

## Attachment 2

### Disposition Codes, Calling Rules, and Response Rate

#### I. Introduction

This appendix presents a minimum set of final and interim disposition codes for use with state ATS surveys and their corresponding calling rules. The codes are based on recommended final disposition codes from The American Association for Public Opinion Research (AAPOR).<sup>1</sup> AAPOR's recommended final disposition codes are the latest and most successful effort to standardize final disposition codes and the outcome rates calculated from them.<sup>2</sup> AAPOR's recommended codes were modified slightly to achieve four major goals: (1) to accurately calculate response and other outcome rates, (2) to identify where nonresponse takes place in order to best design strategies to improve response rates, (3) to help assess the quality of sample management, and (4) to facilitate sample management.

States may use more detailed interim and final disposition codes in the course of data collection as long as the interim disposition codes used are subsets of those listed below and the interim and final disposition codes sent to OSH are those listed below. States may also treat the calling rules as minimal standards and adopt more strenuous efforts to complete interviews.

Section II describes the process for assigning final disposition codes that require taking into account the outcomes from more than one attempt. Section III presents the definitions of and calling rules for final disposition codes. Section IV presents the definitions of and calling rules for interim disposition codes. Section V describes the rules for assigning particular final disposition codes from specific patterns of interim disposition codes. Finally, Section VI presents a formula for calculating response rates from the disposition codes.

#### II. The Process for Assigning Final Disposition Codes From Interim Disposition Codes

When telephone interviews were mostly conducted with paper and pencil and there were only a small number of final disposition codes, it was reasonable to expect the interviewer to be aware of the call attempt history of each piece of sample and to assign a final disposition accordingly. With the adoption of CATI packages and advances in their capabilities, a different model is now more appropriate. In the newer model, the CATI package is programmed to ask the interviewer a series of questions to determine what happened on the last attempt. If the outcome of the last attempt indicates that a final disposition code is appropriate, it is immediately assigned by the CATI package. If the outcome of the last attempt does not indicate that a final disposition code is appropriate, the CATI package then reviews all the interim disposition codes for that

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<sup>1</sup> The American Association for Public Opinion Research. 2000. *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. Ann Arbor, Michigan: AAPOR.

<sup>2</sup> "Outcome rates" are any rates calculated from a set of final disposition codes. AAPOR identifies four common types of outcome rates: response, cooperation, refusal, and contact. Each type contains several variants.

telephone number to determine if a final disposition code is appropriate. For example, if a respondent (non-irately) refuses to continue, the CATI package determines from interviewer responses to a series of questions that the last disposition is a refusal. It then looks to see if the refusal is a second refusal and, if so, at what point during the interview process the refusal was made. If the refusal is a second refusal, then the CATI package assigns the appropriate final disposition code and retires the number. This process is run after each attempt. **The assignment of final disposition codes should follow this process.**

There are at least three advantages to such a process: (1) The interviewer does not need to remember a large number of interim and final disposition codes in order to assign disposition codes. (2) The interviewer responds to questions only about what happened on the last call attempt. Thus, the interviewer does not need to be aware of the call attempt history of a number to assign a final disposition code. (Of course, the interviewer may still need to be aware of the call attempt history of a number in order to try to complete an interview.) (3) Human errors in the assignment of final disposition codes based on interim disposition codes are eliminated (assuming correct programming). The disadvantages are that it requires more programming than the older approach and that not all CATI packages may be capable of implementing the newer approach..

The interim disposition codes are the minimal set implied by the final disposition codes and two additional codes—Null attempt and Requires supervisor attention—that are useful for operational purposes.

### III. Definitions of Calling Occasions

Final disposition codes should be assigned to telephone numbers which have not already received a final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls. A weekday call is a call between the hours of midnight and 5 pm, Monday through Friday. A weeknight call is a call between the hours of 5 pm and midnight, Monday through Friday. A weekend call is a call between the hours of midnight Friday and midnight Sunday. Each day segment constitutes a separate calling occasion. In particular, the Saturday and Sunday of a weekend constitute two separate calling occasions.

### IV. Final Disposition Codes

#### *Interview*

#### 110 Complete

*Definition:* Selected respondent meets the criteria for a partial complete and has completed the interview through the last question.

*Calling rules:* Give final disposition upon completion of interview.

#### 120 Partial Complete

*Definition:* Gender and three or more questions from among age, multiple race, Hispanic origin, marital status, education, employment status, and “Do you have more than one telephone number in your household?” have been answered with a response other than Don’t know/Not sure (7, 77, or 777) or Refused (9, 99, or 999).

*Calling rules:* Make a second attempt to fully complete the interview after first refusal or termination. Give final disposition if second attempt to fully complete the interview is unsuccessful. Give final disposition on the fifteenth or subsequent call attempt even if there is only one occurrence of a refusal or termination.

**Note:** A partial complete counts as a completed interview.

#### *Non-Interview, Household With Eligible Respondent*

210 Termination within questionnaire

*Definition:* A hang-up or termination after the first question in the core has been asked and it or a subsequent question has received a response other than Don’t know/Not sure or Refused. The selected respondent has not answered enough questions for the interview to qualify as a 120 Partial complete.

*Calling rules:* Give final disposition after second refusal or termination or when a first-time refusal or termination will not be called a second time because of an irate respondent. Give final disposition on the fifteenth or subsequent call attempt even if there is only one occurrence of a refusal or termination.

220 Refusal after respondent selection

*Definition:* A hang-up or termination after respondent selection but before respondent has given a response other than Don’t know/Not sure or Refused to one or more questions in the core. The refusals can come from any adult in the household and the initial refusal could have come before respondent selection. An automated message to not call the number again that is not in response specifically to that call attempt does not count as a refusal. Such an outcome should receive an answering machine or technological barrier interim code.

*Calling rules:* Give final disposition after second refusal or when a first-time refusal will not be called a second time because of an irate respondent. On the fifteenth or subsequent call attempt, give final disposition even if there is only one occurrence of a refusal.

230 Selected respondent never reached or was reached but did not begin interview during interviewing period

*Definition:* Selected respondent was never spoken to or was spoken to and asked to be called again later one or more times. Includes cases where the selected respondent was away from residence for part of the interviewing period.

*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.

240 Selected respondent away from residence during the entire interviewing period

*Definition:* Selected respondent is expected to be away from residence during the entire interviewing period, for example, because of travel or a hospital stay.

*Calling rules:* Give final disposition when informed of absence.

250 Language problem after respondent selection

*Definition:* After respondent selection, the selected or another respondent does not speak English or another language for which an interviewer and translated questionnaire are available well enough to be interviewed.

*Calling rules:* Give final disposition (1) the first time a selected respondent is contacted or is described by someone else as not speaking English or another language for which an interviewer and translated questionnaire are available well enough to be interviewed or (2) the second time a respondent who does not speak English well enough to answer the screening questions is contacted and there is not a translated questionnaire and interviewer available for the respective language. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.

260 Selected respondent physically or mentally unable to complete an interview during the entire interviewing period

*Definition:* After respondent selection, the selected or another respondent has a physical or mental condition that prevents the completion of an interview and that condition is expected to last through the entire interviewing period. This includes a temporary condition, such as bereavement, that will last beyond the interviewing period. (For conditions not expected to last through the entire interviewing period, schedule an appointment and keep trying.)

*Calling rules:* Give final disposition (1) the first time a selected respondent is contacted or is described by someone else as physically or mentally unable to complete an interview during the entire interviewing period or (2) the second time a respondent who is physically or mentally impaired is contacted. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.

270 Hang up or termination after number of adults recorded but before respondent selection

*Definition:* Respondent hangs up or terminates call attempt after answering the number of adults question but before answering the number of men and number of women questions. **This differs from 280 in that the respondent explicitly refuses.**

*Calling rules:* Give final disposition after second hang-up or termination or when a first-time hang-up or termination will not be called a second time because of an irate respondent. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.

280 Household contact after number of adults recorded but before respondent selection

*Definition:* Respondent answered the number of adults question and asked to be called again later one or more times but the number of men and number of women were never determined. On the surface, this is a postponement that was never re-started but may be an implicit refusal. **This differs from 270 in that the respondent never explicitly refuses.**

*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.

*Non-Interview, Eligibility Undetermined*

- 305 Household members away from residence during entire interviewing period  
*Definition:* A house sitter, house cleaner, or other non-member of a household states that all of the household members will be away from the residence during the entire interviewing period.  
*Calling rules:* Give final disposition when informed.
- 310 Hang-up or termination, housing unit, unknown if eligible respondent  
*Definition:* A respondent hangs-up or terminates a call attempt before answering the number of adults question. This differs from 315 in that the respondent explicitly refuses.  
*Calling rules:* Give final disposition after second hang-up or termination or when a first-time hang-up or termination will not be called a second time because of an irate respondent. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.
- 315 Household contact, eligibility undetermined  
*Definition:* A respondent verified that the telephone number reaches a private residence and asked to be called again later one or more times but the number of adults in the household was never determined. On the surface, this is a postponement that was never re-started but may be an implicit refusal. This differs from 310 in that the respondent never explicitly refuses.  
*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.
- 320 Language problem before respondent selection  
*Definition:* A respondent who does not speak English or another language for which an interviewer and translated questionnaire are available well enough to answer the screening questions answers the telephone twice before respondent selection. Give final disposition even if other respondents who do not present a language problem have answered the telephone.  
*Calling rules:* Give final disposition after second contact with a respondent who does not speak English well enough to answer the screening questions and there is not a translated questionnaire and interviewer available for the respective language. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.
- 325 Physical or mental impairment before respondent selection  
*Definition:* A respondent whose physical or mental impairment prevents him or her from completing the screening questions answers the phone twice before respondent selection. Give final disposition even if other respondents without a physical or mental impairment have answered the telephone.  
*Calling rules:* Give final disposition after second contact with a physically or mentally impaired respondent. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.

- 330 Hang-up or termination, unknown if private residence  
*Definition:* A respondent hangs-up or terminates a call attempt before confirming that the telephone number rings to a private residence.  
*Calling rules:* Give final disposition after second hang-up or termination or when a first-time hang-up or termination will not be called a second time because of an irate respondent. If the first occurrence is on the fifteenth or subsequent call attempt, give final disposition.
- 332 Contact, unknown if private residence  
*Definition:* A respondent did not verify that the telephone number reaches a private residence but asked to be called again later one or more times. On the surface, this is a postponement that was never re-started but may be an implicit refusal. This differs from 330 in that the respondent never explicitly refuses.  
*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.
- 335 Telephone answering device, message confirms private residential status  
*Definition:* One or more call attempts reached an answering machine but no person was ever spoken to. The message confirms that the telephone number reaches a private residence by using the words, "home," "house," "family," "residence" or a family name.  
*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.
- 340 status Telecommunication technological barrier, message confirms private residential status  
*Definition:* One or more call attempts reached a call blocking message, a message asking the caller to identify himself or herself, or other automated message, but no person was ever spoken to. A message confirms that the telephone number reaches a private residence by using the words, "home," "house," "family," "residence" or a family name.  
*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.
- 345 Telephone answering device, not sure if private residence  
*Definition:* One or more call attempts reached an answering machine but no person was ever spoken to. The message leaves open the possibility that the telephone number is reaching a private residence but it does not explicitly state so.  
*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.
- 350 Telecommunication technological barrier, not sure if private residence

*Definition:* One or more call attempts reached a call blocking message, a message asking the caller to identify himself or herself, or other automated response, but no person was ever spoken to. There is no message or a message leaves open the possibility that the telephone number is reaching a private residence but it does not explicitly state so.

*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.

- 355 Telephone number has changed status from household or possible household to non-working during the interviewing period

*Definition:* On the second or subsequent call attempt, a telephone number is responding with a message indicating that the telephone number called is a non-working number or has been changed and there is at least one previous interim disposition of 505, 510, 515, 520, 525, 530, 535, or 540. (If a “number changed” recording is encountered the first time that a telephone number is called, that number should received a final disposition of 450 Non-working/disconnected number.)

*Calling rules:* Give final disposition when notified.

- 360 No answer

*Definition:* Among telephone numbers which no person or device ever answered, half or more of the call attempts resulted in a normal telephone ring that no one answered.

*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.

- 365 Busy

*Definition:* Among telephone numbers which no person or device ever answered, more than half of the call attempts resulted in a normal busy signal.

*Calling rules:* Give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least 10 minutes apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls. If possible, contact the telephone company repair service to verify the number is in service.

- 371 A listed number that was never called, although it should have been called.

*Definition:* A telephone number from a released replicate which was coded in the sample record as a number to be called was never called during the survey field period.

*Calling rules:* Give final disposition during post-data-collection processing.

- 372 A not-listed one plus block number that was never called, although it should have been called.

*Definition:* A telephone number from a released replicate which was coded in the sample record as a number to be called was never called during the survey field period.

*Calling rules:* Give final disposition during post-data-collection processing.

*Not Eligible*

405 Out-of-state

*Definition:* The telephone number rings out-of-state.

*Calling rules:* Give final disposition when informed. This code should take priority over other possible final disposition codes.

410 Household, no eligible respondent

*Definition:* For surveys with no household level screening: No one 18 years of age or older uses the telephone. To be assigned when no one in the household is 18 years of age or older or the telephone number is used by a teen under the age of 18 and the parents do not use that phone. For surveys with household level screening, can also mean: Otherwise eligible respondent was screened out.

*Calling rules:* Give final disposition when informed.

420 Not a private residence

*Definition:* The person answering the phone or an answering machine identifies the telephone number as a business, an institution (government office, educational facility, dormitory, nursing home, hospital, prison), a group home (fraternity or sorority, half-way house, shelter), a timeshare or vacation home at which no one is living for 30 days or more at the time of contact, Efax service, a pager, a cellular phone, or a dedicated fax/data/modem line that s/he answered to identify as such.

*Calling rules:* Give final disposition when informed.

430 Dedicated fax/data/modem line with no human contact

*Definition:* A telephone number used only as a fax, data, or modem line.

*Calling rules:* Give final disposition only after (a) at least 2 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 6 call attempts with at least one interim disposition code of 560 Fax/modem/data and all other disposition codes are 550 No answer, 555 Busy, 565 Fast busy, 570 Possible non-working number, or 575 Circuit busy. (Attempts receiving interim disposition codes of 580 Null attempt or 585 Requires supervisor attention should not count as call attempts for this purpose.)

435 Cellular Telephone

*Definition:* The telephone number rings to a cell phone.

*Callback Rules:* Give final disposition when informed. This code should be assigned

upon notification by the respondent that the conversation is taking place on a cellular or mobile phone. This disposition will take priority over other possible final disposition codes.

440 Fast busy

*Definition:* A telephone number with at least one disposition of 565 Fast busy and all other dispositions are 550 No answer, 555 Busy, 570 Possible non-working number, or 575 Circuit busy. (Attempts receiving interim disposition

codes of 580 Null attempt or 585 Requires supervisor attention should not count as call attempts for this purpose.)

*Calling rules:* Give final disposition only after (a) at least 2 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 6 call attempts with at least one interim disposition code of 565 Fast busy and all other disposition codes are 550 No answer, 555 Busy, 570 Possible non-working number, or 575 Circuit busy. (Attempts receiving interim disposition codes of 580 Null attempt or 585 Requires supervisor attention should not count as call attempts for this purpose.)

450 Non-working/disconnected number

*Definition:* Usually recognized by a tritone, a recording indicating that the telephone number is non-working, a number that consistently rings to an incorrect number, or a number that cannot be verified by a respondent. If a 450 is assigned on a second or subsequent attempt, the CATI system or a post-data collection program should check to see if there is at least one previous interim disposition of 505, 510, 515, 520, 525, 530, 535, or 540. If there is, then the record should receive a final disposition of 355 Telephone number has changed status from household or possible household to non-working during the interviewing period. If the current status of the telephone number is in doubt, give an interim disposition of 570 Possible non-working number or call operator or repair service. After at least 15 call attempts, assign if all dispositions are 545 Phone number temporarily out of service, 570 Possible non-working number, or 575 Circuit busy. (Attempts receiving interim disposition codes of 580 Null attempt or 585 Requires supervisor attention should not count as call attempts for this purpose.)

*Calling rules:* Give final disposition when the above criteria are met. If 15 call attempts are required, give final disposition only after (a) at least 5 calling occasions (each consisting of no more than 3 attempts at least one hour apart) for a minimum total of 15 call attempts, and (b) the 15 or more call attempts consist of at least 3 weekday calls, 3 weeknight calls, and 3 weekend calls.

IV. Interim Disposition Codes

505 Refusal: hang-up or termination

*Definition:* Respondent hangs up or refuses to continue the interview at any time during the call attempt from immediately after pick-up to any time before answering the last survey question.

*Calling rules:* Give interim disposition when this situation occurs. Schedule callback for as long as practical up to two weeks after initial refusal.

510 Appointment

*Definition:* Respondent asks for a callback at some other time or a child answers the phone and does not get an adult to speak to the interviewer.

*Calling rules:* Schedule a callback for an appropriate time.

515 Language problem

*Definition:* A respondent other than one known to be the selected respondent does not speak English or another language for which an interviewer and translated questionnaire are available well enough to respond appropriately.

- Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one day.
- 520 Physical or mental impairment  
*Definition:* A respondent other than one known to be the selected respondent cannot respond appropriately because of a mental or physical impairment.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one day.
- 525 Answering machine, message confirms residential status  
*Definition:* An answering machine gives a message confirming that the telephone number rings to a private residence by using the words, "home," "house," "family," "residence" or a family name in the message.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 530 Technological barrier other than answering machine, message confirms residential status  
*Definition:* A device other than an answering machine gives a message confirming that the telephone number rings to a private residence by using the words, "home," "house," "family," "residence" or a family name in the message.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 535 Answering machine, not sure if private residence  
*Definition:* An answering machine gives a message that leaves open the possibility that the telephone number is reaching a private residence.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 540 Technological barrier other than answering machine, not sure if private residence  
*Definition:* A device other than an answering machine gives a message that leaves open the possibility that the telephone number is reaching a private residence.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 545 Phone number temporarily out of service  
*Definition:* A recorded message states that the telephone number is temporarily out of service  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one day.
- 550 No answer  
*Definition:* A normal telephone ring that no one answers.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 555 Busy  
*Definition:* A normal busy signal.

- Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least ten minutes.
- 560 Fax/data/modem  
*Definition:* An electronic screeching sound.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 565 Fast busy  
*Definition:* A faster than normal busy signal.  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 570 Possible non-working number  
*Definition:* A noise or other response that may indicate a non-working number.  
*Calling rules:* Phone telephone company immediately or give interim disposition when this situation occurs and call back after an interval of at least one hour.
- 575 Circuit busy  
*Definition:* A recorded message states that “All circuits are busy.”  
*Calling rules:* Give interim disposition when this situation occurs. Call back after an interval of at least one hour.
- 580 Null attempt  
*Definition:* The number came up on an interviewer’s screen but is not attempted.  
*Calling rules:* Give interim disposition when this situation occurs. The supervisor should delete the call attempt information on a null attempt before the telephone number is attempted again. Do not count as one of the up to fifteen attempts. Call back as appropriate.
- 585 Requires supervisor attention  
*Definition:* An interviewer encounters an unusual situation that requires intervention by a supervisor.  
*Calling rules:* Give interim disposition when this situation occurs. The supervisor should replace the 585 interim disposition code with an appropriate interim or final disposition code before the telephone number is attempted again. Call back as appropriate.

## V. Assignment of Final Disposition Based on Interim Dispositions

In the process described earlier, after each call attempt where the interviewer has assigned an interim disposition code, the CATI package reviews all the interim disposition codes that the telephone number has received and, if appropriate, assigns a final disposition code to that telephone number. The table below shows the appropriate final disposition that should be assigned in such cases. States or their survey organizations should contact The Office on Smoking and Health about cases not covered by the table below.

States should ensure that every record whose last disposition in its call attempt history is an interim disposition is assigned a final disposition according to the following rules. **The**

**rules below are hierarchical. The first rule should be applied first to all records with a last, interim disposition code, then the second rule to the remaining records, etc.**

A final disposition code of 450 Non-working/disconnected number may need to be converted to a final code of 355 Telephone number has changed status from household or possible household to non-working during the interviewing period. State survey organizations should configure their CATI systems to make the change or they should make the change during their post-data collection processing.

When an interviewer assigns a final disposition code of 450 Non-working/disconnected number on a second or subsequent call attempt, the previous disposition codes should be reviewed. If at least one previous code is 505, 510, 515, 520, 525, 530, 535, or 540, then the final disposition code should be changed to 355 Telephone number has changed status from household or possible household to non-working during the interviewing period. This situation is included in the table below even though it involves changing a final (as opposed to interim) disposition code.

<b>If There Is/Are</b>	<b>Assign Indicated Final Disposition Code If</b>
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 505 Refusal: hang-up or termination	The questions answered meet the definition for a 120 Partial complete
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 505 Refusal: hang-up or termination	The questions answered meet the definition for a 210 Termination within questionnaire
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 505 Refusal: hang-up or termination	The questions answered meet the definition for a 220 Refusal after respondent selection
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 505 Refusal: hang-up or termination	The questions answered meet the definition for a 270 Hang up or termination after number of adults taken but before respondent selection
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 505 Refusal: hang-up or termination	The questions answered meet the definition for a 310 Hang-up or termination, housing unit, unknown if eligible respondent
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 505 Refusal: hang-up or termination	The questions answered meet the definition for a 330 Hang-up or termination, unknown if private residence
At least one disposition of 510 Appointment	The questions answered meet the definition and calling rules for a 230 Selected respondent never contacted or was reached but did not begin interview during interviewing period

<b>If There Is/Are</b>	<b>Assign Indicated Final Disposition Code If</b>
At least one disposition of 510 Appointment	The questions answered meet the definition and calling rules for a 280 Household contact after number of adults taken but before respondent selection
At least one disposition of 510 Appointment	The questions answered meet the definition and calling rules for a 315 Household contact, eligibility undetermined
At least one disposition of 510 Appointment	The questions answered meet the definition and calling rules for a 332 Contact, unknown if private residence
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 515 Language problem	(No further conditions. Assign final disposition of 320 Language problem before respondent selection.)
Two interim dispositions or one interim disposition on or after a fifteenth call attempt of 520 Physical or mental impairment	(No further conditions. Assign final disposition of 325 Physical or mental impairment before respondent selection.)
At least one disposition of 525 Answering machine, message confirms residential status	The call history meets the definition and calling rules for a 335 Telephone answering device, message confirms residential status
At least one disposition of 530 Technological barrier other than answering machine, message confirms residential status	The call history meets the definition and calling rules for a 340 Telecommunication technological barrier
At least one disposition of 535 Answering machine, not sure if private residence	The call history meets the definition and calling rules for a 345 Telephone answering device, not sure if private residence
At least one disposition of 540 Technological barrier other than answering machine, not sure if private residence	The call history meets the definition and calling rules for a 350 Telecommunication technological barrier, not sure if private residence
A last disposition of 450 Non-working/disconnected number and at least one previous disposition of 505, 510, 515, 520, 525, 530, 535, or 540 (See the two paragraphs preceding this table.)	The call history meets the definition and calling rules for a 355 Telephone number has changed status from possible household to non-working during the interviewing period
At least one disposition of 560 Fax/data/modem and all other dispositions, not counting 580 Null attempt or 585 Requires supervisor attention, are 550 No answer, 555 Busy, 565 Fast busy, 570 Possible non-working number, or 575 Circuit busy	The call history meets the definition and calling rules for a 430 Dedicated fax/data/modem line

If There Is/Are	Assign Indicated Final Disposition Code If
At least one disposition of 565 Fast busy and all other dispositions, not counting 580 Null attempt or 585 Requires supervisor attention, are 550 No answer, 555 Busy, 570 Possible non-working number, or 575 Circuit busy.	The call history meets the definition and calling rules for a 440 Fast busy
At least one disposition of 550 No answer	The call history meets the definition and calling rules for a 360 No answer
At least one disposition of 555 Busy	The call history meets the definition and calling rules for a 365 Busy
At least fifteen call attempts with all dispositions, not counting 580 Null attempt or 585 Requires supervisor attention, 545 Phone number temporarily out of service, 570 Possible non-working number, or 575 Circuit busy	The call history meets the definition and calling rules for a 450 Non-working/disconnected number

## VI. Calculation of Response Rates

The recommended State ATS disposition codes follow the organization of the AAPOR recommended disposition codes. Four major types of disposition codes are identified: complete or partially complete interviews (110 and 120 in the recommended ATS numeric scheme), eligible records with which no interview was conducted (210 to 280), records whose eligibility was not determined (305 to 372), and ineligible records (405 to 450).

A response rate is an outcome rate defined as the number of completes divided by the number of eligible units in the sample. RDD telephone surveys contain significant numbers of records whose eligibility is, strictly speaking, undetermined. Thus, calculated response rates from telephone surveys are always estimates of the “true” response rate and the calculated response rate depends significantly on how many of the records with undetermined eligibility are deemed households.

One of the goals in defining disposition codes was to differentiate between records that have a large probability of ringing to eligible households and records that have a small probability of ringing to eligible households. Among the recommended State ATS disposition codes, codes 305 to 355 and 371 are considered to be assigned to records with large probabilities of ringing to eligible households; codes 360, 365, and 372 are considered to be assigned to records with small probabilities of ringing to eligible households. Thus, the recommended formula for calculating a response rate is

$$\frac{110+120}{110+120+210+220+230+240+250+260+270+280+305+310+315+320+325+330+332+335+340+345+350+355+371}$$

This formula corresponds to AAPOR’s RR4 (Response Rate Four), with all of the records assigned disposition codes 305 to 355 and 371 considered households and all

of the records assigned disposition codes 360, 365, and 372 considered non-households.

It is likely that some of the records assigned disposition codes 305 to 355 and 371 are not households and that some of the records assigned disposition codes 360, 365, and 372 are households. There is, however, no easy way to accurately estimate percentages of households for each disposition code. In addition, accurate estimates of the numbers of households assigned to each disposition codes are unlikely to make an appreciable difference on the calculated response rate.