Internal Controls

Ann Holmes
Rebecca Hunsaker

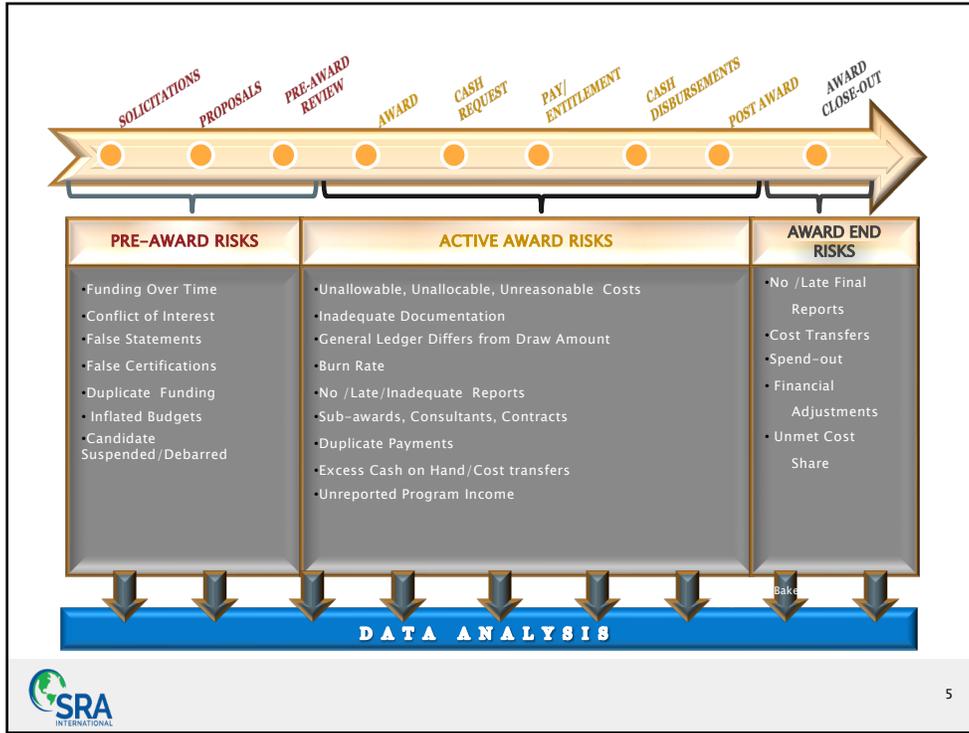## Data Analytics
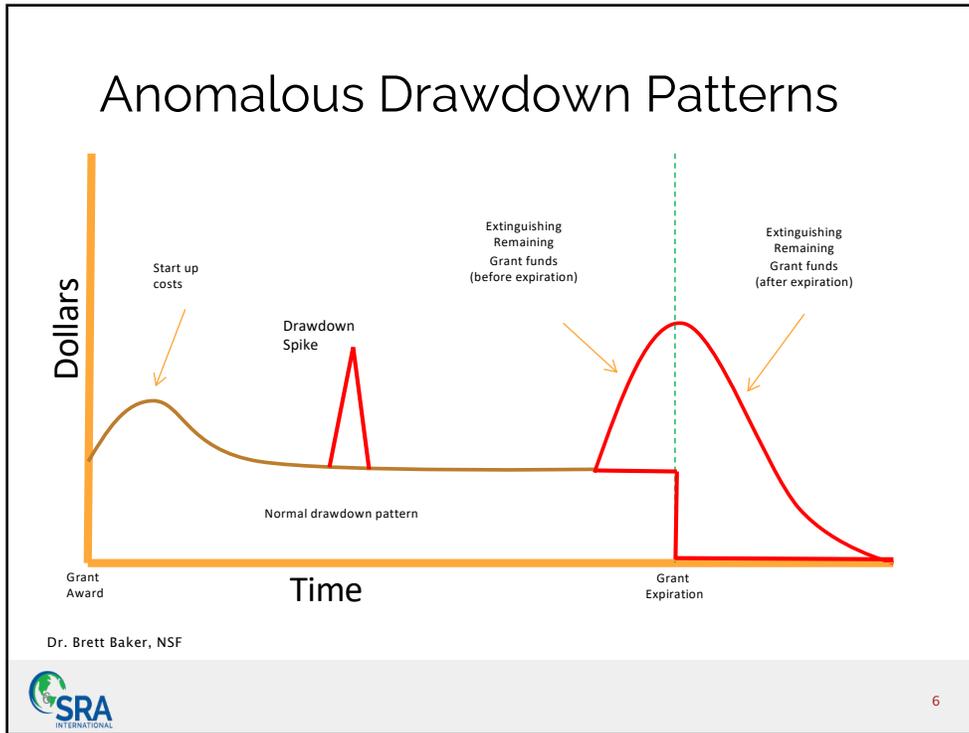
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Data Analytics and AI

- Analytics is the discovery and communication of meaningful patterns in data.
- Especially valuable in areas rich with recorded information, analytics relies on the simultaneous application of statistics, computer programming, and operations research to quantify performance.
- Analytics often favors data visualization to communicate insight.
- Artificial Intelligence makes it easier for agencies to perform various analytics.

