

MarkeTrak IV: 10-Year Trends In The Hearing Aid Market—Has Anything Changed?

EXECUTIVE SUMMARY

- The past decade has been a period of substantial growth for the hearing instrument market. However, we have not penetrated any new markets. In this sense, marketwise, we continue to be stagnant, serving primarily men past retirement age living on fixed incomes.

- The growth of the hearing-impaired population has been significantly greater than the growth in the U.S. population, due to the aging of America.

- Most of the growth in our industry is derived from the remarkable increase in binaural sales.

- Physician screening has eroded to 1989 levels prior to the Hearing Industries Association's physician-education initiatives designed to get physicians to screen and refer; the strong correlation between HIA activities and physician screening is encouraging and indicates that focused market-development activities can have an impact.

- Satisfaction rates with all hearing instruments have declined to 53%; the encouraging news is that satisfaction with new instruments has increased to 71%.

- Hearing instruments in the drawer have increased to nearly one in five while the average age of instruments has increased dramatically by nearly a year. It would appear that a substantial number of customers in the replacement market have decided not to repurchase. Is it because of the negative publicity in the last few years in this industry or is it because of consumer perceptions about the "value" and "benefit" of hearing instruments? The next publication will examine this issue in greater detail. Still, the replacement market might represent a major opportunity for our industry if we can convince current owners to repurchase.

- The percentage of sales to new users has declined dramatically from more than 50% of all sales in 1989 to less than 30% in 1994. As of yet, this industry has not captured the imagination of the younger, more affluent segments of the hearing-impaired population. The trends would support the view that the negative publicity over the years 1993-1994 has negatively impacted the trust of the potential new customer in our products and services.

INTRODUCTION

In 1984 the Hearing Industries Association (HIA) conducted the first major study of the hearing-impaired market.¹ Since

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this ground-breaking study, Knowles has conducted four tracking surveys of the U.S. hearing-impaired populations between the years 1989 and 1994. All of the MarkeTrak findings have been presented in *The Hearing Journal*.

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This is the third in a series of publications on significant trends and indices in the hearing instruments market. The previous two publications in this series explored the emerging CIC market opportunity.^{2,3} This publication will look at trends in the market over the last 10 years.

Future installments will take an in-depth look at some new and old issues. First, consumer satisfaction with hearing instruments, comparing 1991 and 1994, will be presented in detail at a national level for both new and old hearing instruments; in addition, subjective benefit data will be published. Other articles in this series will quantify the viable market for hearing aids using subjective hearing disability scales such as the APHAB and HHIE-S, and will present a purchase-intent model designed to isolate and quantify market interventions and their impact on growth.

SURVEY METHOD

In December 1993, a short screening survey was mailed to 80,000 members of the National Family Opinion (NFO) panel. The NFO panel consists of households that are balanced to the latest U.S. census information with respect to market size, age of household, size of household, and income within each of the nine census regions, as well as by family versus nonfamily households, state (with the exception of Hawaii and Alaska), and the nation's 25 largest metropolitan statistical areas.

The screening survey covered only three issues: (1) physician screening for hearing loss, (2) whether the household included a person "with a hearing difficulty in one or both ears without the use of a hearing aid," and (3) whether the household included a person who owned a hearing instrument. This short survey helped identify slightly fewer than 13,000 hearing-impaired individuals and also provided detailed demographics on those individuals and their households.

In April 1994 and December 1994, extensive surveys (MarkeTrak IV) were sent to 3000 hearing instrument owners and 3500 hearing-impaired nonowners as identi- ➤

Table 1. General Indices—Hearing Impaired Market.

