

# Appendix B.—Sampling Procedures for Survey of Manufacturers

For feasibility, the survey was initially limited to 10 of the 53 eligible manufacturers listed in the National Rehabilitation Information Center's data bank, ABLEDATA. The technique of sequential proportional selection (sampling with probability proportional to size) was used to choose the companies. To obtain a reasonable representation of the industry, larger companies were given a greater chance of being chosen than smaller companies. This was accomplished not by using sales data, for they were unavailable, but through ABLEDATA information on the number of products listed for a company.

All the manufacturers identified through ABLEDATA's listings of manual, power, sports, and power alternative wheelchairs were ranked according to the number of listed products they made, n, from least (1) to greatest (32). Within a given size, companies were listed alphabetically. Foreign companies without U.S. distributors were not included. The cumulative numbers, N, were calculated (table B-1). The grand

total, G (the final N) was divided by 10, the desired sample size, to give the sampling interval.

Any company that manufactured a greater number of products than the interval was automatically included in the sample. Companies and their products thus included were subtracted from the sample frame, giving a reduced total of products, T. A new interval was computed based on the number of companies remaining to be selected and T.

A random starting point was chosen using a random number table. The sampling interval was added to that starting point once for each company wanted for the sample. The companies whose cumulative N equaled or first exceeded each total, beginning from the top of the list, were chosen for the survey. When one company declined to participate due to time constraints, a replacement was chosen by continuing the process of sequential selection. This procedure provided the first 10 participants.

**Table B-1.—Sampling Frame for Survey of Wheelchair Manufacturers**

n <sup>a</sup>	Company	N <sup>b</sup>	n <sup>a</sup>	Company	N <sup>b</sup>
1	Abbey	1	1	Solo	25
1	Alpha	2	1	Steven	26
1	Bair	3	1	21st Century	27
1	Braun	4	1	X-L	28
1	E. F. Brewer	5	2	Accumec	30
1	ChairLift	6	2	Amigo	32
1	Convoid	7	2	Damaco	34
1	Equalizer	8	2	E& J Canadian	36
1	Falkenberg	9	2	Hall's	38
1	General Engines	10	2	Production Research	40
1	Ja-Dik	11	2	Quadra	42
1	Kimed	12	2	Summit	44
1	Mastercraft	13	2	Wheeler Dealer	46
1	Mobility Engineering	14	4	Carter	50
1	Mobilizer	15	4	Voyager	54
1	Motion Designs	16	5	Newton	59
1	Motovator	17	6	International Medical Equipment	65
1	L. Mulholland	18	8	Invacare	73
1	National Welded	19	8	Ortopedia	81
1	Ortho-Kinetics	20	9	A-Bee	90
1	Ortop	21	14	Colson	104
1	Rosenthal	22	14	Sears	118
1	Seidel	23	15	Stainless	133
1	Sherry	24	32	E&J	165

<sup>a</sup>n is the number of products made by each company

<sup>b</sup>N is the running total of the number of products made, n Computations G the grand total, equals 165 The number of companies desired for sample equaled

10 The initial interval was 165 / 10 = 16.5, so E&J was automatically included in the sample The revised interval was calculated by noting that T, the revised grand total after E&J selection is 165 - 32 = 133 and 133 / 9 = 14.8 We rounded the result down (to 14) (If the interval was rounded up to 15, the final total, G, would be greater than 133 so we would not be able to select the last manufacturer) The random starting point equaled 13 (from a random number table with range of 1 to 14) We added 14 to 13 repeatedly to get 9 totals 13, 27, 41, 55, 69, 83, 97, 111, 125 The companies chosen were those whose N was equal to one of the totals or were the first to exceed one of the totals

An additional manufacturer was chosen by a continuation of this process, adding 14 to the last total, 125 Since 139 is greater than 133(T) we recycled to the beginning of the sample frame The newest total became 139 - 133 = 6 so the sixth manufacturer was chosen as the replacement

SOURCE Derived from U.S. Department of Education National Institute of Handicapped Research National Rehabilitation Information Center ABLEDATA System 1983