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PRE-AWARD RISKS	ACTIVE AWARD RISKS	AWARD END RISKS
•Funding Over Time •Conflict of Interest •False Statements •False Certifications •Duplicate Funding • Inflated Budgets •Candidate Suspended/Debarred	•Unallowable, Unallocable, Unreasonable Costs •Inadequate Documentation •General Ledger Differs from Draw Amount •Burn Rate •No /Late/Inadequate Reports •Sub-awards, Consultants, Contracts •Duplicate Payments •Excess Cash on Hand/Cost transfers •Unreported Program Income	•No /Late Final Reports •Cost Transfers •Spend-out • Financial Adjustments • Unmet Cost Share

DATA ANALYSIS

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Anomalous Drawdown Patterns

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Slide 7

Equipment Charges Incurred Immediately Before Grant Expiration Date

GRANT ID	OBJECT DESCRIPTION	GRANT EXPIRATION DATE	TRANSACTION DATE	LEDGER POST DATE	FINANCIAL AMOUNT
XXXXX42	CONSTRUCTION AND ACQUISITION	09/30/2009	09/30/2009	10/06/2009	51,851.22

Same day as expiration

GRANT ID	OBJECT DESCRIPTION	GRANT EXPIRATION DATE	TRANSACTION DATE	LEDGER POST DATE	FINANCIAL AMOUNT
XXXXX27	INVENTORIAL EQUIPMENT	07/31/2010	06/04/2010	08/11/2010	31,621.56

57 days before expiration

GRANT ID	OBJECT DESCRIPTION	GRANT EXPIRATION DATE	TRANSACTION DATE	LEDGER POST DATE	FINANCIAL AMOUNT
XXXXX77	INVENTORIAL EQUIPMENT	08/31/2009	07/16/2009	09/10/2009	23,163.75

46 days before expiration

				TOTAL	106,636.53

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Slide 8

Travel Related to Award?

Just before award expiration

NSF_OIG_Transaction	Expiration Date	Transaction Date	Expense Type	Amount
GL Trans-030745	09/25/2007	08/31/2007	TRAVEL-IN-STATE	73,519
GL Trans-099671	06/11/2010	06/01/2010	TRAVEL - FOREIGN	41,474
GL Trans-084844	11/02/2010	10/31/2010	TRAVEL - OUT-OF-STATE	37,516
GL Trans-045792	02/09/2010	02/01/2010	TRAVEL-IN-STATE	28,905
GL Trans-117607	06/11/2010	07/15/2010	TRAVEL - FOREIGN	27,262
GL Trans-126299	08/19/2010	09/30/2010	TRAVEL-IN-STATE	20,975

Just after award expiration

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Internal Controls

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Internal Controls

- Who signs?
- Who approves?
- How do you review?

- How many reviewers/approvers do you have?
- What is the _value added_ of each reviewer/approver?

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After-the-Fact Reviews as an Internal Control

- What: process of using analytics to review past transactions
- Why: 80/20 rule (or 99/1)
- How: Pull data and look for common audit issues
  - Late posting and transfers
  - "other" object codes
  - Erratic spending
  - Late reporting

WHY? SO YOU FIND IT BEFORE THEY DO!

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The Audit

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Types of Audits

Internal Audits

Uniform Guidance Required Audits

Legislative Audits

Program Audits

Agency Audits (NSF Data Analytics)

Investigative Audits (suspicion of wrongdoing)

Compliance Audits

Information System Audits

Operational Audits (policies and procedures)

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During the audit

- Understand the purpose and scope of the audit
- Get a firm timeline from the auditor and stick to it
- Establish clear communication protocol
- Keep notes of all verbal communications
- Keep all emails, clarifying documents, etc. from the auditor
- Provide information consistent with what was requested – *no more, no less*

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Final Report and Follow Up

- You can challenge the draft report!
- Share the final report and management response with your departments to encourage transparency
- Discuss observations, findings, recommendations
- Use those observations, findings, recommendations to inform how your processes need to change
- Develop a plan for periodic oversight and stick to it

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Keys to a successful audit:

Understand	What's the scope (and make the auditors stick to that scope)
Manage	Who is involved in the audit (units should not get surprise calls from auditors)
Retain	Copies of what is given to the auditors
Ask	Question if you are not explicitly clear on what they need
Know	What are the rules/regulations – you might know more than you think!
Document	All meetings with the audit staff
Ensure	You have good internal controls

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Real Audit Questions

- Please provide the original invoice and the original ledger entry.
- Please provide a description of the award(s) or fund(s) included in the transfer and if they were federal funds, please indicate.
- If allocated, please provide the allocation methodology and a list of the other projects in the allocation.
- Please provide the reason for the transfer and, if applicable, why it was necessary so late in the award.
- Was this transfer due to a cost overrun or potential cost overrun?
- If applicable, please provide a copy of the original effort and all modified effort reports.
- If applicable, please provide any other relevant information not yet addressed.

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Source Documentation

- Include the original documents that prove the transactions have occurred
  - Receipts, purchase orders, equipment orders/invoices
- Know what your systems of record are
- Auditors can, at their discretion, accept non-standard documentation if standard is unavailable
  - Calendar or journal entries if time and effort records are not available

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NSF Data Analytics Audit Figures

- NSF OIG questioned $357,109
- Refunded prior to resolution (40,054)
- Refunded during resolution. (107,056)
- NSF resolution agreed w/UMD (8,736)

Balance remaining in resolution $201,263

Categories:
- Equip/supplies purchases at end or after award
- Allocation methodology
- Unreasonable travel
- Travel after award end
- Allowability (equipment) - largest $72,112
- Late Cost transfers - $58,808

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What's next?

- Will the changes in the Uniform Guidance impact how and when audits will be conducted?

- What will the impact of Artificial Intelligence (AI) be on the ability of auditors to:

  - Scour financial data for anomalies?

  - Compare progress reports to financial data?

- The sky is the limit, unfortunately!

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Contact Information

Rebecca Hunsaker

Executive Director for Research Administration

College of Behavioral and Social Sciences

University of Maryland, College Park

Hunsaker@umd.edu

Ann Holmes

Senior Assistant Dean, (Retired)

amholmes@umd.eduv

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