	1984	1989	1991	1994
Hearing-impaired population	(n=53,942)	n=27,103	(n=54,871)	(n=49,013)
U.S. households (millions)	85.5	92.8	94.3	97.1
Hearing difficulty per 1000 households		266	274	269
Number of hearing impaired (millions)	18.2	24.7	25.8	26.1
Hearing instrument population	(n=10,000+)	(n=7,340)	(n=13,487)	(n=12,697)
Hearing instrument penetration	22.3%	22.9%	22.6%	21.3%
Hearing impaired non-owners (millions)	14.1	19.0	20.0	20.6
Owners				
Hearing instrument owners (millions)	4.1	5.7	5.8	5.6
Hearing instruments owned (millions)	5.0	7.8	8.8	8.5
Users				
Hearing instruments in use (millions)	4.3	6.7	7.7	6.9
Hearing instrument users (millions)	3.6	n/a	5.1	4.7
Binaural population				
Total population	21.8%	37.3%	50.5%	51.9%
Purchases this period	24.5%	47.1%	60.6%	65.3%
Purchases this period—first time owners		46.2%	53.1%	54.0%
% Physicians who screen for hearing loss		(n=11,643)	(n=23,915)	(n=21,596)
Total population		16.3%	18.0%	16.6%
Screening by age group				
20-44		14.9%	14.8%	14.2%
44-64		14.3%	15.9%	15.0%
65-74		20.1%	20.0%	19.1%
75+		21.8%	24.2%	20.7%

Table 2. General Indices—Hearing Instrument Market.

	1984	1989	1991	1994
Price of hearing aids (retail)	(n=428)	(n=417)	(n=493)	(n=557)
Third party payments (%)	22.2%	21.1%	16.2%	23.0%
Average price to consumer	\$501	\$609	\$667	\$710
By type of hearing aid				
BTE		\$543	\$557	\$744
ITC		\$742	\$795	\$761
ITE		\$605	\$669	\$659
Hearing instrument distribution	(n=428)	(n=356)	(n=493)	(n=653)
(Purchases this period)				
By perceived profession				
Audiologist	22.0%	48.4%	46.1%	49.3%
Hearing instrument specialist	66.4%	46.6%	49.8%	44.7%
Medical doctor	4.8%	1.5%	1.2%	1.9%
Other	6.9%	3.6%	2.9%	4.1%
By source of distribution				
Audiologist's office	21.3%	35.8%	36.5%	40.9%
Hearing aid store/dispenser	48.7%	30.0%	35.5%	31.1%
Ear doctor's office	5.0%	14.5%	5.5%	7.6%
Home	6.3%	8.4%	7.3%	4.4%
Veterans administration	n/a	1.8%	2.4%	3.4%
Mail order	2.1%	3.0%	0.8%	2.5%
Department store	2.4%	3.2%	4.7%	2.2%
Hospital	n/a	2.1%	2.2%	2.2%
Other	15.0%	1.7%	2.0%	1.9%
Clinic	n/a	5.2%	1.4%	1.9%
Military installation	n/a	2.5%	1.4%	1.4%
Family doctor's office	0.3%	1.3%	0.2%	0.6%

Table 3. Satisfaction With Hearing Instruments.

	1984	1989	1991	1994
Total owner population	(n=428)	(n=1,632)	(n=2,323)	(n=2,327)
% Satisfied		58.5%	58.0%	53.4%
% Neutral		22.6%	21.7%	26.6%
% Dissatisfied		19.0%	20.4%	20.0%
% Hearing instruments in drawer (not used)	13.5%		12.0%	17.9%
New hearing instruments (< 1 year)			(n=503)	(n=270)
% Satisfied			66.2%	70.7%
% Neutral			21.9%	22.7%
% Dissatisfied			12.0%	6.6%
% Hearing instruments in drawer (not used)			3.0%	3.5%

fied from the screening survey. Because of its length, the survey was split up and administered on two occasions to the same respondents and then merged together during analysis. The response rates for both the owner and nonowner populations were 80%.

The data presented in this article refer only to households as defined by the U.S. Bureau of Census; that is, people living in a single-family home, duplex, apartment, condominium, mobile home, etc. People living in institutions have not been surveyed; these would include residents of nursing homes, retirement homes, mental hospitals, prisons, college dormitories, and the military.

RESULTS AND DISCUSSION

The data presented in this study compare the MarkeTrak survey results over the last 6 years with data from the 1984 HIA database of the hearing-impaired market. Tables 1-5 contain general trends and indices of the hearing-impaired and hearing instrument owner populations. Each table will be discussed in the order of appearance. (Note: sample sizes are denoted in each table by:(n=).

