

Quality Control Procedures for Nutrient Databases

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*“No one wants an inaccurate database.
Everyone makes mistakes.*

*These two indisputable statements add up
to the necessity for quality control carried
out on a regular basis.”*

from News Media Libraries: A Management Handbook, 1993

Objective

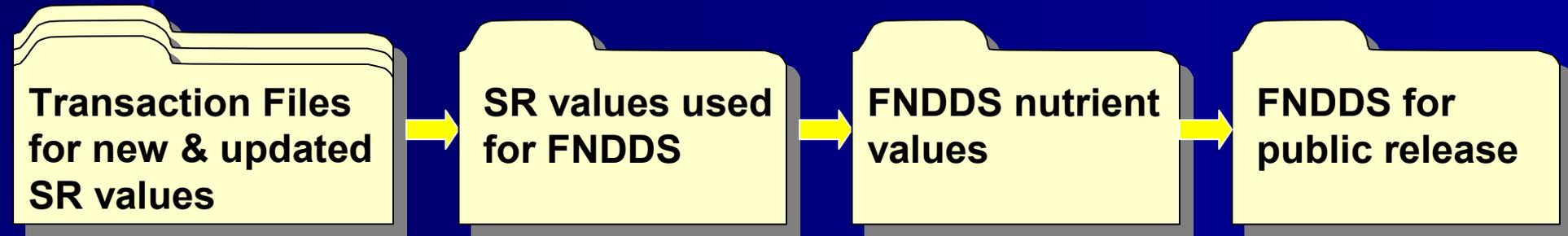
To describe the QC procedures for the nutrient values in the Food and Nutrient Database for Dietary Studies (FNDDS)

Food and Nutrient Database for Dietary Studies

- Used for What We Eat in America, NHANES
- A database of foods, their nutrient values, and weights for typical food portions
- has 63 nutrients for about 7000 foods
- nutrient values are derived from Standard Reference (SR)



QC procedures



QC Checks for FNDDS Nutrient Values

- Nutrient integrity
- Database integrity
- Database validation

Nutrient integrity checks

Check the consistency of the database by examining relationships between nutrients & the reasonableness of the nutrient values.

Types:

- Nutrient cross-checks
- Edit limits
- Nutrient change validation

Nutrient cross-checks

Examples:

3. Total sugar > Carbohydrates
4. Folate (DFE) < Folic acid
5. Added vitamin B12 > Total vitamin B12
6. Proximate totals:
sum of proximates + alcohol compared to a range

97-103 g for meat based groups
99-101 g for other groups

Edit limits

Used when new nutrients are added

Examples:

4. 'Added' vitamin E values $> 200\%$ of adult RDA per average serving of ready-to-eat cereals
6. Theobromine values > 0 for foods not containing chocolate

Nutrient change validation

Examples:

3. All changes for foods with freq > 500
4. All changes for foods which contribute more than 1% of any nutrient
5. 50% or greater change in total fat for foods with old value > 1g & freq > 5

QC Checks for FNDDS Nutrient Values

- Nutrient integrity checks
- Database integrity
- Database validation

Database integrity checks

check referential integrity between files and for errors introduced during import and processing

Examples:

4. Inter-file checks
5. All nutrient values ≥ 0
6. FNDDS & SR values must be equal for 1:1 relationships

QC Checks for FNDDS Nutrient Values

- Nutrient integrity checks
- Database integrity
- Database validation

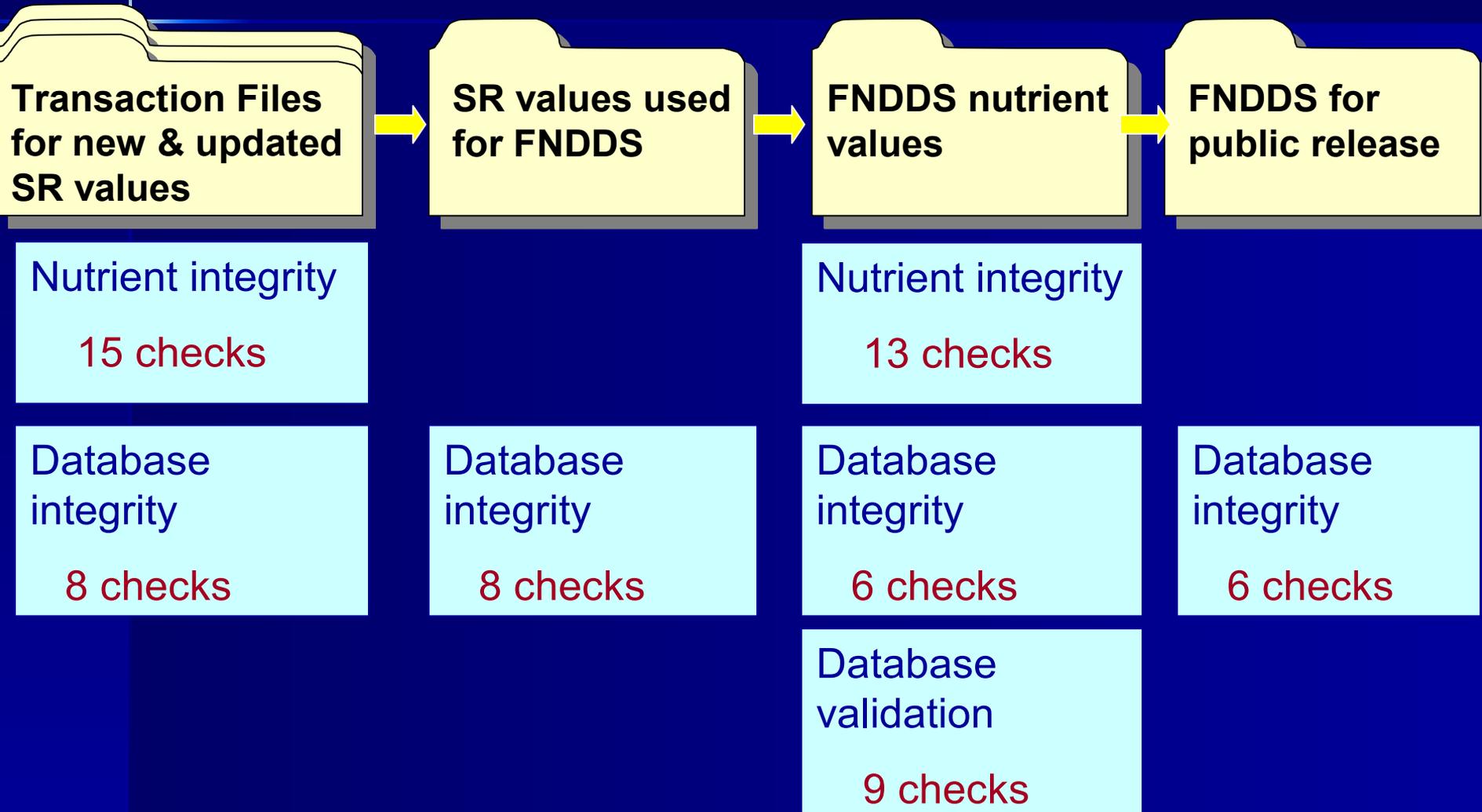
Database validation checks

provide overall validation of the database using survey intake data

Examples:

5. Compare mean intakes with intakes from previous survey
6. Review extreme daily intakes for each nutrient
7. Compare intakes of new nutrients with literature values

QC Procedures - details





Task List

Note: Run the New Code Checks in order from 1 to 8. All checks must be run and errors resolved before continuing with the 'Check & Add to Multiversion'

Description File

Nutrient File

1
Select files

2
File Checks

5
File Checks

3
Print Error Report

6
Nutrient Checks

8
Add Files to
Temp

4
Review Desc

7
Print Error Report

Browse/Edit
NotePad

Browse/Edit
Input Files

Browse/Edit
Temp Files

Browse Multi
Files

Check & Add to
MultiVersion

Exit

FNDDS QC System

Features:

- Multifaceted
- Integrated
- Automated
- Efficient

What I have learned

- Balance rigorous QC with available resources
- Check source files
- Integrate & automate
- Database quality control discussions are needed