

Appendix C

Statistical Methods for Multivariate Analyses

Multivariate models for two outcomes were presented in Chapter 8, and several additional models are presented in Appendix D. In this appendix we describe the statistical methods used.

Analysis Samples

The unit of analysis is the household. The samples were constructed as follows.

Model 1 (table 8.3): Apparently eligible non-participant household thinks it might be eligible. Households in this model were all apparently eligible non-participants, including those who were just applying in that month. All *applicants* were deemed to think they might be eligible for food stamps (although we acknowledge that some applicants might have only come to think so after showing up at the welfare office to ask about cash assistance). Among *non-applicants* interviewed in the RDD survey, some thought they might be eligible and some did not think so.

Model 2 (table 8.4): Household that contacts the local office completes the application process. Households in this model were circumstantially eligible applicants, both completers and non-completers, and near applicants, those who contacted the office but had not filed a food stamp application some time during the past 12 months. To derive monthly estimates, near applicants received a weight of 1/12. An adjustment was made for households for whom near applicant status was known based only on the past 6 months.¹

Model 3 (table D.3): Household that is receiving benefits continues to do so in an interim or recertification month. Households in this model comprised the expanded samples based on cases coming up for recertification and interim closures, the interim closures themselves, and approved and denied recertifications.

Model 4 (table D.4): Household that is receiving benefits continues to do so in interim month. This model used the *interim month sample* from Model 3.

Model 5 (table D.4): Household that comes up for recertification completes the process. This model used the *recertification month sample* from Model 3.

Model 6 (table D.5): Household that thinks it might be eligible contacts the local office. Households in this model were circumstantially eligible applicants, both completers and non-completers, plus non-applicants who thought they might be eligible. *Applicants* were known to have contacted the local office. Most non-applicants did not. A small number of these, however, were identified as *near applicants*, who had contacted the office (but not applied) sometime during the past 12 months. For the purposes of estimating contacts *within a month*, these households were given a weight of 1/12 as contactors, and 11/12 as non-contactors.

¹ At the outset of the survey, we believed near-applicants to be much more prevalent than turned out to be the case. Hence the items about contacting the local food stamp office were expanded to cover 12 instead of 6 months part way into the survey.

Policy Measures

Most of the policy measures used in the model were taken from the supervisor and caseworker surveys. The exceptions were availability of information in the reception area, office ambience, and child-friendliness, measures of which were based on unobtrusive observations; and certification period length, which was calculated from the FY 2000 Food Stamp Program Integrated Quality Control Database. The source for each policy measure is shown in table C.1, and the values used for certification period lengths are shown in table C.2. The instruments are designated by their section and question number. For example, SE4 is from the supervisor survey, section E, question 4.

Missing data were extremely rare. In the few cases in which a caseworker or supervisor “didn’t know” if a policy or practice was in effect (e.g., if the office practiced some type of outreach), the response was interpreted as a negative.

Table C.1—Data sources for policy measures

Policy	Source and item (S=supervisor survey, C=caseworker survey, O=unobtrusive observations)
Local office outreach	SE1
Community group outreach	SE2
Coordination with MA/SCHIP	SE5
Intensity of outreach	SE4, items a through i (articles in newspapers, public service announcements on radio/television, flyers/posters/brochures, billboards/advertisements on buses/taxis/trains, presentations to community groups, toll-free telephone number/hotline, direct mailings, telephone calls/home visits to clients who left the program, the Internet)
Targeted personal outreach	SE3, items for working families, elderly, former TANF recipients, immigrant/refugee populations, ABAWDs, disabled
Number of targeted groups	SE3
Limited hours of operation	SB1, SB2, SB3 used to construct indicator for office open only Monday to Friday, 8 AM to 5 PM
Child care available	SD2
Clients asked to leave children at home	SD1
Child-friendliness	OB8, OB9, OB11 (Toys available, space for children to play, diaper-changing area)
Public transportation	CD2 (public transportation available within ½ mile of office)
Transportation assistance	CD4
Drop-box for applications and documents	SB6

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Table C.1—Policy measures—Continued