Hearing-Impaired Population

As measured by MarkeTrak, the incidence of hearing loss per 1000 households was relatively stable between 1989 and 1994, varying between 266 and 274 and settling at 269 in 1994. This equates to 26.1 million people reporting a hearing difficulty or 10% of the U.S. population. This figure should be compared to the 1984 HIA incidence of 7.3% of the U.S. population. MarkeTrak uses the same methodology as the 1984 HIA study to measure hearing loss incidence with one exception—the current survey counts multiple hearing-impaired persons within a household. We adjusted the 1984 HIA data to account for the multiple occurrence of hearing impairment per household (The adjustment factor is 1.11 hearing-impaired persons per household and 1.03 hearing aid owners per household.)

The most recent data from the National Center for Health Statistics (NCHS 1990-91) measured an incidence of 8.6% of the U.S. population, up from 7% in 1977.⁴ If the incidence of hearing loss progressed at the same rate as it did from 1977 to 1990, then we would expect the incidence in 1994 to be roughly 9% of

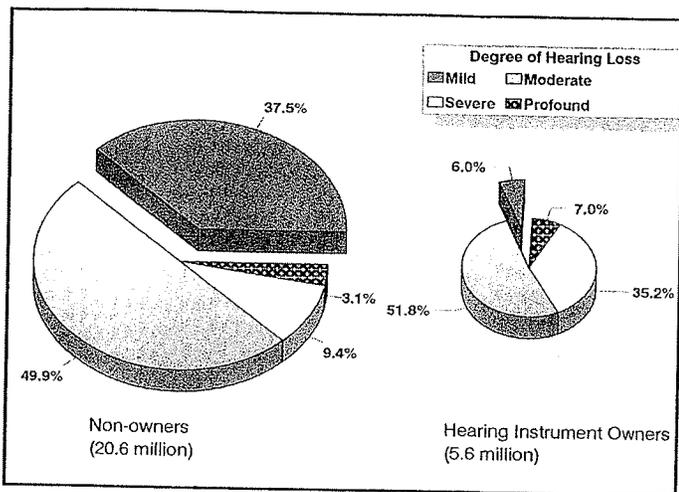


Figure 1. The hearing-impaired population by degree of hearing loss (1994).

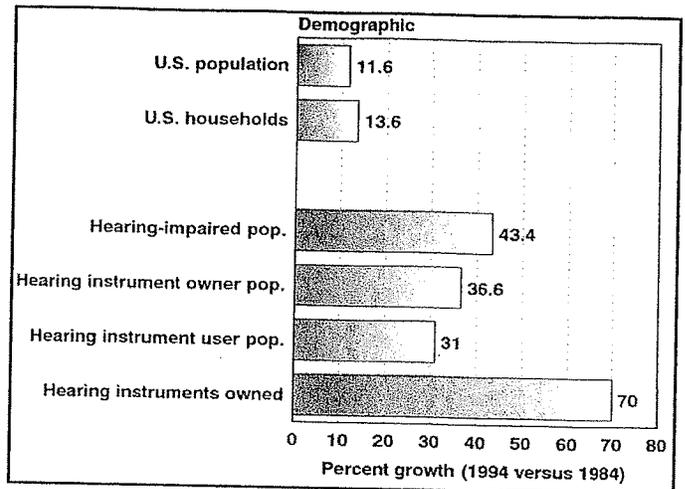


Figure 2. Growth in the U.S. hearing instruments market (1984 vs. 1994).

the U.S. population or 23.7 million people.

In Figure 1, owners and nonowners of hearing instruments are compared with respect to perceived degree of hearing loss. The owner and nonowner populations are seen to differ primarily in the number of mildly impaired individuals (37.5% of mildly impaired individuals (37.5% of nonowners versus 6% of owners).

Hearing instruments appeal primarily to moderately and severely impaired persons. Considerable sales opportunity is believed to exist in the nonowner population, among whom 59.3% of individuals report that their hearing loss is either moderately or severely impaired. Sizing the "real" market for hearing instruments will be the subject of a future paper in the MarkeTrak IV series.

The Hearing Instrument Owner Population

Hearing instrument penetration has been relatively stable between 1984 and 1991, but declined slightly from 22.3% in 1984 to 21.3% in 1994. Hearing instrument owners have increased from 4.1 million in 1984 to 5.6 million in 1994, slightly down from 5.8 million owners in 1991. When one converts these data from owners of hearing instruments to users of hearing instruments (See Table 3 usage rates), the numbers of users increased from 3.6 million in 1984 to 4.7 million in 1994.

