



Advancing Global Higher Education

Data Quality Practices

Results of the AACRAO June 2015 60 Second Survey

June 2015

The purpose of the June 2015 60 Second Survey was to gain a snapshot understanding of if and how institutions attempt to manage data quality (Appendix A). With the understanding that data quality practices (DQPs) may vary across departments within the same institution, this survey asked respondents to indicate their department. Of the 874 usable responses, 79 institutions submitted surveys from more than one department. While the registrar function accounted for the largest number of submissions, admissions, institutional research, information technology, enrollment management and many other departments also participated (Appendix B). Blank department responses are coded based on the participant's title and/or by examining the institution's directory. In addition, some with similar names (e.g., Office of the Registrar, Registrar's Office, etc.) were combined into a single group. The majority of respondents were from U.S. and Canadian institutions (n= 850) (Appendix C).

In the aggregate, 76% (n=664) of participants reported that their department uses some type of formal DQP. Graduate and/or professional institutions appear less likely than other institutional types to actively engage in DQPs (Figure 1).

Among the DQPs listed in the survey, trend and root cause analysis is the least used (22%), and internal review is the most used (81%) (Figure 2). Exception reports were held to be the most effective of the practices, followed by internal and external reviews (Figure 3). Sixteen respondents listed other DQPs in use in their department, which included such practices as "Data Stewardship Advisory Committees" and "seasonal data update campaigns", among others (Table 1). "Ad-hoc" and "weekly" were highest reported DQP frequencies (Figure 4). A listing of the "other" DQP frequencies is in Appendix D.

Most respondents (68%) reported not having at least one employee dedicated to data quality management. Whether an institution had an employee or not varied little by either the size of the institution or type (Figures 5 and 6).

Finally, appendix E is comprised of all of the additional comments about DQPs provided by the participants.

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Questions regarding this or other AACRAO research should be directed to Wendy Kilgore, AACRAO Director of Research and Managing Consultant at wendyk@aacrao.org.

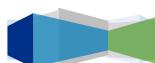


Figure 1: Use of Data Quality Management Practices by Institution Type

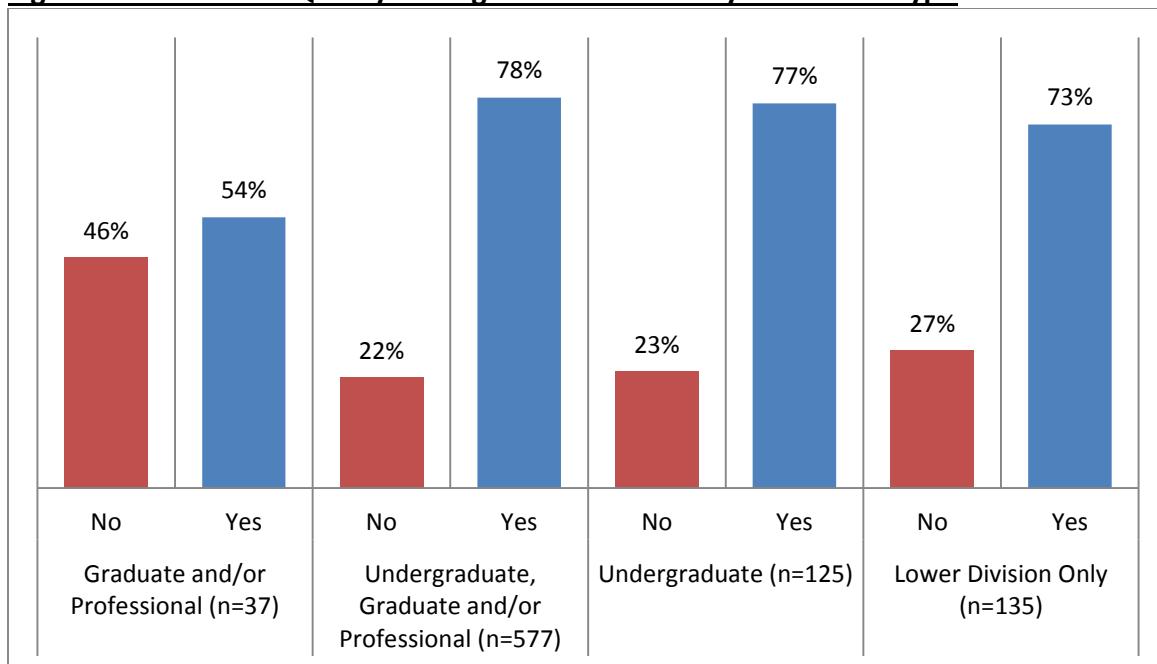


Figure 2: Use of Data Quality Management by Practice as a Percentage of Respondents Who Indicated Use of Data Quality Practices (n=664)

