materials, which we review to assess whether the applicant has appropriately addressed DoB with PCR:

- a narrative that describes the method, including any assumptions made by the applicant
- the calculations used to arrive at any reduction taken (or to show that no reduction is necessary)
- the PA projects to which the applicant has applied the method
- sufficient information pertaining to revenues and costs for us to determine whether the applicant includes all relevant revenues and costs when applying the method.

We might refer to supplemental information, such as the applicant's documentation in COVID-19 PA projects or the applicant's publicly available financial information. Typically, we use this supplemental information to confirm whether an applicant has included all relevant revenue or excluded large amounts of claimed costs with a high likelihood of DoB with PCR in the method. However, identifying small discrepancies between the method documentation and other project documentation (including cost summary workbooks that summarize a project's cost items or invoices for individual cost items) is beyond the scope of our reviews. Furthermore, costs could change after FEMA and the applicant fully identify eligible costs, so detailed calculations and exact costs are less important to evaluate than the method's conceptual soundness. Similarly, to process reviews in a timely and consistent manner, we also do not calculate reductions if the applicant did not do so in the method documentation unless the project is referred for Standard Method review.

Review Procedures

We assess each Alternate Method based on analysis of the provided materials and the professional

judgment of HSOAC experts in the fields of health finance, cost analysis, medical insurance, medical billing, health economics, health policy, and related fields. To make an assessment, we answer the following three questions:

1. Do the methods embody a sound concept that, if applied correctly, could measure DoB with PCR?
2. Are the financial data comprehensive and correct (i.e., do they include all relevant sources of PCR and all relevant expenses)?
3. Are all calculations accurate?

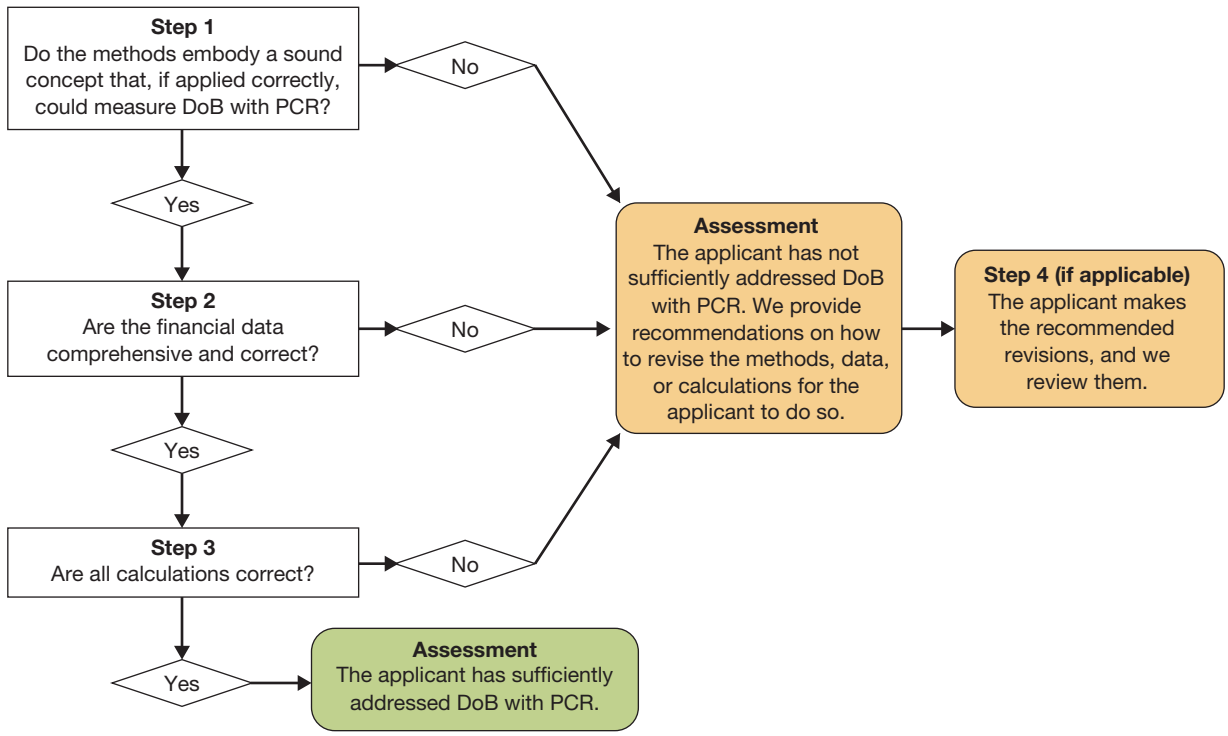
An applicant might use multiple methods to address DoB with PCR, such as by using a different method for each category of claimed costs (e.g., labor, medical supplies). An applicant has appropriately addressed DoB with PCR if all three of these questions are answered in the affirmative for each method. Figure 4 illustrates our process for conducting assessments. The Standard Method is one method that appropriately addresses DoB with PCR. In Appendix A, we provide examples of two other methods that we deemed reasonable during actual assessments.