Policy	Source and item (S=supervisor survey, C=caseworker survey, O=unobtrusive observations)
Negative ambience	OC2, OC4: Waiting time to see a receptionist greater than 5 minutes (average of 3 observations, occasionally 4 observations) and/or sometimes or always not enough seats in reception area
Positive supervisor attitudes	SP1, SP4, SP6: Supervisor disagrees or strongly disagrees that “being on food stamps encourages dependency,” “immigrants should not get food stamps until they become citizens”; agrees or strongly agrees that “people who leave TANF and are potentially eligible for food stamps should be actively encouraged to apply for food stamps”
Informational videotapes in reception area	OB5_3
Informational pamphlets and brochures in reception area	OB5_2, OB6_2, OB7_2
Fingerprinting	SI4, SI5
Third party forms: verification	CH1, CH3, CH5, CH7, CH8, CH10, CH12
Third-party verification: contacts	CH2, CH4, CH6, CH7, CH9, CH11, CH13
Medical deduction assistance	SJ2
Home visits	SI3
Extra trips, visits, meetings	CB5, SF1, SF3A for TANF applicants; CB8, SF9, SF11A for non-TANF applicants
TANF diversion: lump sum	SG5
TANF diversion: alternative resources	SG1
Job search requirement	SG11, SH1 for TANF and non-TANF applicants
Pre-scheduled interviews	CC1
Serious consequences for missing prescheduled interviews	CC2
Monthly reporting	SN1, SN2 (by case type: TANF with earnings, TANF without earnings, non-TANF with earnings)
Quarterly reporting	SN1, SN2 (by case type: TANF with earnings, TANF without earnings, non-TANF with earnings)
Employment and training services available for non-ABAWDS	SM2

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Table C.1—Policy measures—Continued

Policy	Source and item (S=supervisor survey, C=caseworker survey, O=unobtrusive observations)
Employment and training requirements	SM1, SM2, SM3 (for ABAWDs, non-ABAWDs)
TANF sanctions affect food stamp benefits	CJ1, CJ2
TANF closures require food stamp action	CJ6, CJ7, CK10, CK11, CK6, CK7, CK1, CK2, CK3
Time limits for ABAWDs	ABAWDWAV in supervisor survey
Certification period length	National QC data, FY 2000, by State, for 10 case profiles (see table C.2)
In-person recertification interviews	SO2, SO4, SO6, SO8, S10 (for elderly/disabled, ABAWDs subject to time limits, non-TANF, TANF without earnings, TANF with earnings)
Closure for missed recertification appointment	CN4

Analysis Weights

Conceptually, the weights for the multivariate analyses are the same as for the descriptive analyses. (Note that it was essential to weight the sample because of our use of outcome-based sampling; we drew the same number of non-participants, closures, etc. in sites that had many such events as in sites that had few.) To increase the power of the multivariate analysis, we then scaled the weights to be proportional to the relative sample sizes of “successes” and “failures” in each model. For example, if 80 percent of all applications were completed, but our sample comprised equal numbers of completes and incompletes, then we multiplied the weights on the completes by 50/80, and the weights on the incompletes by 50/20 (see Scott and Wild, 2001).

Model Estimation

The models are logistic. Office clustering was taken into account by using the SAS procedure GENMOD and SUDAAN-based logistic procedure, LOGISTIC, with exchangeable correlations, Liang-Zeger empirical standard errors, and observations nested by office.