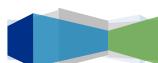
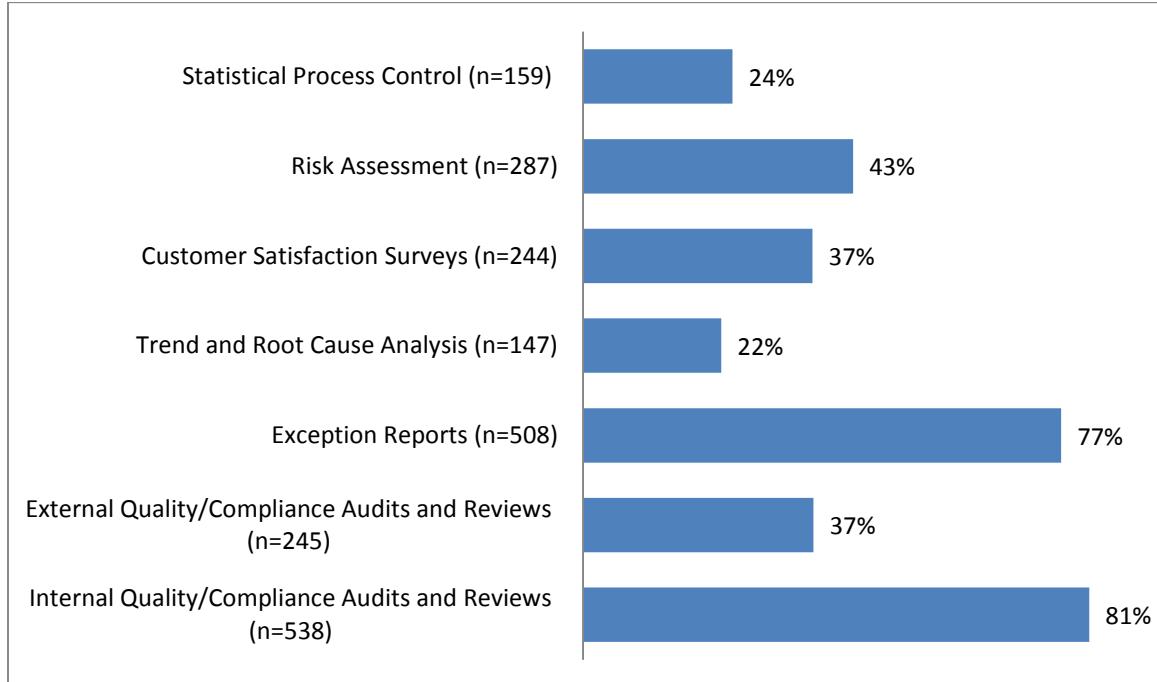


Figure 3: Assessment of Effectiveness of Data Quality Process

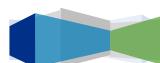
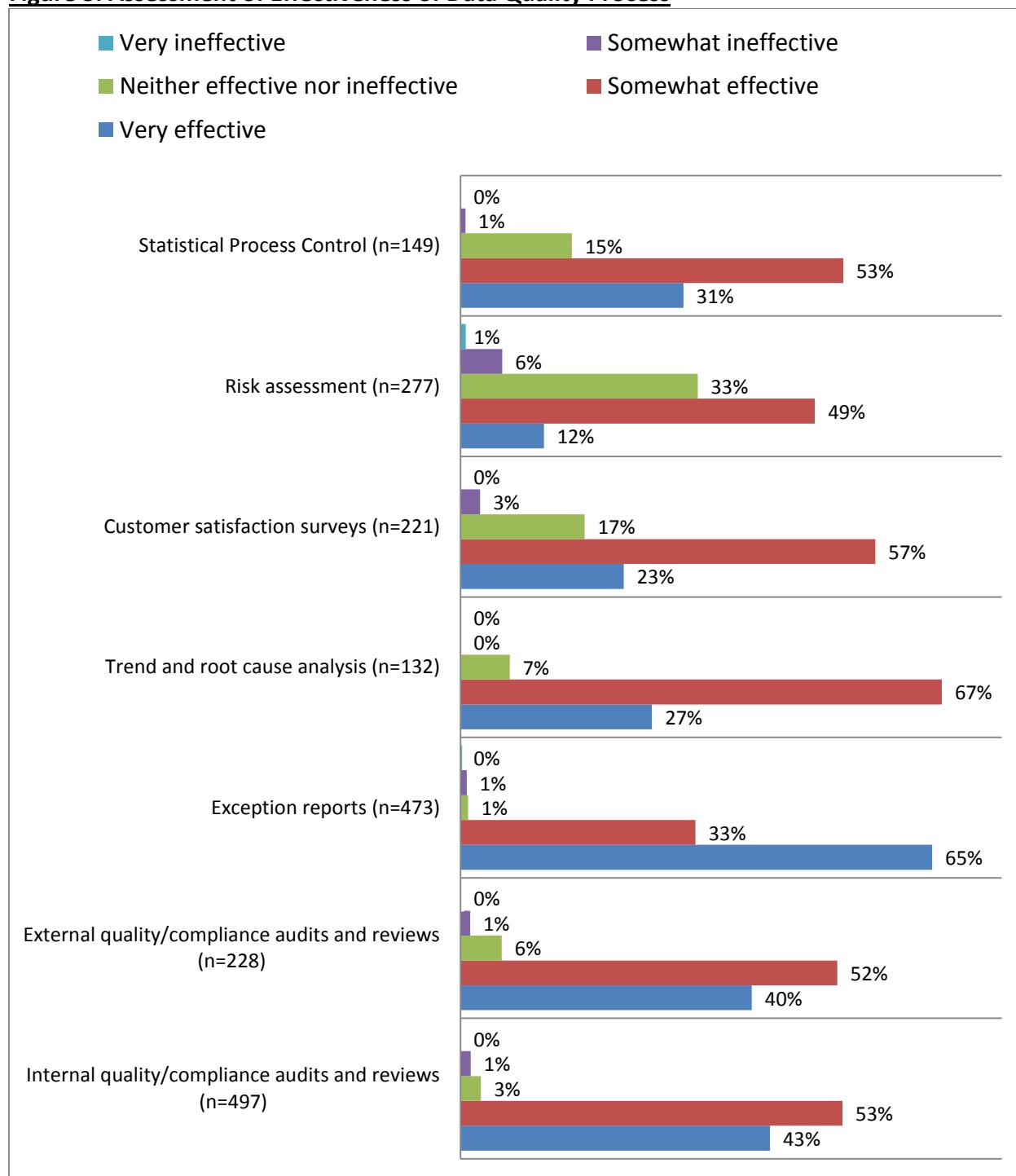