Assess Concepts That Measure Duplication of Benefits with Patient Care Revenue

As noted earlier, medical insurance typically pays for services based on diagnostic information without explicitly paying for the costs incurred to provide the services (e.g., insurers pay for a medical visit and do not make itemized payments for other costs, such as nursing care or housekeeping that might be claimed as costs in projects). Therefore, an applicant should determine which costs being claimed in its PA application were associated with patient care that generated PCR and then apportion PCR, as appropriate, to those high-likelihood costs (see "Cost Reimbursements with Low Likelihood of Duplicating Patient Care Revenue" on page 5). FEMA can reimburse any eligible costs that PCR did not cover.

We assess whether the method the applicant used to apportion the PCR to PA claimed costs is

FIGURE 4
Alternate Method Review Process



conceptually sound. Because of the variation in the approaches applicants use, we cannot describe all possible methods that would appropriately apportion PCR. However, we generally consider a method conceptually sound if it appropriately categorizes claimed costs as having a low or high likelihood of DoB with PCR *and* appropriately apportions PCR to all PA project claimed costs that have high likelihood of DoB with PCR.

This review is analogous to determining whether the author of a journal article has selected an appropriate statistical model to answer the research question: It does not include validating the method's data inputs or outputs (i.e., results). Two examples of conceptually sound methods are

- using prepandemic norms as a baseline to separate claimed costs covered by PCR from above-and-beyond costs of the pandemic
- ensuring that total COVID-19 PCR does not exceed total COVID-19 expenses.

At the end of this chapter, we provide additional information on what constitutes a conceptually sound method by providing guidance on potential characteristics of methods, such as the appropriate definitions of cost categories and the recommended periods for analysis.

Evaluate the Applicant-Provided Data

To reduce a project's total claimed cost by an amount sufficient to avoid DoB with PCR, an applicant applies its methods to projects using cost and revenue data, such as PA claimed costs and the applicant's financial data on revenues and costs. Relevant sources of PCR include revenues from Medicare, Medicaid, commercial insurance providers, patients' out-of-pocket payments, capitation payments, DSH payments, payments from the Health Resources and Services Administration COVID-19 Uninsured Program and Coverage Assistance Fund, subsidies from state or local government, and any other revenue intended to pay for patient care.

If we cannot determine from the documentation whether the applicant has included all relevant PCR sources (for example, if the applicant does not provide a breakdown of PCR components or payers), we compare the total PCR reported in the documentation with what the applicant publicly reported to Medicare or to other online public financial data repositories. If we determine that reported PCR is not comprehensive or not correct, we might deem the data incomplete.

When determining whether reported PCR and costs are comprehensive and correct, FEMA does not have exact thresholds for the materiality of deficiencies. The American Institute of Certified Public Accountants (AICPA) does not either, in its widely accepted hospital auditing standards (AICPA, 2019, p. 16). AICPA has stated that an overall assessment is "not a simple mechanical calculation and involves the exercise of professional judgment" (AICPA, 2019, p. 16). We follow these standards, and we state in the AMRM any assumptions and judgments applied in assessing each method. HSOAC experts and analysts use their professional judgment when deciding whether potential deficiencies in reporting might materially affect the size of the reduction recommended to address DoB with PCR. To improve consistency, we require agreement of at least two researchers with experience in health services research or health care accounting.

Review Calculations

We consider a calculation correct if it is free of mathematical errors. This step typically involves HSOAC analysts manually checking that the applicant's arithmetic is correct. We also determine whether all formulas used are executed correctly by checking for consistency between any formulas stated in the method documentation narrative and all calculations that incorporate the applicant's financial data (e.g., formulas embedded in a Microsoft Excel workbook).

Identify the Alternate Method Outcome

When reviewing an Alternate Method that an applicant provides, any of the three following outcomes are possible:

- The Alternate Method (and its application to specified projects) is deemed **reasonable** if reviewers find that the method reasonably addresses duplication with PCR. This is noted, and no additional reduction in reimbursement is recommended.
- If the method is found **not reasonable**, the memo recommends revisions to correct deficiencies identified in the review.
- If the Alternate Method is unreasonable but application of the Standard Method shows that the resulting PA request would not require further reductions to address duplication with PCR, the memo would note that the method is **not reasonable but no further reductions are recommended to account for duplication with PCR**.

Communicate Results

The findings of the assessment are transmitted to FEMA using the AMRM. Each AMRM includes a summary of the methods and data and our determination of whether an applicant has appropriately addressed DoB using reasonable methods, data, and calculations. If the applicant has not appropriately addressed DoB with PCR, the AMRM also provides recommendations for addressing the deficiencies in the methods, data, or calculations.

Conduct Quality Assurance

Before each AMRM is sent to FEMA, our QA team administrators and reviewers review it. The QA administrators ensure that reviewers with appropriate qualifications review each AMRM for accuracy and consistency and that the AMRM provides the appropriate feedback to FEMA. The QA team contains experts in health care administration, economics, accounting methods, and the FEMA PA process.

Review Method Revisions

FEMA has indicated that, if an applicant has not sufficiently addressed DoB with PCR, it either (1) allows the applicant a one-time revision to address the deficiencies or (2) requests that we apply the Standard Method (described earlier in this report) to the applicant's project claims to estimate DoB with PCR.

We use the same procedures described in this chapter to review an applicant's revised methods and deliver a second AMRM to FEMA as an amendment to the original AMRM. If we assess the revised method to be unreasonable, we document this finding in the amendment and recommend that the applicant's projects be evaluated using the Standard Method to produce recommendations on whether the applicant should reduce its claimed costs.

Characteristics of Conceptually Sound Methods

This section describes some potential characteristics of methods and provides guidance on what is considered reasonable. In particular, these characteristics relate to Alternate Methods that resemble or embody the same characteristics of the Standard Method described earlier, such as allowable reimbursement ceilings or prepandemic benchmarks, but might also be applicable to other types of methods.

Allowable Reimbursement Ceilings

The Standard Method and other methods use at least one allowable reimbursement ceiling, which is a dollar amount up to which FEMA could reimburse an applicant without incurring DoB with PCR. Often, methods calculate ceilings by comparing PCR and expenses, with the ceiling being the amount that expenses exceed the PCR apportioned to them. An applicant can calculate a ceiling organizationwide (maximum breadth) or specifically for the parts of the organization caring for patients with COVID-19 (narrower breadth). The ceiling

could also be across a broad cost category (e.g., labor) or, in some cases, across a granular cost subcategory (e.g., medications), as explained in more detail in this section. The period for the ceiling might also vary (e.g., one quarter's revenues and expenses versus a fiscal year of revenues and expenses). In this section are some guidelines we follow to determine whether an applicant's method is conceptually sound.

Time Period

Ideally, the period for an allowable reimbursement ceiling approximately matches the period in which claimed costs were incurred in the applicant's PA projects. The ceiling's period should include only years (or months) covered by the applicant's projects. For example, if a ceiling is calculated across three years but claimed costs are only in 2020, this method's period is always considered unreasonable because it could allow an applicant to claim FEMA reimbursement for a cost incurred in 2020 by arguing that the organization lost money in 2022. We also recommend that ceilings cover one year at a time, but a multiyear ceiling is possible in limited cases, such as if an applicant's individual cost items span more than one year. For example, if equipment costs span several years, a ceiling could cover more than a single year to address the fact that equipment costs are normally expensed across years (annual depreciation is calculated and reported).

Cost Categories

It is often possible to estimate an allowable reimbursement ceiling for any cost category that was present before and during the PHE, whether broadly or narrowly defined, but some levels of granularity are problematic. In particular, interchangeable cost items should typically be included in one ceiling. For example, contract nurses and force account nurses very often perform the same work. During the PHE, a substantial portion of the labor that was previously performed by force account nurses was performed by contract nurses. It would be problematic for an applicant to lose ten force account RNs who were employed in 2019, replace them with ten contract RNs in 2020, and then claim that all of its 2020 contract RN labor costs were unbudgeted (i.e., claim that none of its PCR should be apportioned to pay for the ten contract RNs). In this example, a surge in contract nurse labor costs would be partially offset by a drop in force account nurse labor costs. Because these two labor costs are closely linked and associated with mostly the same work, for a method to be deemed reasonable, an applicant should group together all labor or all clinical labor (including contract and force account labor, premium pay, and temporary workers) into a single ceiling.

Organizational Breadth

The cost and revenue data used to calculate and apply allowable reimbursement ceilings should match the applicant's organizational breadth. For example, if the applicant is a single hospital and the ceilings are calculated at the health system level (across several hospitals), that method's organizational breadth would be unreasonable. Within an applicant's facility, an applicant might narrowly focus on the parts of its operation that provided COVID-19 care, or it might use financial data from the broader facility. It is preferable to focus only on parts of the organization that incurred claimed costs, but it is also reasonable to calculate ceilings using the facility's broader financial data because sometimes more-granular financial data are unavailable.

Prepandemic Benchmarks

Frequently, methods use cost and revenue data from prior to the PHE (e.g., data from 2019) to establish benchmarks that are used to determine what portion of their claimed costs, if reimbursed by FEMA, might incur a DoB with PCR:

- First, the method should define the prepandemic benchmark cost category consistently across years. The way an applicant calculates a prepandemic benchmark should not change each year. For example, the use of a nonbudgeted labor prepandemic benchmark

might be inappropriate because its definition could change any year that labor's budgeted share of revenues changed.
- Second, the method should use prepandemic cost categories. The applicant should aggregate prepandemic benchmark cost categories such that costs exist prior to and during the pandemic (e.g., laboratory tests or nurse labor). We would consider the method's cost category unreasonable if its prepandemic benchmark did not actually exist before the pandemic (e.g., COVID-19 testing or COVID-19 vaccines).

CHAPTER 3

Conclusion

Beginning in January 2021, FEMA requested HSOAC support in ensuring that the distribution of COVID-19 PA funds to hospitals and health systems avoid DoB with PCR and that DoB evaluations be done in a timely fashion with low burden to applicants. Per FEMA PA policy, FEMA is prohibited from providing financial assistance where such assistance would duplicate funding available from another program, including PCR. FEMA has faced challenges applying this policy for hospital PA applicants because U.S. health care cost reporting and payment systems are complex and often opaque. PCR represents payment, not reimbursement; most payment mechanisms are not linked to the amount or cost of work performed. We worked with FEMA to address this challenge and develop new methods to estimate DoB with PCR. In addition to developing methods, we review COVID-19 PA projects in one of two ways.

1. Where an applicant has provided its own Alternate Method of estimating DoB with PCR, we review that method (described in Chapter 2).
2. Where an applicant has not provided a reasonable method that appropriately addresses DoB with PCR or if FEMA directs us to do so, we use the method we have developed and agreed on with FEMA (the Standard Method) using applicant-specific financial data to identify needed project reductions (described in Chapter 1).

This report reflects the processes we were using to implement our reviews for both approaches as of November 2024. We note that the methods, their underlying processes, and other information included herein might change following the report's publication.

APPENDIX A

Two Examples of Reasonable Methods

The Standard Method is the most commonly used method that appropriately addresses DoB with PCR and is described in Chapter 1. This appendix describes two deidentified, reasonable examples of other methods that applicants used to appropriately address DoB with PCR. Some other methods not outlined here, including applicant modifications of the Standard Method, are also potentially reasonable.

A COVID-19–Specific Ceiling Method

This method shows that the sum of the applicant's PCR from treating COVID-19 patients and its FEMA PA funding does not exceed its total expenses related to COVID-19 patient care and safe-reopening costs. This method reasonably assumes that an applicant might allocate its COVID-19 PCR to any costs associated with COVID-19 patient care. The costs remaining after allocating all COVID-19 PCR would therefore not be paid for by PCR and constitute a COVID-19–specific allowable reimbursement ceiling, up to which FEMA might reimburse eligible costs without a DoB with PCR.

Summary of the Example

In fiscal year 2021, the applicant spent $50 million providing patient care to 950 COVID-19 patients. The applicant received $30 million in PCR (excluding FEMA PA) for providing COVID-19 patient care. Subtracting $30 million in PCR from $50 million in COVID-19 costs results in $20 million in COVID-19–specific costs that were not reimbursed through PCR. Therefore, FEMA could reimburse the applicant up to $20 million for eligible costs related to the COVID-19 PHE incurred in fiscal year 2021 without a DoB with PCR. The applicant submitted $14 million in eligible costs to FEMA PA. Because a full reimbursement from FEMA PA for $14 million would not exceed the COVID-19–specific ceiling of $20 million, the applicant concluded that no reduction should be applied to the request because there was no DoB with PCR. We determined that the applicant appropriately addressed DoB and deemed the method reasonable. Additional details of the method are described in the rest of this appendix.

Data on Costs

The applicant provided a list of fiscal year 2021 costs that were directly related to COVID-19 patient care and the costs submitted to FEMA PA in fiscal year 2021 (Table A.1). The costs are restricted to a subset of the applicant's total patient care population for which revenues can similarly be restricted: all patients hospitalized with

TABLE A.1

Total Costs for Patients Hospitalized with COVID-19, by Cost Category, in Millions of Dollars

Cost Category	Total Cost Amount	Costs Submitted to FEMA PA
Force account labor	30	1
Contract labor	10	6
PPE	5	5
Medical supplies and equipment	3	2
Indirect costs	2	0
Total	50	14

COVID-19 diagnoses. Although the total cost amount includes costs ineligible for FEMA PA funding (e.g., nonovertime force account labor), the applicant did not submit these costs for FEMA PA.

Data on Revenues

The applicant received PCR for 950 COVID-19 patients treated in fiscal year 2021. The applicant specified that PCR included revenue from all sources, including Medicare, Medicare Advantage, Medicaid, commercial insurance providers, patients' out-of-pocket payments, DSH payments, payments from the Health Resources and Services Administration COVID-19 Uninsured Program and Coverage Assistance Fund, capitation payments, and subsidies from state or local government intended for patient care (Table A.2). Because the applicant submitted costs associated with hospital inpatient and hospital outpatient care, the PCR figure includes PCR for both settings.

Method Employed for Calculating the COVID-19–Specific Ceiling

The applicant spent $50 million providing patient care to the 950 COVID-19 patients and received $30 million for PCR in fiscal year 2021. As a result, the applicant's costs related to the COVID-19 PHE in fiscal year 2021 exceeded its PCR by $20 million. Therefore, the COVID-19–specific ceiling for the applicant's PA request from all categories is $20 million. The applicant submitted $14 million in eligible costs to FEMA PA, so the applicant concluded that no reductions should be applied to the request because there was no DoB with PCR.

The Final Federal Emergency Management Agency Public Assistance Funding Request

We determined that the applicant's method using a COVID-19–specific ceiling appropriately addressed DoB with PCR and deemed it a reasonable method. No further reductions to the applicant's $14 million request were necessary to avoid a DoB with PCR.

TABLE A.2

Sources of Revenue for Patients Hospitalized with COVID-19, in Millions of Dollars

Payer Source	Hospital Inpatient and Hospital Outpatient PCR
Traditional Medicare	5
Medicare Advantage	5
Medicaid	4
Commercial insurance	3
Patients' out-of-pocket	2
Health Resources and Services Administration COVID-19 Uninsured Program and Coverage Assistance Fund	1
Capitation payments	1
State and local government funding	8
Other revenue sources[a]	1
Total	30

[a] The applicant should include at least some portion of patient care–related revenues that are not expressly earmarked for COVID-19 care. For example, when Medicaid DSH payments are made to an applicant in a lump sum, attributing some DSH revenues to patients with COVID-19 diagnoses is reasonable.

A Method That Apportions Patient Care Revenue to Items Based on Prepandemic Norms

Another reasonable method estimates the extent to which PCR covered specific line-item costs before the pandemic, then assumes that PCR covers that same (inflation-adjusted) amount during the pandemic. Where expected revenues are insufficient to cover the entire line-item cost, the applicant requests FEMA PA reimbursement for the remaining line-item costs. Line-item reimbursement requests are summed across each line item to yield the final total PA request.

Summary of the Example

The applicant spent $2.5 million on contract RN labor between March and December 2020 (i.e., during the first ten months of the PHE) for care of COVID-19 patients. The applicant estimated that $900,000 of anticipated revenue was attributable to RN labor based on pre-PHE norms. Therefore, the applicant submitted a request of $1.6 million ($2.5 million – $900,000) for PA funding in relation to its contract RN labor. We considered the method to be reasonable.

Data on Costs

The applicant used its Medicare cost reports to document total hospitalwide pre-PHE operating costs of $1 billion in 2019. The applicant also documented an average pre-PHE pay rate of $50 per hour for its force account RNs (wages and benefits) and an average PHE pay rate of $125 cost for contract RNs, with a total cost of $2.5 million for contract RN labor between March and December 2020.

Data on Revenue

The applicant documented total hospitalwide pre-PHE PCR of $900 million between March and December using its Medicare cost reports, which included PCR from Medicare, Medicare Advantage, Medicaid, commercial insurance providers, patients' out-of-pocket payments, DSH payments, payments from the Health Resources and Services Administration COVID-19 Uninsured Program and Coverage Assistance Fund, capitation payments, and subsidies from state or local government intended for patient care.

Method Employed for Calculating Excess Costs

Table A.3 shows how unreimbursed totals would be calculated for 20,000 hours of contract RN labor. According to pre-PHE cost and revenue data, PCR historically covered 90 percent of hospitalwide operating expenses. Therefore, the applicant estimated that its reimbursement rate for RN labor would be 90 percent of its pre-PHE contract nursing pay rate (90 percent of $50 per hour = $45 per hour). The applicant incurred 20,000 hours of contract RN labor between March and December 2020 at a pay rate of $125 per hour and assumed that $45 per hour was reimbursed through PCR. Therefore, the applicant incurred $2.5 million in contract RN labor costs (20,000 hours × $125 per hour) of which $900,000 was associated with PCR (20,000 hours × $45 per hour). The applicant computed the unreimbursed portion as $1.6 million ($2.5 million – $900,000), which was submitted as claimed costs on FEMA PA projects.

The Final Federal Emergency Management Agency Public Assistance Funding Request

After accounting for DoB, the applicant's final request for the unreimbursed portion of its contract RN labor costs was $1.6 million. We determined that the applicant's method appropriately addressed DoB with PCR and deemed it a reasonable method.

TABLE A.3

Summary for Identifying Excess Costs for Individual Cost Items

Step	Calculation
1. Calculate the percentage of hospital expenses that were reimbursed prepandemic.	
Hospitalwide PCR in 2019[a]	$900 million
Hospitalwide operating expenses in 2019[a]	$1 billion
Percentage of hospitalwide expenses reimbursed in 2019	$900 million/$1 billion = 90%
2. Determine pre-PHE hourly pay rate for RNs.	
Average pay rate for RNs (wages and benefits) in 2019	$50 per hour
3. Calculate hourly PCR apportioned to RNs pre-PHE.	
Pre-PHE pay rate for RNs × pre-PHE percentage of expenses reimbursed	$50/hour × 90% = $45/hour
4. Calculate total costs for contract RNs during PHE.	
PHE pay rate for RNs × PHE hours (March through December 2020)	$125/hour × 20,000 hours = $2.5 million
5. Calculate total PCR apportioned to contract RNs during PHE.	
PCR apportioned to RNs pre-PHE × PHE hours (March through December 2020)[b]	$45/hour × 20,000 hours = $900,000
6. Calculate the total unreimbursed amount for contract RNs.	
Total costs for contract RNs during PHE – total PCR apportioned to RNs during PHE	$2.5 million – $900,000 = $1.6 million

[a] The applicant documented that the data for operating expenses and PCR were obtained from Medicare cost reports.

[b] The applicant did not adjust this hourly PCR for inflation because the 2020 project occurred not long after the 2019 baseline calculations. However, it is normally more reasonable to adjust this hourly PCR upward each year to account for PCR's tendency to at least keep up with general price inflation, using a consumer price index or gross domestic product deflator (not shown here).

APPENDIX B

Expert Panel Members' Roles and Affiliations

We relied on the following internal and external experts to consult on the development of the methods and the determination of the likelihood of duplication with PCR.

Mahshid Abir is a practicing emergency physician with 18 years of clinical experience. She is a senior physician policy researcher at RAND and associate professor of emergency medicine at the University of Michigan (U-M), where she was the founding director of the U-M Acute Care Research Unit, a multidisciplinary research group evaluating the continuum of acute-care delivery in U.S. health systems to improve care quality and access. She was part of the group of RAND researchers who developed the U.S. Department of Health and Human Services National Health Security Strategy, including tools to evaluate health system and health care coalition surge capacity in response to disasters and mass-casualty incidents. She has an M.D.

Marilyn Bartlett is the former director of the Montana State Employee Health Plan and the former controller for Blue Cross and Blue Shield of Montana. She is a senior fellow at the National Academy for State Health Policy. In 2019, *Fortune* recognized her as 13th in its list of the top 50 world leaders for her work with Montana health insurance. She has a bachelor's degree in education.

Carl Berdahl is a practicing emergency physician and an affiliated adjunct physician policy researcher at RAND. He has experience researching health care policy, including policies related to physician reimbursement through Medicare and modifications to reimbursement that relate to health care quality and safety. He has an M.D.

Brian Briscombe is a quantitative analyst with extensive experience managing health care cost analyses that include commercial medical claims, hospital costs, and Medicare reimbursement rates. He currently leads the RAND Hospital Price Transparency Study (2019 to present), which analyzes commercial claim data from nearly all hospitals in the United States and compares commercial prices paid at each hospital with what Medicare would have paid for the same services at the same hospitals. He has an M.A. in economics.

Daniel J. Crespin is a full policy researcher at RAND with expertise in using administrative and claim-based datasets to study the utilization and costs of health care by private and public payers. He has worked on several projects for CMS that have analyzed issues related to Medicare payment systems. Before joining RAND, he was an economist at the U.S. Department of Health and Human Services, where he worked on issues related to price transparency and health care reform. He has a Ph.D. in health services policy.

Cheryl L. Damberg is a senior principal economist and director of the RAND Center of Excellence on Health System Performance. She holds the RAND Distinguished Chair in Health Care Payment Policy and has more than 25 years of experience in the areas of health economics, quality measurement and reporting, and the use of financial incentives to improve cost and quality. She previously served as chair of the board of AcademyHealth, a health services research professional organization that has more than 3,000 members. She has a Ph.D. in public policy and economics.

David Fukutomi is a national expert in complex disaster response and recovery, multiagency coordination, and integration of government and nongovernment programs and authorities. He led statewide response and recovery operations at the California Governor's Office of Emergency Services for more than eight years, including serving as deputy director for response and recovery operations, and he served as a federal coordinating officer for FEMA for more than seven years. He is a member of the Board of Trustees for the Community Memorial Healthcare System in California.

Risha Gidwani is an affiliated adjunct policy researcher at RAND and an associate adjunct professor in the Department of Health Policy and Management at the University of California, Los Angeles, Fielding School of Public Health. She is

a health economist with 14 years of professional experience analyzing health care costs and utilization and has expertise in using CMS data, commercial claim data, and data from the Veterans Health Administration. She has a Dr.P.H. in health services.

Keith Howard is a senior director at Plexos Group and has 13 years of experience leading teams in the complete cycle of the disaster recovery process. Following Hurricane Katrina, he served as group lead over grant management and closeout for the Governor's Office of Homeland Security and Emergency Preparedness in Louisiana. He has served as project specialist, PA coordinator, FEMA PA subject-matter expert, project manager, trainer, QA and quality control review specialist, and Emergency Support Function 5 branch manager. He has a B.S. in general studies.

Soeren Mattke is a physician and director of the Center for Improving Chronic Illness Care at the University of Southern California. His specialties include health and wellness programs; benefit design; medical technology evaluation; late-stage and postmarket development of pharmaceuticals; devices and health care services, including regulatory and payer strategy; health economics and market access; and public and government affairs. He has a Ph.D. in health policy.

Rekha Murthy is a nationally recognized expert in health care quality, infection prevention, antimicrobial stewardship, and emerging infectious diseases. She served as vice president of medical affairs and as associate chief medical officer at Cedars-Sinai through 2020, where she was on the front line of COVID-19 response. She oversaw clinical quality, patient safety, hospital epidemiology, and medical staff governance. In a prior role, she served for more than two decades as the medical director of Cedars-Sinai's Department of Hospital Epidemiology. She has coauthored numerous scientific publications and is professor of clinical medicine at the University of California, Los Angeles, David Geffen School of Medicine and Cedars-Sinai. She has an M.D.

Timothy A. Peterson is the chief medical officer at Henry Ford Health in Michigan. He previously served as the accountable-care organization executive of the Physician Organization of Michigan Accountable Care Organization at the U-M Health System. In addition, he served as the interim medical director for population health and interim executive director for home care services. He is also a board-certified emergency physician. He has an M.D.

Kanaka Shetty is a senior physician policy researcher at RAND and a practicing hospitalist physician with 20 years of experience in adult internal medicine, including providing care to adult patients hospitalized with COVID-19. He also has more than 15 years of experience in health services research. His analyses have used large databases of medical records drawn from Medicare claims, hospital electronic health records, and commercial insurers. He has an M.D.

Notes

[1] The law prohibiting DoB (payment for the same item both from FEMA and from health insurance) is Section 312 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Pub. L. 93-288, as amended through Pub. L. 118-44). PCR is all hospital revenues directly or indirectly generated from providing patient care.