Figure 2 compares the 10-year growth figures for the hearing aid market compared to the U.S. population data. During the last 10 years, the U.S. population expanded 11.6% while the number of U.S. households grew 13.6%. These growth figures should be compared to

	1989 (n=200)	1991 (n=199)	1994 (n=190)
Demographics			
First time owner % (current period)	53.4%	40.5%	29.0%
Average age	66.0	68.4	67.8
Average household income (\$000)	\$30.5	\$35.3	\$30.8
Factors influencing new first time owners			
Hearing loss got worse	72.2%	55.8%	64.4%
Family members	52.2%	56.8%	49.5%
Audiologist	25.7%	26.6%	27.1%
Hearing aid specialist	15.9%	14.1%	20.7%
Ear doctor	28.6%	19.1%	18.6%
Other hearing aid owner	n/a	n/a	13.8%
Received free hearing aid	n/a	n/a	8.5%
Family doctor	17.2%	7.0%	8.5%
Price of hearing aid	n/a	n/a	4.8%
Hearing loss literature	10.5%	2.0%	3.7%
Boss or co-worker	3.2%	4.5%	2.7%
Advertisement-newspaper	2.5%	4.0%	2.7%
Financial situation-improved	n/a	n/a	2.7%
Telemarketing phone call	0.7%	0.0%	1.6%
Advertisement-magazine	4.0%	2.0%	0.5%
Direct mail	2.9%	2.5%	0.5%
Advertisement-television	6.5%	4.5%	0.5%
Advertising-radio	n/a	n/a	0.0%
Industry celebrity	3.3%	0.5%	0.0%

growth figures for the hearing-impaired/instrument market: number of hearing-impaired (43.4%), hearing aid owners (36.6%), hearing aid users (31%), and hearing aids owned (70%).

The substantial growth in hearing aids owned is due to the phenomenal binaural penetration trend shown in Figure 3. In 1984 only 21.8% of the hearing instrument owners were fitted binaurally; in 1994 this figure has nearly leveled at 51.9%. Binaural purchases have grown from fewer than one in four in 1984 to nearly two out of three in 1994.

Physician Screening For Hearing Loss

A clear upward trend in physician screening for hearing loss was evident in 1989 and 1990, the years in which the

industry engaged in educational and public relations programs targeted to primary-care physicians (see Figure 4). In spring 1989, when HIA began its educational program, 15.1% of consumers receiving a physical exam in the previous 6 months reported that their physician screened for hearing loss. The percentage of respondents screened for hearing loss grew to 20.1% in the fall of 1990, but declined in early 1994 to 16.6%. Reported physician screening declined among all age groups. Is it coincidental, that the rise and fall of physician screening were contemporaneous with the initiation and suspension of HIA's physician-education efforts? This worthwhile effort was suspended due to other priorities facing the hearing instrument industry.

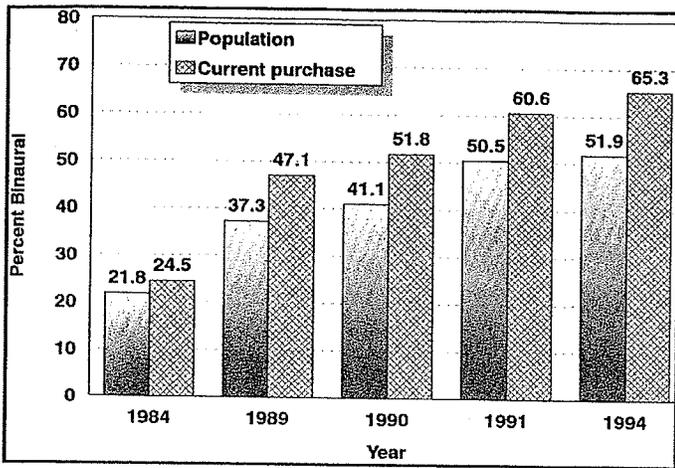


Figure 3. Binaural hearing instrument owner population trend.

