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/*****
* THIS PROGRAM DEMONSTRATES HOW TO DERIVE CR-ACHS FOR 20 MEDICATIONS *
* BASED ON CONSENSUS RATINGS OF 3 RATERS USING SAS. *
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*STEP 1: INPUT USING SAS DATA PROCEDURE;
**ALTERNATIVELY, YOU CAN TRANSFER THE DATA INTO SAS USING "IMPORT" FUNCTION OR USE
"INFILE" STATEMENT;
**NOTE FOR VARIABLES:
  GENERIC = GENERIC/COMPOUNDS/PROPRIETARY NAME OF THE DRUGS.
  DIN = UNIQUE DRUG IDENTIFICATION NUMBER. IT CAN BE INDEPENDENTLY CREATED BY RESEARCHERS
        OR USING SOME CONVENTIONAL CLASSIFICATION SYSTEM CODE (E.G., AHFS).
  RATER1-RATER3 = ACTUAL RATING BY EACH RATER ON THE DRUG, RANGING FROM 0 TO 3;

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DATA TEMP;
INPUT DIN RATER1-RATER3 GENERIC $ 40. ;
CARDS;
68209200.01      0      0      0      ACARBOSE
48240000.01      0      0      0      ACETYLCYSTEINE
12120000.01      0      0      1      ALBUTEROL
24129200.01      0      0      0      ALPROSTADIL
56040000.01      0      0      0      ALUMINUM HYDROXIDE
56040000.02      0      0      0      ANTACID
12200000.01      2      1      2      BACLOFEN
12080800.02      3      3      3      BELLADONNA
24320400.01      1      0      1      BENAZEPRIL
48080000.01      0      0      2      BENZONATATE
24240000.03      1      0      1      BETAXOLOL
56120000.01      0      0      0      BISACODYL
40280000.01      0      0      0      BUMETANIDE
28120400.01      0      0      1      BUTALBITAL
12200000.02      0      0      1      CARISOPRODOL
40800000.01      2      0      2      CETIRIZINE
24060400.02      0      0      0      COLESTIPOL
48080000.04      1      1      2      DEXTROMETHORPHAN
28080492.02      0      0      0      DIFLUNISAL
28129200.03      0      0      0      DIVALPROEX
;

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PROC SORT; BY DIN;
RUN;

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/****/
*STEP2: CALCULATE SUMMARY MEASURE FOR EACH RATED MEDICATIONS USING MEDIAN;
**NOTE:
1) IN THE OUTPUT FILE, VARIABLE "DIN" SHOULD BE KEPT STANDARD/CONSISTENT IN ORDER TO
   AUTOMATICALLY MATCH THE CR-ACHS TO THE SAME DRUGS USED IN A STUDY POPULATION.
2) DIFFERENT SUMMARY MEASURE, SUCH AS MEAN, MAY BE USED TO GENERATE THE CONSENSUS RATING;

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PROC MEANS DATA=TEMP NOPRINT MEDIAN; BY DIN;
  VAR RATER1-RATER3;
  OUTPUT OUT=CR_ACH (DROP= _TYPE_ _FREQ_)
  MEDIAN =MEDN_RTG;
RUN;

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*STEP 3: CHECK OUTPUT AND DO A SIMPLE DISTRIBUTIONAL ANALYSES;

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DATA CR_ACHS; MERGE CR_ACH(IN=A) TEMP(IN=B);
  BY DIN; IF A AND B;
RUN;
PROC PRINT N NOOBS;
  VAR GENERIC DIN MEDN_RTG RATER1-RATER3;
RUN;
PROC MEANS N MEDIAN MEAN STD MIN MAX SUM maxdec=2 fw=5;
  VAR MEDN_RTG;
RUN;

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SAS OUTPUT;

1. CONSENSUS RATINGS OF 20 DRUGS BASED ON MEDIAN VALUES OF 3 RATERS.

GENERIC	DIN	MEDN_RTG	RATER1	RATER2	RATER3
CETIRIZINE	4080000.01	2	2	0	2
BELLADONNA	12080800.02	3	3	3	3
ALBUTEROL	12120000.01	0	0	0	1
BACLOFEN	12200000.01	2	2	1	2
CARISOPRODOL	12200000.02	0	0	0	1
COLESTIPOL	24060400.02	0	0	0	0
ALPROSTADIL	24129200.01	0	0	0	0
BETAXOLOL	24240000.03	1	1	0	1
BENZAEPRIIL	24320400.01	1	1	0	1
DIFLUNISAL	28080492.02	0	0	0	0
BUTALBITAL	28120400.01	0	0	0	1
DIVALPROEX	28129200.03	0	0	0	0
BUMETANIDE	40280000.01	0	0	0	0
BENZONATATE	48080000.01	0	0	0	2
DEXTROMETHORPHAN	48080000.04	1	1	1	2
ACETYLCYSTEINE	48240000.01	0	0	0	0
ALUMINUM HYDROXIDE	56040000.01	0	0	0	0
ANTACID	56040000.02	0	0	0	0
BISACODYL	56120000.01	0	0	0	0
ACARBOSE	68209200.01	0	0	0	0

N = 20

2. DISTRIBUTION OF THE MEDIAN RATINGS OF 20 DRUGS

Analysis Variable : MEDN_RTG

N	Median	Mean	Std Dev	Min	Max	Sum
20	0.00	0.50	0.89	0.00	3.00	10.00