Table 1: Other Data Quality Management Practices

Responses
Manual cross check of system of record for program curricula and student information
Seasonal data update campaigns
We review data for consistency with historical reporting and external benchmarks
Training; a data integrity committee; data standards manual used in training of all new employees.
As-needed business process reviews; working group of stakeholders who meet regularly to share data quality issues and propose solutions; collaborative relationship with developers of required institutional reports and respondents to various surveys; development of training, how-to's and documentation
Data Model Validation
Own Method "META"
Secondary reports which pull the same data in a different way and analyze things by hand or samples when deemed necessary
Verifying of scanned documents by person other than the one who scanned the item
We contact stakeholders (i.e. students) to verify information. It's not quite a survey
Data Management Committees
We proofread absolutely everything in our office to assure accuracy
We also have a Data Stewardship Advisory Committee whose primary purpose is to help create "good data" across the College. They have identified data "owners", developed data quality guides, etc.
Includes representatives from across campus departments
We run many reports which show issues, not necessarily weekly. Some are daily and the other end of the spectrum is per term
Verification of Academic Record accuracy when students order an official transcript
Constantly updating office procedures to include quality control mechanisms

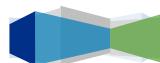


Figure 4: Frequency of Use

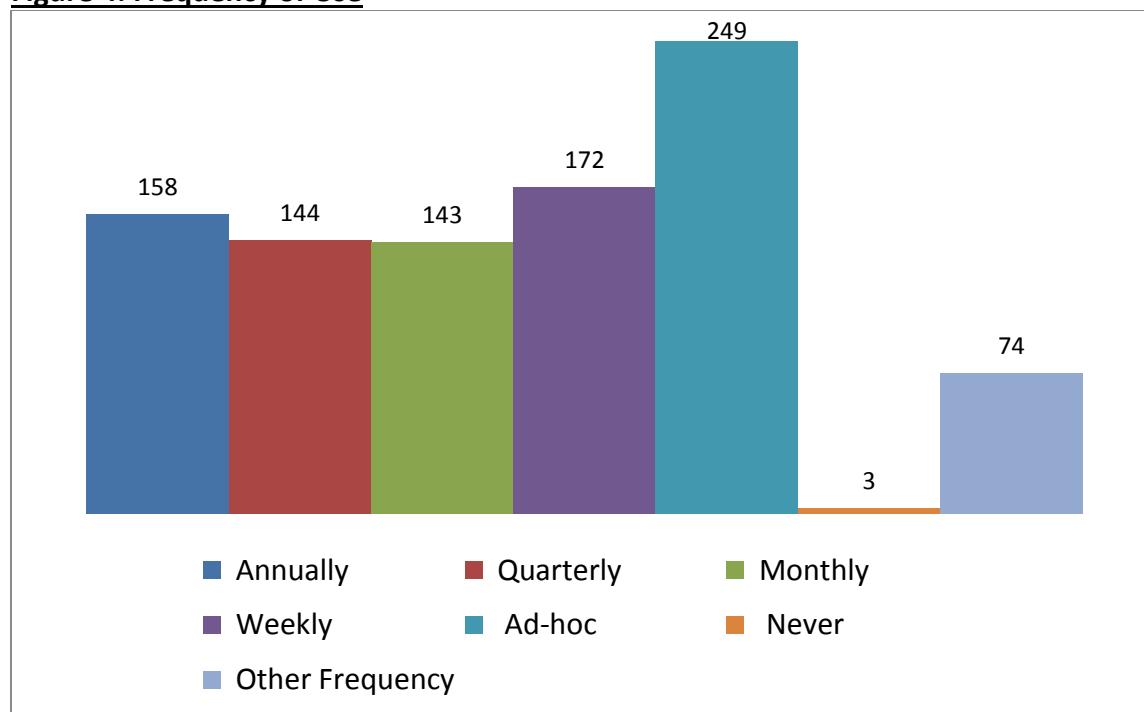


Figure 5: Percentage with at Least One Employee Dedicated to Data Quality Management by Institution Type

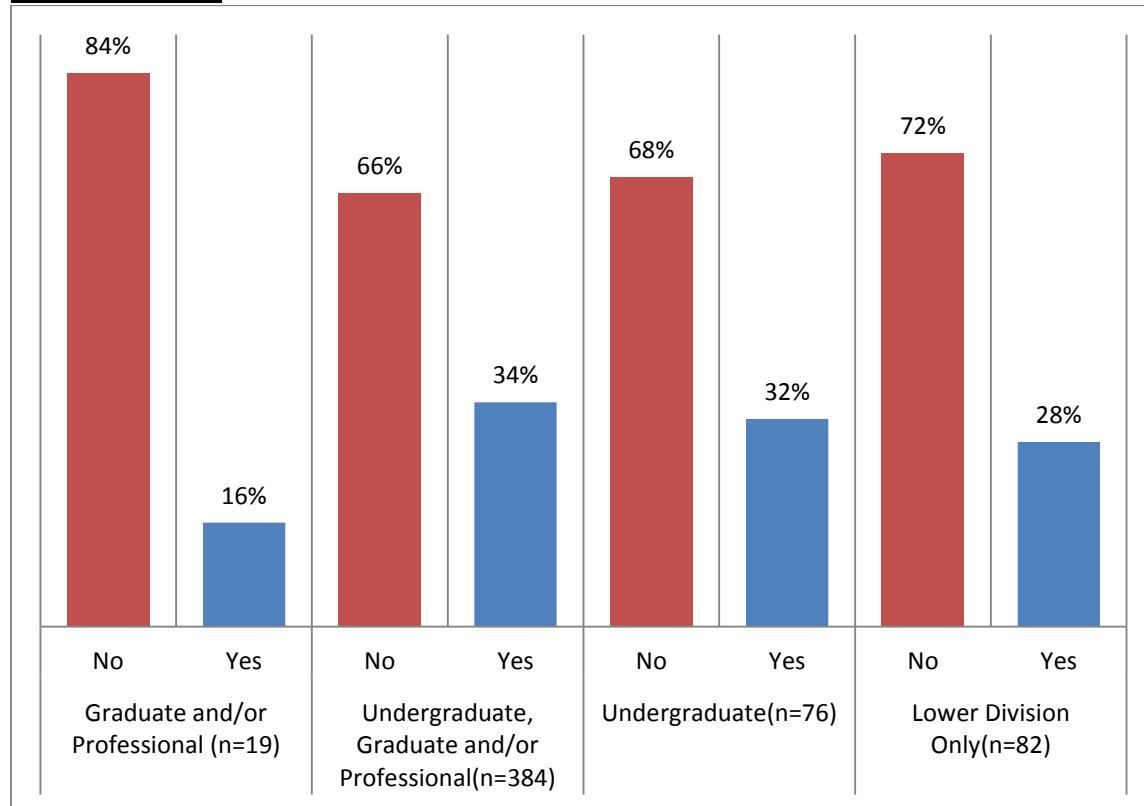
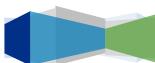
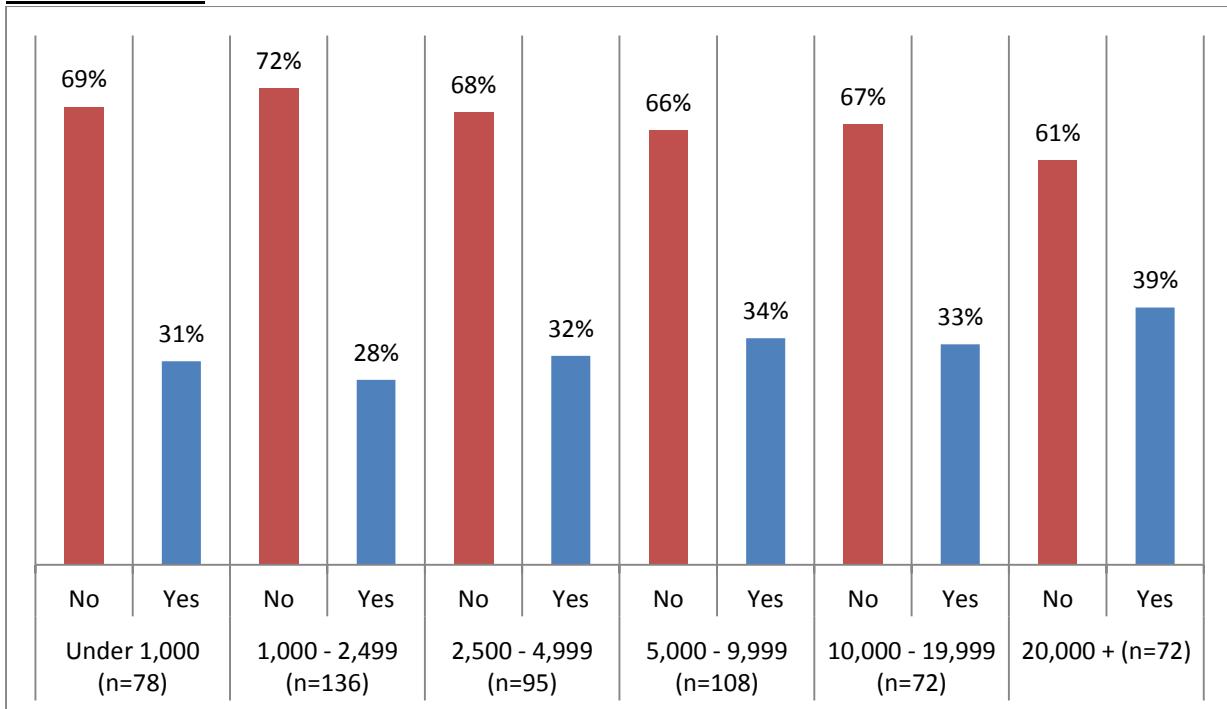


Figure 6: Percentage with at Least One Employee Dedicated to Data Quality Management by Institution Size



Appendix A: Data Quality Survey

AACRAO 60 Second Survey on Practices for Ensuring Data Quality

Does your department actively engage in data quality management?

- Yes
- No

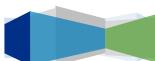
Name of Department

Which of the following tools and methods do you use to manage data quality in your department?

Check all that apply

<input type="checkbox"/>	Internal quality/compliance audits and/or reviews
<input type="checkbox"/>	External quality/compliance audits and/or reviews
<input type="checkbox"/>	Exception reports (to identify missing/inaccurate data)
<input type="checkbox"/>	Trend and root cause analysis
<input type="checkbox"/>	Customer satisfaction surveys (for both internal and external customers)
<input type="checkbox"/>	Risk assessment
<input type="checkbox"/>	Statistical process control
<input type="checkbox"/>	Other, please specify below

Please describe the other data quality methods in use.



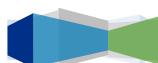
How effective are the tools and methods you identified in the previous question in helping you manage data quality in your department?

	Very effective	Somewhat effective	Neither effective nor ineffective	Somewhat ineffective	Very ineffective
Internal quality/compliance audits and reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
External quality/compliance audits and reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exception reports (to identify missing/inaccurate data)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trend and root cause analysis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customer satisfaction surveys (for both internal and external customers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Statistical process control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How frequently do you perform data quality audits or reviews for the processes in your department?

Check all that apply

<input type="checkbox"/>	Annually
<input type="checkbox"/>	Quarterly
<input type="checkbox"/>	Monthly
<input type="checkbox"/>	Weekly
<input type="checkbox"/>	Ad-hoc basis
<input type="checkbox"/>	Never
<input type="checkbox"/>	Other, please specify... _____

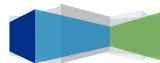


Additional Comments about Frequency or Effectiveness

Do you have at least one employee in your department dedicated specifically to a data quality control/quality assurance role?

- Yes
- No

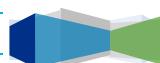
Any additional comments on data quality practices



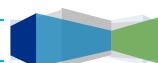
Appendix B: Grouped Respondent Departments

Department	Count
Academic & Financial Aid Processing	1
Academic Administration	1
Academic Advising	1
Academic Affairs	4
Academic Affairs & Graduate Studies	1
Academic Affairs & Registrar	1
Academic Affairs and Registrar Services	1
Academic and Student Affairs	1
Academic and Student Records	1
Academic Management	1
Academic Records	9
Academic Records & Registration	1
Academic Records and Registrar	1
Academic Registry	2
Academic Scheduling and Curriculum	1
Academic Services	3
Academics	1
Administration	1
Administrative Services / Student Records	1
Admissions	66
Admission Enrollment Services	1
Admission Registration and Records	1
Admission Services	1
Admissions and Enrollment Management	2
Admissions and Enrollment Services	1
Admissions and Records	5
Admissions and Records/Registrar	1
Admissions and Recruitment	2
Admissions and Registrar	2
Admissions and Registration	1
Admissions and Student Records	1
Admissions Enrollment Management	1
Admissions Operations	1
Admissions Records and Registration	1
Admissions Registration and Records	1
Admissions, Systems Analysis	1
Admissions/Records and financial aid	1
Articulation	1

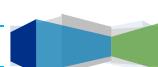
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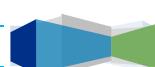
Center for Academic and Student Success	1
Central Information Systems	1
College of Arts & Sciences Registrar's Office	1
College of Graduate Studies and Research	1
Compliance	2
Core Technology Services	1
Curriculum Management	1
Data Base maintenance	1
Data Management	1
Data Management and Strategic Reporting	1
Data Reports Group	1
Data Users Group	1
Dean of Students	1
Department of Academic Affairs and Quality Assurance	1
Enrollment	3
Enrollment and Degree Management	1
Enrollment and Registrar	1
Enrollment and Retention Division	1
Enrollment and Student Services	1
Enrollment Management	35
Enrollment Management and Marketing	2
Enrollment Management and Student Success	1
Enrollment Services	20
Enrollment Services and Registrar	1
Enrollment Services Department	1
Enrollment Services Registrar	1
Enrollment Services Registrar Financial Aid Bursar	1
Enrollment Services/College Registrar	1
Enrollment Systems	1
Enrollments and Student Services	1
Enrolment Services	2
Enrolment Services (including Registrar)	1
Enterprise Systems Group Student Records	1
Financial Aid	2
Financial Aid Administrator	1
Global Education	1
Graduate Admissions	3
Graduate Admissions & Records	1
Graduate School	2
Graduate School Office	1
Graduate Student Services	1



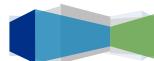
Graduation and Transcript Services	1
Information and Data Management	1
Information Management Group	1
Information Technology	3
Information Technology Services Student Information Systems	1
Institutional Effectiveness	1
Institutional Records and Planning	1
Institutional Research	13
Institutional Research	2
Institutional Research and Effectiveness	1
Institutional Research and Planning	1
Institutional Research, Planning and Assessment	1
International Program	1
International Student Services	1
INTO George Mason University	1
Law School Records	1
Law School Registrar	1
Learner Services & Operations	1
Multicultural Relations	1
Office of Academic Affairs	1
Office of Academic Records and Registration	1
Office of Admissions and Recruitment	1
Office of Admissions and Recruitment	1
Office of Admissions Records and Registration	1
Office of Admissions and College Registrar	1
Office of Enrollment Management	1
Office of Institutional Effectiveness	1
Office of Records	1
Office of Records and Registration	1
Office of Registration and Records	1
Office of the Associate Dean of Faculty and Registrar	1
Office of the Registrar & Academic Records	1
Office of the Registrar and Office of Student Financial Aid	1
Operations	1
Orientation services	1
Outreach, Admissions & Recruitment	1
Planning & Assessment	1
President for Academic Affairs	1
President for Enrollment	1
President of Enrollment Services	1
Provost and Registrar	1



Provost Enrollment Management	1
Provost for Enrollment Management	1
Provost, Academic Services	1
Quality Management	2
Records	5
Records	1
Records & Audit	1
Records & Registration	4
Records & Research	1
Records Administration	1
Records and Graduation	1
Records and Institutional Research	1
Records and Registration	7
Records management	1
Records office	2
Records, Registration and Veterans' Affairs	1
Recruitment	4
Recruitment and Retention	1
Recruitment Services	1
Registrar	466
Registrar (Enrolment)	1
Registrar and Admissions	2
Registrar and Enrollment Operations	1
Registrar and financial aid	1
Registrar and Institutional Research	1
Registrar and Records	1
Registrar Enrollment Services	1
Registrar student records	1
Registrar, Admissions & Fin Aid	1
Registrar, Enrollment and Student Records	1
Registrar, Registrarial Services	1
Registrar, Testing Services	1
Registrar/Institutional Research	1
Registrarial Services	1
Registration and Records	6
Registration and Records Enrollment Services	1
Registration Office	1
Registration Student Records	1
Research and Institutional Effectiveness	1
Scheduling and Examinations	1
School of Medicine	1



School of Medicine Office of the Registrar	1
Strategic Alliances	1
Strategic Enrollment Reporting and Analysis	1
Strategic Initiatives and Institutional Research	1
Student Academic Services	1
Student Affairs	4
Student and Enrollment Services	2
Student Enrollment Center	1
Student Financial Services	1
Student Information Systems as well as Division of	1
Student Records	6
Student Records & Registration	1
Student Records and Academic Information	1
Student Records and Financial Services	1
Student Records and Registration	1
Student Records and Systems	1
Student Services	7
Student Services and Engagement	1
Student Services and the Office of the Registrar	1
Student Success	2
Student Support Services	1
Students	1
Systems	1
Traditional Programs	1
Transfer and Articulation	1
Transfer Services Center	1
Undergraduate Admission	9
Unknown	3
Admissions/Enrollment Management	1
Records and Registration Health Sciences Campus	1
Admission and Records	1
Graduate Studies	2
Student Administrative Services	1
Educational Services	1
Student Affairs and Diversity	1
Grand Total	874

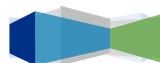


Appendix C: Respondent Characteristics

Country or Territory	Count
Armenia	1
Bolivia	1
Canada	30
Cote d'Ivoire	1
Germany	1
Guam	1
Hong Kong	2
Italy	1
Lebanon	2
Mexico	2
Puerto Rico	6
Qatar	1
United Arab Emirates	3
United Kingdom	2
United States	820
Grand Total	874

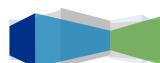
Institution Size	Count
1,000 - 2,499	205
10,000 - 19,999	122
2,500 - 4,999	156
20,000 +	104
5,000 - 9,999	149
Under 1,000	138
Grand Total	874

Institution Type	Count
Lower Division Only	135
Undergraduate	125
Undergraduate, Graduate and/or Professional	577
Graduate and/or Professional	37
Grand Total	874



Appendix D: Other Data Quality Process Use Frequency

Responses
Each Semester
Twice a year
Daily
Per semester
Many error reports are automated and run daily, weekly, or monthly - depends on the error
Every end of the semester
We focus on continuous process improvement-if a better more efficient/effective method identified, we transition to that.
We receive daily exception reports with student and applicant data for the current terms.
Every semester
Varies between daily and weekly
Varies by area
Some daily, some semesterly [sic]
Every semester
Prior to data extracts from ERP
Daily
Each semester
By Term
Some are done once per semester
Each semester
At specified periods during the semester
Semesterly [sic]
Prior to Census date each term
One per term
Semi-annually (between terms)
Start of term at Census Date
Depends on the specific data and processes and time of year.
Throughout the semester (midterm and final grade reporting deadlines) end of term.
The frequency of the quality control checks varies with regard to the specific function.
Daily
Per Semester
Routinely
Semesterly [sic]
Each semester



Some aspect of our data is continually under review primarily as our IT department makes changes for future upgrades.

Exception Reports are done daily by my office

Unit managers review daily the data that prints on cover sheets and letters

Currently trying to improve this due to transition to Banner. Depends on item and time of year.

Seasonally at beginning and end of terms

I receive daily exception reports

Varies. Some weekly, some semesterly [sic] some annually

Exception reports need to be run even more often

At the end of each semester

Reports scheduled using various schedules, daily or weekly

At least annually and quarterly, but some items are under continuous review.

Varies by process from monthly to annually

Beginning of each semester (3 times a year)

Every semester

Each trimester

Varies, depending upon process

After a particular process occurs

Twice per semester

Frequency depends on where we are in data cycle

Once per semester

Semester (2x/year)

All changes to the permanent record are auditing

At the beginning of each fall and spring semester

Two times per year formally, at each process run internally.

Varies by report

Each Term/Semester

First of term, to confirm data entry on entering students.

Daily, weekly, monthly, quarterly, annually...all depends on the type of process.

Bi-weekly

Daily

Varies based on the type of data; some are done annually while others are done on a regular basis; others are automated reports that are only generated when data errors occur

When needed,

By Semester

Different for each process

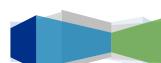
Some run daily to identify errors

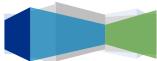
If an issue comes up we run various queries to validate data - as needed

Semester basis-see comment below

Depends on time in the semester.

Semesterly [sic], before census





Appendix E: Additional Comments

Responses

Our processes are reliant on academic departments and their willingness to comply. There are no "teeth" in the process

It is a team effort

We currently have an institutional researcher under the Senior Vice President's Office

I have several Data Quality Analysts on staff

New Data and Information Policy Committee will also play a larger role in Data Standards and QA

Several employees look at various pieces of it

Quality assurance is not their only role

Data review and quality is an aspect of a couple positions, but there is not a position with that as the only responsibility

Not a single person - This responsibility is embedded in many positions

Institutional Research department is used on a weekly basis to run audit reports, error checks, trend analysis, and generates statistical analysis and enrollment reports on demand for my department

In our small department, everyone is tasked to carefully review data for accuracy and completeness when data extracted from ERP for analysis. If errors found, contact department responsible for creating/managing data and work with that group to improve their data quality

This is a shared role by the 5 funky-techs [sic] in this department

We have a team of 6 people that provide the quality control for all the imaging, transcript data entry, and mail team functions. We also have a team of similar size that provides the quality control for evaluation and transfer credit decisions

Several members have jobs assigned to them and they are responsible for running reports to find incomplete data, missing data, errors or reports where each student needs to be reviewed manually

Every employee in the Registrar's Office performs some level of data quality control in their individual areas of emphasis

Our goal is 100% accuracy; everyone is responsible for helping meet that metric

Just posted such a position (after eliminating other positions to fund this)

Many employees have that task within their job description

Registrar for permissions and access, as well as data. Institutional Research also aids in this process

Actually have Assistant Registrars in my office that monitor their areas

All processes have a data integrity component to them to insure accurate/timely information

Each team identifies areas of data that requires monitoring, review, and maintenance

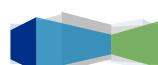
While I would love to have a person dedicated to data quality, staff/monetary resources do not allow this

We do have a Director of Institutional Research that has more responsibilities related to data control for the entire institution; however, reporting and institutional effectiveness is also on her plate

Data quality issues can cause harm to individuals or to an institution. However, in this "hurry up" world, quantity often seems to be valued over quality

Currently, all staff members entering data serve to ensure quality. This role will be performed by the newly proposed Associate Registrar of Data Management.

Data quality has to be a major concern of everyone. Otherwise, quality is difficult to measure let alone attain



All of my staff have a portion of the "exceptions report" we call it the data cleanup report that they review daily and fix data errors

Almost all employees in our unit have some responsibility related to quality control

We currently have a home-grown SIS, but are in the process of doing an ERP. We have built in multiple reports that run daily, weekly and monthly that check for data that is out-of-balance with what is required, we have prompts that advise if we are about to make a change that would create an in-balance, and when running reports for on-going processes we have error reports that are created for our review

As time-consuming and frustrating they can be, the audits have actually been very useful. Never thought I'd say that!

Data quality reports are scheduled to be delivered to appropriate staff member's area of responsibility

The above employee has many other tasks as well. Institutional Research has a full-time quality assurance coordinator and we have an internal audit department along with consulting firms doing reviews

Several staff members can/do work the discrepancy reports and then update data appropriately.

The Registrar's Office comprises a small Quality Assurance team that conducts risk assessments, performs quality audits and analyzes audit results for continuous improvement

This is not the sole responsibility of the position by any means, and one of the jobs is to emphasize that it's a shared responsibility

As the Registrar it is my responsibility to assure that all the data is accurate. Therefore, I set up various reports to find errors

This is a very important topic for our office; we have been focused on increasing the data quality work that we do and implementing a user-accessible reporting tool is a significant effort for our group this year; the College has adopted a student data warehouse using Blackboard Analytics and Pyramid; also Microsoft SSRS is the data quality reporting tool our Assistant and Associate Registrars will be trained to use this summer

I do most of the data quality control, if I find problems that look like a "trend", I ask our System Administrator to help me check for similar mistakes, why are they happening, is it one individual entering data incorrectly, a system error, etc. In a previous school I found that some employees were acting inappropriately, changing grades without permission, and also allowing students on suspension to register. Had I not been checking the data, this would have gone, perhaps, undiscovered.

Small institution. Cannot afford to dedicate someone to this task

This is a brand new position which is still being fleshed out (less than 1 month) so no information on effectiveness yet

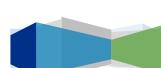
I wish I did

Three to four staff members share responsibility for this, but no single individual is dedicated 100% to it

Data quality is also shared with IT

We have several employees that this is a part of their job responsibilities

Although we have exception reports to identify data that needs to be corrected, our ultimate aim is to have the data identified, the data entry person identified, and then have that person automatically notified and required to clean up their own data entry error -- with validation reports run to ensure that it was done. Right now, the data cleanup resides totally in the Registrar's Office, regardless of who made the errors



Effective data quality practices depend upon clear processes for staff to follow, regular system checks for missing, inconsistent or conflicting data values and dedicated effort by each member of the department to ensure quality of the data and to remedy any inaccuracies as promptly as possible

Our Registrar's Office has only a total of 9 staff members.

I have four that each spend part of their time on data quality control/quality assurance.

Various staff are responsible for different types of data

Everyone is responsible for accurate data in our office

In addition to looking for errors, our nightly reports provide oversight to ensure that only the appropriate staff person is entering the appropriate data.

Four people

She is our tester and data quality person so it's a shared responsibility for her but we also believe in making people fix their own errors because that is how they will learn to not have it happen again.

We have four staff who share responsibilities for data quality control

We recognize the need for improved data quality control practices, and are working to design optimal processes across campus. It's a slow process with many players, and we haven't quite gotten it right yet

This role is performed by several staff members as needed

Each Director of the department and their staff are responsible for data quality control.

We do have one person who does some state enrollment reporting, however, most staff are responsible for the data they process.

The above role has many functions and not just data quality control assurance.

We have a QA staff member in each of the 12 departments in the Registrar's office as well as an overall QA staff member for student services

Although there is an individual on my team who is responsible for data integrity, that is at a system level, not specifically a per module basis. Each department (Admissions/Records/Registration/Etc.) has their own responsibility regarding data integrity and generally if one area doesn't maintain their data it has an inevitable downstream impact on the next department. Data integrity is not as high a priority as I would like to see it, but with limited resources and external forces contributing to poor data quality it is an ongoing maintenance issue

We have several positions that are responsible for data quality along with their other job duties.

All members of the records team along with "subject matter experts" are constantly aware and look for data inconsistencies. We also have cross-departmental meetings to go over business practices and data anomalies

Associate Registrar, Senior Reporting Analyst, and Scheduling Manager

Each employee does periodic quality control queries of his/her work