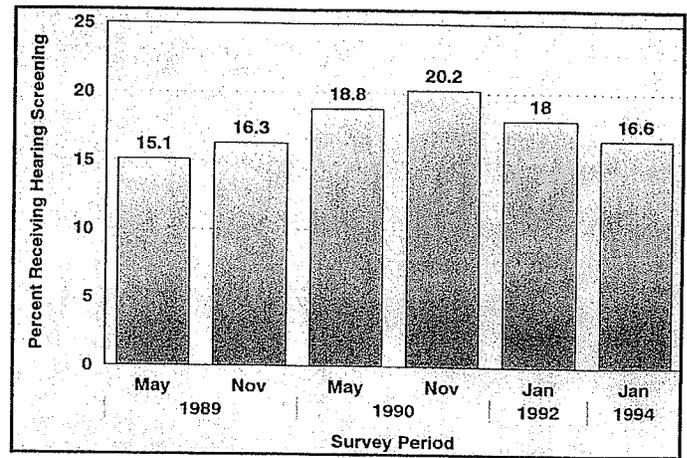


Figure 4. Percentage of U.S. population screened for hearing loss during a physical exam.

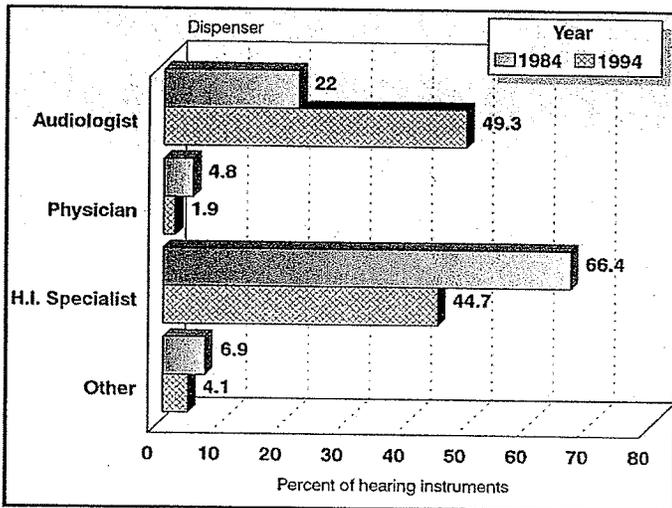


Figure 5. Hearing instrument fittings by perceived profession (1984 vs. 1994).

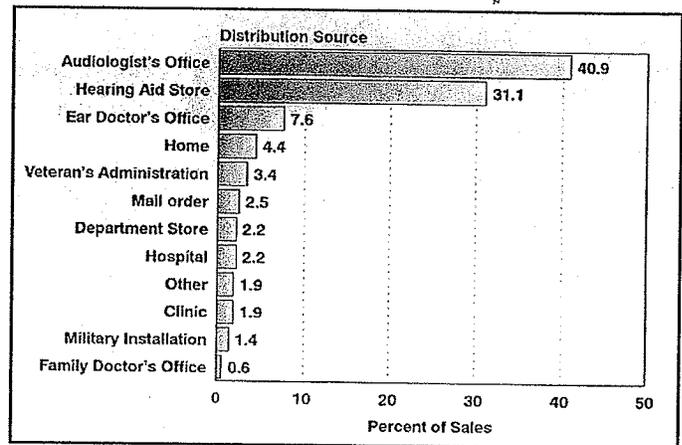


Figure 6. Hearing instrument sales by source of distribution (1994).

PRICE OF HEARING INSTRUMENTS

As shown in Table 2, third-party payment (e.g., Medicare, union, insurance, HMO, etc.) for hearing instruments was relatively flat between 1984 and 1989. In 1991, third-party support dropped to 16.2% of hearing instruments sold but rebounded to 23% in 1994. Conceivably the third-party decline in 1991 was due to the scrutiny of postretirement benefit accounting practices by the Financial Accounting Standards Board. Corporations were warned that they must accrue the cost of postretirement healthcare benefits during the working life of the employee. In 1991, this ruling placed great pressure on corporations to reduce postretirement healthcare benefits. A second possible reason is that the recession of 1990-1991 may have negatively impacted third-party payments in a way which is not readily apparent.

The average price of a hearing instrument as paid by the consumer (including free and third-party discount) increased from \$501 in 1984 to \$710 in 1994 for an average annual growth rate of 4.2%, which is slightly less than the rate of inflation in the United States during that period. For the period 1989 to 1994, the largest price increase occurred in the behind-the-ear hearing aid market. