Mastering Research Administration

A Complete Guide to the CRA®, CPRA®, and CFRA® Exams

Farin Kamangar, MD, PhD, CRA
University Distinguished Professor
Associate Vice President for Research
Morgan State University
Baltimore, MD, USA

Lulu Jiang, PhD
Program Administrator
National Transportation/SMARTER Centers
Morgan State University
Baltimore, MD, USA

Rebecca Steiner, CRA
Grants Manager
Office of Research Administration
Morgan State University
Baltimore, MD, USA

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- While it is generally considered best practice to avoid negative phrasing and answer choices such as “all of the above” or “none of the above” in standardized multiple-choice questions, these materials were created for training purposes. In some instances, we have intentionally used such formats.

Correspondence to: farin.kamangar@morgan.edu

CHAPTER 7
Federal Award Instruments

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7.1. Introduction

Each year, the U.S. Federal Government confers billions of dollars to non-federal entities (NFEs), including industry, universities, state and local agencies, other non-profit organizations, and even foreign entities. Some of this funding is for **financial assistance** to benefit individuals, communities, or society as a whole; and some is utilized to **procure goods and services** for government use.

This chapter offers an overview of the:

- Differences between federal financial assistance and procurement;
- Available types of financial assistance;
- Instruments of financial assistance, including **grants** and **cooperative agreements**;
- Mechanisms of procurement, including **fixed-cost** and **cost-reimbursable contracts**;
- Other strategies of government payment, including **other transaction authority (OTA)**; and
- Comparisons between these financial tools.

7.2. Federal Financial Assistance

The federal government provides financial assistance that **benefits individuals, communities,** or **society**, now or in the future. Federal assistance may be provided, for example:

- To find a treatment for pancreatic cancer,
- To develop better batteries for electric cars,
- To improve educational methods in the era of artificial intelligence,
- To assist college students with scholarship and tuition remission,
- To offer free or low-cost health coverage to eligible low-income individuals through Medicaid, or
- To mitigate damage caused by an earthquake

Some of these – such as the first three examples – are of special interest to university research offices. Financial assistance is accomplished primarily via **grants** and **cooperative agreements**.

7.3. Procurement

Some of the funds that federal agencies provide to external entities are not financial assistance. Rather, they are provided to procure (buy, acquire) goods or services from a contractor primarily for the **benefit of the government itself**. For example, if a federal agency pays to purchase a fleet of 200 cars or to procure a new software system **for its own use**, that is procurement – also called **acquisition** – not financial assistance. Procurement is primarily done via **contracts**.

7.4. Mandatory vs. Discretionary Financial Assistance

Federal financial assistance may be mandatory or discretionary.

7.4.1. Mandatory grants

The federal government is mandated, by acts of Congress or otherwise, to provide a certain amount to an individual or a community. Examples include Pell grants, Medicaid, or Temporary Assistance for Needy Families (TANF). Mandatory grants are **non-competitive**. They may be **formula grants** or **block grants**.

> **Formula grants** are based on a formula and have only moderate flexibility. Pell grants, for example, are federal formula grants that provide need-based aid directly to students, with award amounts determined by a congressionally mandated formula.
>
> **Block grants** are when a large sum of federal funding is given to a non-federal entity – e.g., state or local government – with substantial flexibility. For example, Temporary Assistance for Needy Families (TANF) is a block grant. States receive a fixed block grant each year, with broad flexibility to design and operate programs that provide cash assistance and services to low-income families to achieve self-sufficiency.

7.4.2. Discretionary grants

Unlike mandatory grants, discretionary grants are **competitive** and based on the **merit** of the proposal. The federal government can exercise discretion in providing this type of funding. For example, when the purpose is to identify treatments for pancreatic cancer, only competitive proposals that are novel and have strong methodology may be funded. These discretionary grants – sometimes also called competitive grants, merit-based grants,

project grants, or programmatic grants – are the type of grants that **university research offices** are most familiar with.

7.5. Financial Assistance Instruments

The federal government uses two primary instruments – **grants** and **cooperative agreements** – to provide financial assistance to research universities and institutions.

7.5.1 Grants

A research grant is a form of financial assistance. Typically, the grant recipient, i.e., the principal investigator (PI) on behalf of the university or other non-federal entity (NFE), will have substantial authority to make programmatic decisions. For example, the PI of an NIH R01 grant to identify biomarkers for early detection of Alzheimer's has the authority to choose his/her postdoctoral fellows or graduate students, the necessary reagents, any subaward recipients, etc. The domain of the PI's authority has limits, however. For example, the PI is bound by financial conflict of interest rules and human subjects research regulations. Programmatic decisions are made by the PI, not by federal government employees.

7.5.2 Cooperative Agreements

A research cooperative agreement is also a form of financial assistance. However, unlike with a grant, government agents have more influence and work as partners under cooperative agreements. The government agent may collaborate in project design or execution, approving key personnel or protocols, providing technical assistance, or participating in data collection or interpretation.

7.6. Rationale for Grants vs. Cooperative Agreements

Grants and cooperative agreements are both used for financial assistance. However, federal agencies use grants when they want to **fund ideas and independence**; they use cooperative agreements when they **need partnership and influence**.

7.6.1. Nature of the Project

- **Grants:** Utikized when the agency's main role is to support a PI's or institution's ideas in line with the agency's mission. The PI leads; the agency observes.

Example: An NIH R01 lets an investigator design and carry out their own research program.

- **Cooperative Agreements:** Used when the agency has a specific programmatic goal that requires shaping or coordinating the project as it unfolds.
  Example: NIH U01 or U54 cooperative agreements in multi-center clinical trials, where NIH staff help ensure protocols are harmonized across all sites. (Note: NIH grants that start with the letter U, such as U01 or U54, are always cooperative agreements.)

7.6.2. Level of Uncertainty / Complexity

- **Grants:** Utilized when the science or program is investigator-initiated and relatively self-contained, and federal oversight isn't needed to ensure scientific integrity.
- **Cooperative agreements:** Used more commonly in large, multi-site, or complex projects (e.g., clinical networks, longitudinal cohorts). Also used for pilot or experimental programs, where agencies want flexibility to adapt mid-stream.

7.6.3. Need for Federal Expertise

- **Grants:** Utilized when the funding agency doesn't need to be "in the trenches."
- **Cooperative Agreements:** Used when the funding agency has expertise, data, or infrastructure that must be embedded in the project.
  Example: CDC often uses cooperative agreements with state health departments to shape surveillance systems, because CDC staff provide technical methods and real-time feedback.

7.6.4. Accountability and Uniformity

- **Grants:** Utilized if local creativity is more important than uniformity.
- **Cooperative Agreements:** Used when funding agencies want to:
  - **Standardize methods** across multiple awardees.
  - **Collect comparable data** from different sites.
  - **Directly influence outcomes** for national programmatic priorities.

7.6.5. Legal and Policy Mandates

- The **Federal Grant and Cooperative Agreement Act (1977)** requires agencies to choose the instrument that matches their intended level of involvement:
    - **Grant** → utilized when supporting a public purpose *without substantial involvement*.
    - **Cooperative agreement** → used when supporting a public purpose *with substantial involvement*.
    - **Procurement contract** → employed when the purpose is to acquire goods/services *for the government's direct use*.

7.7. Procurement Instruments

The federal government uses **contracts** to procure goods and services for its own use, such as buying cars, developing a software system, constructing panels for a federal jet fighter, or producing a vaccine used for military personnel. Deliverables must typically be delivered **on time** and **to the specifications**.

There are different types of contracts. The two main types are **fixed-price** contracts and **cost-reimbursable** contracts.

7.7.1. Fixed-price contracts

Fixed-price contracts guarantee a predetermined payment regardless of actual costs incurred. They are used when the scope of work is well defined, technical risks are low, and costs can be reasonably estimated. The contractor bears the risk of overruns but benefits if costs are kept below the fixed price. Variations include:

- **Firm-fixed-price (FFP):** the most rigid, with no adjustments.
- **Fixed-price with economic price adjustment (FPEPA):** allows adjustments for inflation or market changes.
- **Fixed-price incentive (FPI):** ties contractor profit to cost savings and performance.

7.7.2. Cost-reimbursable contracts

Cost-reimbursable contracts, also called cost-reimbursement contracts or cost-type contracts, reimburse the actual allowable costs incurred plus a fee (fixed, incentive, or award). They are used when the scope is uncertain, technical risks are high, or innovation is

required, making accurate cost prediction impossible. The government (or sponsor) bears more of the financial risk. Variations include:

- **Cost-plus-fixed-fee (CPFF):** contractor gets reimbursed costs plus a fixed fee.
- **Cost-plus-incentive-fee (CPIF):** contractor shares in cost savings or overruns.
- **Cost-plus-award-fee (CPAF):** contractor earns additional fees for superior performance.

University professors are more interested in financial assistance mechanisms – i.e., grants and cooperative agreements – that give them more freedom and flexibility to do their research.

However, universities – and in particular university-affiliated research centers (UARCs) do receive contracts from the federal government for many purposes, such as for developing various parts of jet fighters.

7.8. Other Transaction Authority (OTA)

Another mode of funding support, not mentioned above, is Other Transaction Authority (OTA). OTAs provide substantial flexibility to the federal government to fund initiatives that are urgently needed to maintain the ascendancy or safety of the U.S.; they are not subject to tight regulations and the bidding that is needed for contracts.

Congress first granted "other transaction" authority to NASA in the 1958 Space Act. This was in response to the launch of Sputnik by the Soviet Union, which was later dubbed the "Sputnik Moment." The U.S. had no time to waste, and hence a new mechanism was needed. What distinguishes OTAs from other mechanisms is its flexible, negotiable terms (intellectual property (IP)/data rights and costs/accounting), streamlined competition, and—at the Department of Defense (DoD)—authority to move from a competitive prototype OTA to non-competed follow-on production under §4022(f).

While NASA was first given OTA, other departments were added later. The DoD received research OTA starting with the Defense Advanced Research Projects Agency (DARPA) test authority in 1989, and today DoD is the main user of OTA with $18 billion in Fiscal Year 2024. However, other agencies such as the NIH, NASA, and Department of Energy (DoE), may also utilize it.

Universities, and especially university-affiliated research centers (UARCs), may be awarded OTAs. This typically happens as part of consortia that include industry and academic institutions.

7.9. Governing Rules

There are various governing rules for each type of funding instrument.

7.9.1. Financial assistance

Financial assistance instruments, such as grants and cooperative agreements, are primarily ruled by the 2 CFR 200 - **Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards,** or more colloquially, simply **Uniform Guidance**.

7.9.2. Contracts

Contracts, both fixed-price and cost-reimbursable, are primarily ruled by the **Federal Acquisition Regulations (FAR)**.

7.9.3. Other Transaction Authority (OTA)

The rules governing OTAs are primarily codified at **10 U.S.C. §4021 (research) and §4022 (prototype & follow-on production)**.

7.10. Comparing Federal Funding Instruments

Feature	Grant	Cooperative Agreement	Procurement Contract	OTA
Legal Basis	2 CFR 200 (Uniform Guidance)	2 CFR 200 (Uniform Guidance)	Federal Acquisition Regulation (FAR)	Specific statutory authority (e.g., 10 U.S.C. §4021, §4022; NASA Space Act)
Purpose	Financial assistance to support a public purpose with minimal federal involvement	Financial assistance with substantial federal involvement	Acquire goods/services for direct government use	Flexible research and development (R&D), prototyping, follow-on production; innovative partnerships

Feature	Grant	Cooperative Agreement	Procurement Contract	OTA
Regulatory Framework	Uniform Guidance	Uniform Guidance	FAR/DFARS	Not subject to FAR or Uniform Guidance
Flexibility	Moderate: subject to cost principles & prior approval rules	Moderate: subject to cost principles & prior approval rules	Low: standard FAR clauses	High: negotiable IP, data rights, cost terms
Speed & Innovation	Moderate; structured review & compliance	Moderate; structured review & compliance	Often lengthy and compliance-heavy	Streamlined, encourages non-traditional & consortia participation
Eligibility	Universities, nonprofits, states, foundations, individuals	Universities, nonprofits, states, foundations	Industry and universities (vendors)	Industry (including start-ups), consortia, universities, research foundations
Examples of Use	NIH R01, NSF R15	NIH Clinical Trials Network, state public health initiatives	DoD weapons procurement, IT systems	DoD prototypes, NIH RADx & ACTIV, BARDA COVID contracts, NASA partnerships
Annual Volume (approx.)	~$50B+ annually	~$30B+ annually	Hundreds of billions annually	DoD: ~$18B (FY2024); NIH/HHS: ~$5B over 2016–23

7.11. Proper Use of the Term “Federal Award”

The term “**federal award,**” as defined in **2 CFR § 200.1,** means:

> (1) The federal financial assistance that a non-federal entity receives directly from a federal awarding agency or indirectly from a pass-through entity; **OR**
>
> (2) The cost-reimbursement contract under the Federal Acquisition Regulation (FAR) that a non-Federal entity receives directly from a federal awarding agency or indirectly from a pass-through entity.

The elements of these definitions are important. Both **direct** and **passthrough** assistance awards are included. Also, only cost-reimbursable contracts are considered federal awards. However, fixed-cost contracts are not included in the category of federal awards.

This has implications for single audit. The audited institution is requested to provide a list of all "federal awards" in their Schedule of Expenditures of Federal Awards (SEFA). Grants, cooperative agreements, and cost-reimbursable contracts – received directly from the government or from a passthrough agency – must be included in SEFA, while fixed cost contracts do not need to be included.

7.12. Summary

The U.S. federal government provides substantial funds to non-federal entities using various instruments, including grants and cooperative agreements (for financial assistance), fixed-cost and cost-reimbursable contracts (for procuring goods and services), and other transaction authority (OTA) for special needs in times of urgency or when other methods are impractical.

The purpose, eligibility, and governing rules are different for each of these instruments. University research offices are most interested in and familiar with grants and cooperative agreements. However, they may use contracts or OTAs, as well.

7.13. Practice Questions

1. Which two are considered assistance mechanisms, as opposed to acquisition mechanisms?
    a. Grants, cooperative agreements
    b. Grants, contracts
    c. Cooperative agreements, contracts
    d. Grants, interagency personnel agreements

2. "A financial assistance mechanism providing support to an eligible entity to carry out an approved project or activity, without substantial programmatic involvement from the sponsor" refers to a(an):
    a. Grant
    b. Cooperative agreement
    c. Contract
    d. Interagency personnel agreement

3. Cooperative agreements are:
    a. Agreements between two or more universities to conduct research.
    b. Agreements between universities and pharmaceutical companies to produce medications.
    c. Government funding mechanisms in which there is substantial involvement from the sponsor.
    d. Grants with multiple PIs, working closely together.

4. The basic purpose of grants is to:
    a. Provide assistance to advance a public purpose.
    b. Provide assistance for faculty and staff salaries.
    c. Procure goods and services for the federal government.
    d. Procure goods and services for the non-federal entity receiving the grant.

5. "A mutually binding legal relationship obligating the seller to furnish the supplies or services and the buyer to pay for them" refers to a(an):
    a. Grant
    b. Cooperative agreement

c. Contract
d. Interagency personnel agreement

6. Which of the following NIH grant mechanisms is a cooperative agreement?
    a. U01
    b. R01
    c. R21
    d. T32

7. The federal government wants to provide funding to university researchers to work on certain aspects of electromagnetic waves, primarily to improve mankind's knowledge. The most proper funding mechanism is a:
    a. Research grant
    b. Fixed-cost contract
    c. Cost-reimbursable contract
    d. OTA

8. The federal government wants to procure 10 million bullets with very clear specifications for military use. The most proper funding mechanism is a:
    a. Research grant
    b. Fixed-cost contract
    c. Cost-reimbursable contract
    d. Cooperative agreement

9. The federal government is asking non-federal entities to develop fabric that is very light and highly impenetrable to bullets. The fabric will be used for clothing military combat personnel. It is unclear how long this project will take. The most appropriate funding mechanism is a:
    a. Research grant
    b. Cooperative agreement
    c. Cost-reimbursable contract
    d. Block grant

10. In which of the following funding mechanisms is the funding recipient (e.g., the university) most likely to make profits or to lose money?
    a. Cost-reimbursement contracts
    b. Fixed-cost contracts
    c. Grants
    d. Cooperative agreements

11. NASA scientists are tasked with conducting research on global warming. They believe collaborations with 20 other universities across the globe will be very helpful, partly because of the expertise of these university scientists, and partly because conducting this research in several geographic locations adds to the validity of the results. This will be a collaboration between NASA and those universities, and all operations will receive input from NASA. The most appropriate funding mechanism is a:
    a. Grant
    b. Cooperative agreement
    c. Fixed-cost contract
    d. Cost-reimbursable contract

12. During the COVID-19 pandemic, the Department of Health and Human Services (DHHS) and the Department of Defense (DoD) used _____ to rapidly partner with pharmaceutical companies like Moderna, Pfizer, and Johnson & Johnson to accelerate vaccine development, manufacturing, and distribution.
    a. Grants
    b. Cooperative agreements
    c. OTA
    d. Cost-reimbursable contracts

13. The Department of Transportation (DoT) issues a grant for research on connected autonomous vehicles. The notice of funding opportunity must be consistent with:
    a. 2 CFR 200
    b. FAR
    c. U.S.C. §4021, §4022
    d. PAPPG

14. The Department of Defense (DoD) issues a contract to Pfizer to make vaccines for military personnel who are stationed in remote areas of the world. In issuing the contract, the DoD must abide by:
    a. 2 CFR 200
    b. 45 CFR 200-499
    c. FAR
    d. NIH GPS

15. NSF grant applications are reviewed for "intellectual merit." This implies that NSF grants are mostly:
    a. Discretionary grants
    b. Formula-based grants
    c. Block grants
    d. All of the above

16. As a general rule, which one is stricter, has more requirements, and is thus less desirable for university faculty members?
    a. Gifts
    b. Grants
    c. Cooperative agreements
    d. Contracts

17. Which one is more likely to put restrictions on publication?
    a. Federal grants
    b. Foundation grants
    c. Federally funded cooperative agreements
    d. Industry sponsored contracts

18. Which of the following is more likely to request monthly programmatic reports?
    a. Gifts
    b. Grants
    c. Cooperative agreements
    d. Contracts

19. The term “Federal Award” includes all of the following EXCEPT:
    a. Grants
    b. Cooperative agreements
    c. Cost reimbursable contracts
    d. Fixed-price contracts

20. Grants and cooperative agreements are ruled by _____ whereas contracts are primarily ruled by _____.
    a. Uniform Guidance, FAR
    b. Uniform Guidance, Circular A-21
    c. FAR, Circular A-21
    d. Circular A-21, FAR

21. Federal Acquisition Regulations (FAR) provide uniform policy and procedures for _____ offered by the federal government:
    a. Grants
    b. Cooperative Agreements
    c. Contracts
    d. Financial Aid

22. For federal grants, the government plays a ___ role.
    a. Partner
    b. Patron
    c. Purchaser
    d. Prosaic

23. For cooperative agreements, the government plays a ___ role.
    a. Partner
    b. Patron
    c. Purchaser
    d. Prosaic

24. For federal contracts, the government plays a _____ role.
    a. Partner
    b. Patron
    c. Purchaser
    d. Prosaic

25. Other Transactional Authority (OTA) is most often used by the Department of:
    a. Defense
    b. Transportation
    c. Commerce
    d. State

26. OTAs are:
    a. Subject to FAR and DFAR.
    b. Subject to competitive procedures and often need bidding.
    c. Often allowed to use sole source.
    d. For assistance to universities, non-profits, and underserved communities.

27. Which one has the shortest time from announcement to award?
    a. Grant
    b. Cooperative agreement
    c. Contract
    d. OTA

28. Consortia can be formed to obtain:
    a. Grants
    b. Cooperative Agreements
    c. OTAs
    d. All of the above

29. Which of the following is the type of grant that is given by the federal government based on statute and minimum qualifications?
    a. Mandatory grant
    b. Discretionary grant

c. Earmark grant
d. All of the above

30. Which of the following is the type of grant given by a federal agency and based on technical merit and programmatic needs?
    a. Formula grant
    b. Mandatory grants
    c. Discretionary grant
    d. Earmark grant

31. Discretionary grants are also referred to as:
    a. Project grants
    b. Formula grants
    c. Block grants
    d. Earmark grants

32. Which of the following comprises the majority of the dollar amount of research grants?
    a. Project grants
    b. Formula grants
    c. Block grants
    d. Earmark grants

33. The following definition relates to which category of federal grants: "Provisions associated with legislation (appropriations or general legislation) that specify certain congressional spending priorities or in revenue bills that apply to a very limited number of individuals or entities?"
    a. Project grants
    b. Formula grants
    c. Block grants
    d. Earmark grants

34. Which type of grant typically depends on quantifiable elements, such as total population, proportion of population below poverty level, housing density, or infant mortality rate?
    a. Project grants
    b. Formula grants
    c. Block grants
    d. Earmark grants

35. Which of the following is NOT correct about block grants? Block grants are usually:
    a. Given by the federal government to state and local governments.
    b. For broad social purposes, such as reducing crime and enhancing public health.
    c. Strictly monitored by the federal government for expenditure, efficacy, and efficiency.
    d. Large grants.

36. Which of the following is NOT likely to receive a block grant? A project to:
    a. Discover the causes of esophageal cancer.
    b. Enhance social services for the local population.
    c. Improve mental health.
    d. Develop decent housing for low-income people.

37. Federal financial assistance includes:
    a. Grants
    b. Loans
    c. Loan guarantees
    d. All of the above

38. "Around 60% of NIH's extramural awards (by number of projects) and also roughly 60% of the funding for research grants go to R01-equivalent mechanisms." This means that the majority of NIH extramural awards are for:
    a. Project grants
    b. Formula grants
    c. Block grants
    d. Cost-reimbursement contracts

39. Which of the following departments is most likely to provide block grants as opposed to competitive project grants?
    a. National Science Foundation (NSF)
    b. National Institutes of Health (NIH)
    c. National Aeronautics and Space Administration (NASA)
    d. Department of Housing and Urban Development (HUD)

40. A major difference between an R01 and a U01 is that:
    a. R01 is for research, but U01 is for training.
    b. R01 is for training, but U01 is for research.
    c. R01 is for grants, but U01 is for cooperative agreements.
    d. R01 for cooperative agreements, but U01 for grants.

7.14. Answers to Practice Questions

1. A

2. A

3. C

4. A The basic purpose of grants is to advance public purposes. For example, a research grant to develop efficient light bulbs will be good for society as a whole.

5. C Contracts are used to procure goods and services.

6. A NIH grant codes starting with U, such as U01 or U54, indicate cooperative agreements.

7. A This funding is for public good, not to procure (acquire) goods or services for the government. There is also no urgency in this. Therefore, a competitive research grant works best.

8. B This is for the government's own use, so it is not a grant or cooperative agreement. Given that the specifications are clear, and there is little unknown about making bullets, a fixed-cost contract seems to be entirely reasonable.

9. C This is for the federal government's own use. Therefore, grants and cooperative agreements – which are for financial assistance – are ruled out. The only answer is one that has "contract" in it. Given that timing and specifications are not entirely clear, a cost-reimbursable (cost-reimbursement) contract is reasonable.

10. B For grants, cooperative agreements, and cost-reimbursement contracts – which are all included in the "federal awards" category – the university will charge the federal government based on what it has spent. Therefore, the university will neither make money nor lose money. However, with fixed-cost contracts, the recipient may make a substantial profit, if it does the work properly and efficiently, or it may lose substantial amounts of money, if it is very inefficient.

11. B This is a collaboration between the federal government and universities. Cooperative agreement is the appropriate mechanism.

12. C DoD and DHHS used OTA, because this was an urgent matter. Unlike traditional procurement contracts or grants, OTAs allow the government to negotiate flexible terms, shorten timelines, and engage with industry partners more efficiently. Billions of dollars flowed through these COVID-19 era OTA agreements, enabling the U.S. to deliver safe and effective vaccines in record time. This was called "Operation Warp Speed."

13. A This is a grant. Therefore, it must follow 2 CFR 200 (Uniform Guidance).

14. C This is a contract. Therefore, it needs to abide by the Federal Acquisition Regulations (FAR).

15. A The fact that NSF grants are reviewed for "intellectual merit" means that they are funded based on merit, hence they are discretionary grants.

16. D While there are exceptions, in general, gifts have the least restrictions or requirements. Gifts are usually unrestricted, do not have serious reporting requirements, and are often not subject to audit. Grants are next. Research grants are for financial assistance and for public purposes. While they are subject to reporting and audit, there is "no expectation" of results. For example, if one receives a grant to discover early detection methods for ovarian cancer, there is no expectation that the investigator will necessarily find a method; sometimes research reaches the desired results, and sometimes not. Cooperative agreements are like grants, although slightly more stringent, because of government involvement. Finally, contracts are often the strictest ones. They may require frequent reporting, and the product must be ready on time and to specification. For example, if the federal government needs vaccines to be produced in 6 months, they mean it!

17. D While there are exceptions, in general, grants are more flexible than contracts. Federal grants and cooperative agreements often encourage the dissemination of results (open science), because they are funded by the public, and the results are meant for public good. Foundations also typically provide funding for public good, as well; hence, they encourage publication. Industry-sponsored contracts are more likely to impose restrictions (review periods, approval before publication) to protect proprietary information or intellectual property(IP). It is very important to read the terms and conditions of contracts. Faculty members may not want to accept grants

or contracts that restrict publication. There have been examples when a graduate student learned that they cannot publish the results of many years of their hard work only when they were about to graduate!

18. D Gifts usually have no reporting requirements. Grants usually require annual or periodic reports. Cooperative agreements may require more frequent, but not usually monthly, reports. Because contracts are acquisition mechanisms with deliverables, agencies/industry often require strict and frequent reporting, including monthly programmatic reports.

19. D Fixed-price contracts are not "federal awards" and are not subject to single audit. As long as the deliverables are provided in a timely manner, the recipient is entitled to the entire amount of funding.

20. A Grants and cooperative agreements are primarily ruled by assistance regulations, included in the Uniform Guidance (2 CFR 200). Contracts are primarily ruled by Federal Acquisition Regulations (FAR).

21. C

22. B Grants: the government acts as a patron, providing support with limited involvement. Cooperative agreements: the government acts more like a partner, with substantial involvement. Contracts: the government is a purchaser, buying goods or services.

23. A

24. C

25. A

26. C OTAs often have substantial flexibility, including being sole source. They are not subject to the strict procurement rules of FAR or DFAR.

27. D Grants can take months from the time the notice of funding opportunity (NOFO)/funding opportunity announcement (FOA) is issued to award. Cooperative agreements, like grants, often have a lengthy review and negotiation period. Contracts are a procurement process and can also be lengthy. OTAs are specifically designed for

flexibility and speed, often used by DoD and NIH for rapid funding, with the shortest time from announcement to award.

28. D Grants → Consortia can apply jointly, often through subawards or multi-PI structures. Cooperative agreements → Frequently used in large, collaborative research consortia (e.g., NIH U-series). OTAs (Other Transaction Authority) → Commonly awarded to consortia, especially in DoD and biomedical innovation, to foster collaboration and flexibility.

29. A Mandatory grants are funded based on statute, and minimum qualifications suffice to be paid from those grants. For example, being below a certain level of poverty may qualify a person to receive Medicaid. Discretionary grants, like NIH R01 or R21, are competitive grants and are not given based on "minimum qualifications;" they are funded only if the application is "competitive and meritorious." Earmarks, while not necessarily given based on competition and merit, are not based on minimum qualifications either. Earmarks are funds that Congress directs to specific recipients—such as universities, nonprofits, or local governments—without a competitive application or peer review process. They are written into appropriations bills to support projects chosen by individual legislators, often in their home districts or states.

30. C Discretionary grants are also called project grants, programmatic grants, or merit-based grants.

31. A

32. A

33. D The fact that Congress has that money set aside, or earmarked the funding, for a few individuals or entities means that this is an Earmark Grant.

34. B The funding formula may be based on these factors.

35. C Block grants are usually large, given to state and local governments, and for broad social purposes. However, the state or local government typically has substantial authority over how to plan and spend the funds; they are not strictly monitored by the federal government.

36. A A project to discover the causes of esophageal cancer is usually funded only if it is meritorious. Therefore, funding for such projects is often via discretionary grants. The other choices are broad social causes that may be funded via block grants, a type of mandatory grant.

37. D Any of these can be considered financial assistance. Research offices, however, mostly deal with grants.

38. A The majority of NIH extramural funding goes to R01-equivalent grants. These are project grants, also known as program grants, competitive grants, or merit-based grants. They are discretionary grants. NIH may decide to fund an R01 only if it is meritorious.

39. D The first three often provide research funding based on merit. That is why university research offices are very familiar with them. HUD primarily provides funding for block grants, which are mandatory, not based on competition. HUD operates the Community Development Block Grant (CDBG) program, one of the oldest and largest block grants.

40. C Both mechanisms are for research. “U” is for NIH cooperative agreements. In other words, R01 is when the government plays the role of a patron, while U01 is when the government plays the role of a partner.