README WORD DOC:

How is the file structured, plus notes on where to look for more information.

NOTE: There are google docs (under silent spring, report back, etc…) with many notes

IDEAS FOR IMPROVEMENT FROM CHATGPT:

* testthat
* 1 Project Root
* 2 °--MyExposome\_1527\_v6.Rmd
* 3 ¦--SpecificSubjectAnalysisIntro\_text.Rmd
* 4 ¦--GroupAnalysisIntro\_text.Rmd
* 5 ¦--GroupAndIndividualAnalysisIntro\_text.Rmd
* 6 ¦--HeadlineMessageTotalChems.Rmd
* 7 ¦--HeadlinesAmountByChemicalGroup.Rmd
* 8 ¦--IndividualResultsAnalysis\_\_w\_Violin\_text.Rmd
* 9 ¦ ¦--StatisticsOnChemicalsFound.Rmd
* 10 ¦ ¦--YourChemicalsAndAveragesByGroup\_text.Rmd
* 11 ¦ ¦--IndividualChemicalListWithClassification\_text.Rmd
* 12 ¦ ¦--IndividualChemicalListWithOutClassification\_text.Rmd
* 13 ¦ °--IndividualClassificationShowingChemicals\_text.Rmd
* 14 ¦--CompoundClassification\_text.Rmd
* 15 ¦--GroupResultsAnalysis.Rmd
* 16 ¦ ¦--GroupDatabaseLookupIARC\_Prop65\_IRIS.Rmd
* 17 ¦ ¦--GroupChemicalListWithClassification\_text.Rmd
* 18 ¦ ¦--GroupChemicalListWithOutClassification\_text.Rmd
* 19 ¦ ¦--airConcentrationOutput.Rmd
* 20 ¦ ¦--GroupClassificationAnyWristband\_text.Rmd
* 21 ¦ ¦--StatisticsOnChemicalsFound.Rmd
* 22 ¦ ¦--GroupClassificationAtLeastOne\_text.Rmd
* 23 ¦ ¦--GroupClassificationEveryWristband\_text.Rmd
* 24 ¦ °--loreal\_venn\_text.Rmd
* 25 ¦--testPrePostProcessing.Rmd
* 26 °--AdditionalInformation.Rmd

That sounds like a complex and rewarding project! Here’s a systematic approach we can take to clean up and refactor the code, ensuring nothing breaks in the process. I’ll outline the steps and how we can collaborate effectively.

**Step 1: Understand the Project Structure**

1. **Directory Structure**: Describe or share the layout of directories and subdirectories so I understand where .Rmd and .R files are located.
2. **Interdependencies**: Provide an overview of how the .Rmd and .R files are connected (e.g., which files source each other, common functions, shared data files).
3. **Goals for Cleanup**: Clarify specific goals for refactoring, such as:
   * Moving reusable functions into separate files or a package.
   * Cleaning up or reordering code within .Rmd files.
   * Optimizing code for performance or readability.

If possible, you could share a list of the main functions or key components, so I have a sense of the code organization.

**Step 2: Identify Key Files and Functions**

1. **Catalog Functions**: We can identify all the unique functions in your .R and .Rmd files. You could use a tool like grep or ag (the Silver Searcher) to quickly list all function definitions (function() across files, or I can guide you on how to do it in R.
2. **Identify Dependencies**: Understanding which files call each other (or use each other's functions) will help us create a dependency graph. I can help you build this using a tool like renv or drake, or we can document it manually if the structure is manageable.

**Step 3: Create a Consolidated "Utilities" File or Package**

1. **Separate Reusable Functions**: As we identify functions that are used across multiple files, we can create a "utility" file (e.g., utils.R) or, if there are many functions, create a custom package.
2. **Refactor to Source the Utility File**: Update .Rmd and .R files to source utils.R or load the custom package, so they don’t directly depend on each other. This minimizes the web of dependencies.

**Step 4: Modularize Code in .Rmd Files**

If some .Rmd files are "calling" others, we can modularize the code to simplify the workflow. Two approaches:

1. **Parameterize Reports**: Instead of one .Rmd calling another, we can refactor each .Rmd file as a self-contained, parameterized report. This way, they don’t depend on each other but can still share code by calling the same functions.
2. **Move Computations to .R Scripts**: Extract any heavy computations or analysis into standalone .R scripts, and call those scripts from the .Rmd files. This keeps the .Rmd focused on reporting and visualization.

**Step 5: Automate and Test**

1. **Set Up Version Control**: If you’re not already using Git, setting up version control will help us manage changes safely. I can guide you through committing logical chunks of changes and creating branches for different aspects of refactoring.
2. **Automate Workflow**: Use rmarkdown::render() or targets/drake to automate rendering of reports and ensure all interdependencies are met.
3. **Test Incrementally**: Make changes one at a time and verify that each step doesn’t break functionality. We can implement unit tests (using testthat) for critical functions if appropriate.

**How We Can Collaborate**

* **Document Sharing**: If you can upload files or share specific pieces of code, I can analyze and refactor them here.
* **Code-by-Code Approach**: Start by identifying specific files or functions that need the most attention. We can go through them together, refactor, and verify each step.
* **Iterative Process**: We’ll work in small iterations—focusing on one file or dependency group at a time—to keep everything manageable and minimize risk.

Let me know if you want to start with a specific function or file, and we can begin organizing!