[2] The policy implements direction from Section 312 of the Stafford Act.

[3] Project review teams (for both Standard Method and applicant-developed Alternate Method reviews) include experts in health finance, cost analysis, medical insurance, medical billing, health economics, health policy, and related fields. All analysts receive training to reliably implement standardized project review procedures. Quality assurance is provided by a team that includes experts in the production of complex analytic reports, communication specialists, and senior HSOAC management familiar with federal work.

[4] Medical insurers routinely address potential duplication between payments for patients with multiple sources of insurance. For additional details, see U.S. Centers for Medicare and Medicaid Services (CMS), 2023. However, these methods are not adequate for FEMA because they address payments for individual patients rather than true expenses. As a result, the portion of expenses that is supposed to be covered by FEMA would still be unknown after using insurers' methods, which are based on certification and auditing.

[5] We define *low likelihood* as having a small or no likelihood of being at least partially covered by PCR.

[6] FEMA refers to each application for PA as a *project*. In this report, we use the terms *project* and *application* interchangeably.

[7] A cost category is any group of costs. For example, FEMA groups all contracts in PA applications into one cost category. However, our team and applicants group costs into other cost categories, described in Appendix A.

[8] An ARM is the transmission of our analysis of one FEMA PA applicant's projects and claimed costs.

[9] A PRM is the transmission of our analysis of one FEMA PA applicant project.

[10] The allowable reimbursable ceiling is the maximum amount FEMA could pay for PA-eligible costs within a cost category and within a year without causing duplication with PCR.

[11] HCRIS is the system that hosts CMS cost reports. We take these financial data, clean and aggregate them, and publish them at RAND Hospital Data, undated.

[12] These categorizations reflect assumptions about how PA cost items match applicant financial data; an applicant can dispute categorizations after a review is complete, and we rereview applicants as needed.

[13] For example, if the fiscal year starts in October, PCR for calendar year 2019 would be constructed by adding 75 percent of the PCR for fiscal year 2019 (to estimate PCR for January through September 2019) to 25 percent of the PCR for fiscal year 2020 (to estimate PCR for October through December 2019).

[14] Data are available at RAND Hospital Data, undated.

[15] For an example in the context of radiology personnel and materials, see Baker et al., 1998, p. 9.

[16] The third edition of the *Public Assistance Program and Policy Guide* states,

> If the Applicant receives insurance proceeds for ineligible losses . . ., FEMA calculates a relative apportionment of insurance proceeds to determine the insurance reduction based on . . . [t]he ratio of total eligible losses to total ineligible losses. (FEMA, 2018, p. 40)

[17] An AMRM is the transmission of our analysis of one FEMA PA applicant's methods to estimate DoB.

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About This Report

The Federal Emergency Management Agency's (FEMA's) Public Assistance (PA) program is prohibited by law from reimbursing an applicant for costs that are covered by other sources of funding, which could include insurance or other private or public funding. FEMA has perfected its approach to evaluating duplication of benefits when public infrastructure has been damaged by a natural disaster, but it had not fully developed these capabilities to respond to a public health emergency. To support the delivery of its PA program in response to the coronavirus disease 2019 (COVID-19) pandemic, FEMA asked the Homeland Security Operational Analysis Center (HSOAC) to develop analytic methods and subsequent guidance to identify duplication of benefits with patient care revenue in grant applications. HSOAC was also asked to review select applications for duplication with patient care revenue. This report documents our methods of assessing such duplication. It will be of interest primarily to PA applicants, taxpayers, and related stakeholders.

All information presented in this report is current as of September 2024. It is possible that changes to methods, processes, and other information included herein will occur after the report's publication.

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During the development of these methods, we relied on a panel of experts who have vast experience in the health care and public disaster areas, listed on page 3 of this report. We also thank the two senior researchers who reviewed this report and provided detailed feedback and guidance: Jeanne S. Ringel and Marygail K. Brauner.

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The Homeland Security Act of 2002 (Public Law 107-296, § 305, as codified at 6 U.S.C. § 185) authorizes the Secretary of Homeland Security, acting through the Under Secretary for Science and Technology, to establish one or more federally funded research and development centers (FFRDCs) to provide independent analysis of homeland security issues. RAND operates the Homeland Security Operational Analysis Center (HSOAC) as an FFRDC for the U.S. Department of Homeland Security (DHS) under contract 70RSAT22D00000001.

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