NIH Electronic Submission Validations and the 80-20 Rule

The Pareto principle, also known as the 80-20 rule, states that for many phenomena, 80% of the consequences stem from 20% of the causes. This principle certainly holds true for application errors identified by eRA Commons during the electronic submission process for grant applications. Of the 98 different errors that R01 applicants received between January 5, 2007 and March 21, 2007, the top 20 errors accounted for 84% of the total errors flagged. Errors identify items that must be corrected in order to complete the submission process and ensure applications have all the information needed for peer review, and the information is presented in a consistent way to facilitate the review process.

Most Frequent R01 Electronic Submission Errors

#	Error Note: {#} indicates information is pulled from the application and placed in the message.	# Hits
1.	Senior/Key Person {0}, listed on the 424 RR Detailed Budget Page for budget year {1}, must include effort of a value greater than zero in calendar months, academic months, or summer months. Note: use either calendar months or a combination of academic and summer months. For information about calculating person months, see http://grants1.nih.gov/grants/policy/person_months_faqs.htm.	2571
2.	The {0} attachment is not in PDF format, or the filename is invalid. All attachments must be provided to the agency in PDF format, filenames must be included with no special characters (including brackets), and a .pdf extension must be used. Filenames will be accepted if they include spaces, hyphens, or underlines.	2543
3.	The organization name for Key Person {0} must be provided on the Senior/Key Person page.	1316
4.	The eRA Commons Username has not been specified in the 'Credential' field on the Senior/Key Person page for PD/PI {0}.	1060
5.	Federal Identifier format (SF 424 RR Cover page) is not valid. Please include only the IC and serial number of the prior grant number (e.g., CA123456).	975
6.	The eRA Commons Username {0} in the PD/PI Credential field on the Senior/Key Person page is not a recognized eRA Commons account.	604
7.	Either Exemption Number or Assurance Number must be provided if Human Subjects is "Yes" (Other Project Information, item 1).	495
8.	There must be a Personnel entry (with a role of "PD/PI") listed for the PI or PD on the 424 RR Detailed Budget Page (section A&B) for budget year {0}.	490
9.	The Targeted/Planned Enrollment Table Attachment must be included on the PHS 398 Research Plan page if the response to the Human Subjects question on the Other Project Information Page is 'Yes' and if the Exemption Number is not 4.	461
10.	The Inclusion of Children Attachment must be included on the PHS 398 Research Plan page if the response to the Human Subjects question on the Other Project Information Page is 'Yes' and if the Exemption Number is not 4.	395
11.	The Biosketch for Senior/Key Person {0} on the Senior/Key Person page is longer than four pages.	303
12.	The Inclusion of Women and Minorities Attachment must be included on the PHS 398 Research Plan page if the response to the Human Subjects question on the Other Project Information Page is 'Yes' and if the Exemption Number is not 4.	271
13.	When Vertebrate Animals is "Yes", you must provide either (1) animal welfare assurance number + IACUC approval date, (2) animal welfare assurance number + an indication that IACUC approval is pending OR (3) the word 'None' (Other Project Information, item 2)	242
14.	For resubmissions (amended applications) and renewals (competing continuations), the Federal Identifier must be included. Please include only the IC and serial number of the prior grant number in the Federal Identifier field on the SF 424 RR Cover page (e.g.,	236

	CA123456).	
15.	The eRA Commons account indicated for the PD/PI in the Credential field on the Senior/Key Person page is not affiliated with the applicant organization. Check with your eRA Commons Account Administrator to make sure you have been affiliated with the applicant organization.	235
16.	The Research Plan is limited to 25 pages. This may span 28 pages due to page breaks. If the total space occupied by text does not exceed 25 pages then no action is needed.	181
17.	The Public Health Relevance Statement (labeled 'Project Narrative' in Other Project Information, item 7) should be no longer than 2 or 3 sentences.	175
18.	The Project Summary/Abstract in Other Project Information, item 6 is limited to 30 lines of text.	173
19.	The Multiple PI Leadership Plan attachment on the PHS 398 Research Plan must be included if multiple PIs have been included on the Senior/Key Person page.	154
20.	A subaward budget may not be included if a modular budget has been submitted.	119

The Pareto principle holds true for application warnings as well. Of the 50 different warnings received by R01 applicants, the top 10 accounted for 82% of the warnings identified by the eRA Commons system. Warnings do not stop applications from completing the electronic submission process, but alert applicants to items that may be checked manually post-submission. NIH applies greater flexibility with warnings and has made continuous adjustments to the number and content of warnings since receiving the first electronic applications in 2005. Upon review of recent R01 applicant experiences, NIH has planned additional process improvements. Once these changes are implemented, over 50% of the R01 warnings experienced earlier this year will be eliminated (see warnings marked with an in the table below).

Most Frequent R01 Electronic Submission Warnings

#	Warning Note: {#} indicates information is pulled from the application and placed in the message.	NIH Notes/Actions	# Hits
1.	The PD/PI position/title, {0}, listed on the SF 424 RR Cover, does not match those listed on the eRA Commons account: {1}. The grant image will display the position/title as submitted here. If the position/title on the eRA Commons account is not current, please update it in the eRA Commons by editing the appropriate employment record in the PI's Personal Profile.	After June 2007 software release, NIH will no longer give this warning. If no position/title is included in the Commons profile, NIH will populate the profile with the position/title from the application.	12810
2.	The Research Plan is limited to 25 pages. This may span 28 pages due to page breaks. If the total space occupied by text does not exceed 25 pages then no action is needed.	This message simply acknowledges that white space may have resulted when splitting the sections of the research plan and may have caused the research plan to exceed the specified page limit. Check the application in eRA Commons. If the research plan was 25 pages prior to splitting it up, then no action is needed. However, if there are more than 25 pages of solid text, the Division of Receipt and Referral may find the application non-responsive post submission and stop it from proceeding to review.	7934

3.	The name provided for Key Person {0} on the Senior/Key Person page does not match the eRA Commons account name {1}. The grant image will display the name as submitted.	After June 2007 software release, NIH will only flag a warning if both the Sr/Key person first name and last name are different when application data is compared to Commons profile information. For example, Kathy Jones vs. Kathleen Jones would pass the validation, but Kathy Jones vs. Kim Lee would not.	7583
4.	If appropriate for your organization, please supply a division for the PD/PI on the SF 424 RR Cover.	After May 2007 software release, NIH will no longer give this warning.	4427
5.	The role of 'Co-PD/PI', indicated for Senior/Key Person {0} on the Senior/Key Person page, is not used by NIH. For multiple Principal Investigators, use the PD/PI role. Otherwise, select another role.	This warning was reworded for clarity in the February 2007 software release.	3479
6.	The name provided for the PD/PI, {0}, listed on the SF 424 RR Cover, does not match the name listed on the eRA Commons account: {1}. The grant image will display the name as submitted here. If the name listed in the eRA Commons is not current, please update it in the eRA Commons. Instructions on updating profile information are available at https://commons.era.nih.gov/commons-help/216.htm.	After June 2007 software release, NIH will only flag a warning if both the PD/PI first name and last name are different when application data is compared to Commons profile information. For example, Kathy Jones vs. Kathleen Jones would pass the validation, but Kathy Jones vs. Kim Lee would not.	3178
7.	No degrees have been submitted for the PD/PI. If you want the degrees to be displayed on the face page of the grant image, you should include them on the PHS 398 Cover Page Supplement.	Degree information is displayed on post-submission notifications (e.g. summary statements, notice of award). It is used by internal NIH systems for review assignments and by reporting systems to track career progression of grantees.	3003
8.	The PD/PI degree: {0}, listed on the PHS 398 Cover Page, is not one of the degrees listed for the eRA Commons account: {1}. The grant image will display the degrees as submitted. If the degrees listed in the eRA Commons are not current, please update them in the eRA Commons. Instructions on updating profile information are available at https://commons.era.nih.gov/commons-help/216.htm.	Degree information is displayed on post-submission notifications (e.g. summary statements, notice of award). It is used by internal NIH systems for review assignments and by reporting systems to track career progression of grantees.	2385
9.	The Authorized Representative position/title (SF 424 RR Cover page, item 19) exceeds the agency character limit. The grant image will display the name as submitted; the agency will store the first 30 characters in the eRA database.	After May 2007 software release, NIH will no longer give this warning.	2377
10.	The human subject assurance number entered in Other Project Information, item 1a does not match what is in the eRA Commons profile for your organization. There are rare cases where this is permissible. Please make sure that the correct number is entered on the Other Project	The human subject information must be correct in NIH's system at time of award and can be updated by the assigned NIH grants management specialist.	1749

	Information page. If not, correct and resubmit.		

	Additional Warning Message Changes		
13.	If appropriate for your organization, please supply a department for the PD/PI on the SF 424 RR Cover.	After May 2007 software release, NIH will no longer give this warning.	988
15.	The Employer Identification Number on the SF 424 RR Cover page must be a length of 9 characters or 12 characters.	In February 2007 release, the phrase "The application will be accepted by the agency, but may be delayed in later processing." was removed from the warning.	685
17.	The Senior/Key Person {0} for {1} (Senior/Key Person page) exceeds the agency limit. The grant image will display the name as submitted; the agency will store the first {2} characters only.	After May 2007 software release, NIH will no longer give this warning.	685
18.	The Employer Identification Number that has been entered on the SF 424 RR Cover page does not match what the agency has on file.	After June 2007 software release, NIH will no longer give this warning.	676
19.	The {0} Senior/Key Person {1} for budget year {2} on the 424 RR Budget page (section A&B) exceeds the agency character limit. The grant image will display the name as submitted; the agency will store the first {3} characters in the eRA database.	After May 2007 software release, NIH will no longer give this warning.	614
21.	In most cases, a Personnel Justification attachment should be included if a Modular Budget is being submitted.	In February 2007 release, the phrase "If this is not included, the application will be processed, but may be delayed in the Peer Review process." was removed from the warning.	297

A complete list of eSubmission errors and warnings for all NIH grant programs can be found at:
http://era.nih.gov/ElectronicReceipt/files/SF424RR_Validations.pdf.