Table C.2—Mean certification lengths, by State and case type

State	Child only	Elderly/ disabled with earnings	Elderly/ disabled without earnings	ABAWD- like, no children ^a	ABAWD- like, with children ^b	Other non- TANF with earnings	Other non- TANF with govern- ment benefits ^c	Other non- TANF	TANF with earnings	TANF without earnings
Alabama	10.9	12.0	11.8	8.7	11.6	11.6	9.9	9.3	9.3	7.7
Arizona	3.7	5.4	8.2	3.8	3.8	3.4	5.1	3.9	3.8	4.3
Arkansas	11.0	12.0	19.8	11.3	11.8	11.9	12.1	11.4	11.2	11.5
California	12.1	24.0	12.0	11.1	12.5	11.4	11.5	12.0	12.1	12.0
Colorado	4.5	9.6	11.8	6.8	4.4	4.6	6.8	3.9	7.1	8.0
Connecticut	11.4	13.1	21.2	10.3	11.4	11.2	8.4	10.9	12.2	10.7
District of Columbia	9.7	13.0	14.5	8.1	10.2	9.1	10.6	8.4	10.2	10.6
Florida	4.5	7.2	10.5	4.3	4.0	4.0	6.5	4.1	4.4	5.2
Georgia	4.1	6.0	11.0	4.2	3.5	3.3	5.7	4.7	4.6	5.4
Idaho	5.8	10.3	11.2	6.2	5.6	5.7	6.8	4.9	6.0	5.2
Illinois	10.8	17.7	18.1	8.1	11.4	10.7	12.0	9.8	9.6	7.7
Indiana	7.8	9.1	10.9	5.4	5.4	6.1	9.9	7.3	5.5	6.2
Kansas	11.6	13.0	13.8	11.2	11.7	11.8	12.6	11.4	11.8	11.8
Kentucky	4.4	13.4	20.2	4.3	4.4	4.3	6.7	4.5	7.2	9.3
Louisiana	6.0	9.4	17.3	4.2	4.3	3.8	5.7	4.2	8.9	9.3
Maine	4.6	8.3	11.1	4.6	3.6	3.6	6.4	3.9	3.0	5.6
Maryland	7.5	5.7	11.6	7.1	5.0	4.5	8.3	5.2	4.0	7.7
Massachusetts	8.2	8.0	13.9	8.2	6.8	3.4	9.4	4.1	9.3	11.4
Michigan	7.2	10.2	17.5	6.6	6.1	4.6	10.6	8.7	10.9	11.5
Minnesota	12.0	11.9	11.9	11.3	11.8	11.7	11.4	11.9	11.9	12.0

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Table C.2—Mean certification lengths, by State and case type—Continued

State	Child only	Elderly/ disabled with earnings	Elderly/ disabled without earnings	ABAWD- like, no children ^a	ABAWD- like, with children ^b	Other non- TANF with earnings	Other non- TANF with government benefits ^c	Other non- TANF	TANF with earnings	TANF without earnings
Mississippi	8.6	11.1	10.5	7.4	10.4	11.2	8.6	7.7	9.6	8.1
Missouri	3.8	9.6	14.9	3.9	3.1	3.2	5.6	3.3	4.6	4.4
Montana	11.8	11.9	11.7	11.6	11.7	11.7	9.7	11.3	11.9	11.8
Nebraska	5.4	11.7	12.9	4.9	4.2	4.9	9.3	4.7	4.4	4.9
New Jersey	6.8	9.7	12.6	6.0	7.5	6.3	6.3	6.0	7.7	9.0
New Mexico	4.1	8.0	11.3	4.7	3.5	3.5	5.1	4.0	3.4	4.2
North Carolina	3.6	8.4	11.5	4.0	3.6	3.4	8.0	3.9	6.2	6.4
Ohio	5.2	9.4	10.8	5.8	4.5	3.8	6.4	5.9	4.1	5.8
Oklahoma	4.5	9.8	15.6	4.0	3.4	3.3	4.8	3.0	12.2	14.9
Oregon	6.0	12.0	11.4	5.9	6.2	5.7	7.9	5.8	6.8	6.9
Pennsylvania	12.0	12.0	11.9	11.2	11.8	11.6	12.0	10.6	11.7	11.6
Rhode Island	11.2	12.0	11.9	8.0	11.3	8.9	9.1	9.1	11.9	11.8
South Carolina	12.0	12.0	15.2	11.4	11.8	11.9	12.0	11.9	11.3	11.9
Tennessee	3.8	5.9	10.4	4.0	3.6	3.2	5.6	3.7	3.8	4.2
Texas	4.4	7.2	9.4	3.7	4.0	3.9	4.7	3.5	5.4	5.8
Utah	4.5	9.2	10.8	5.7	4.0	4.2	7.6	5.0	3.9	6.5
Virginia	3.9	7.6	11.8	4.7	4.2	4.1	6.7	3.8	6.0	5.6
Washington	4.6	6.3	11.6	3.7	4.4	4.6	3.8	3.5	4.4	4.5
West Virginia	NA	12.8	16.1	6.1	5.4	3.7	9.6	6.5	8.7	11.5
Wisconsin	3.1	11.0	11.0	3.2	3.4	3.4	3.4	3.7	3.6	3.4

a Containing at least one adult aged 18 to 50, not disabled, and no children.

b Containing at least two adults aged 18 to 50, not disabled, and at least one child under age 18.

c Social Security, SSI, Veteran's benefits, General Assistance, "other" government benefits.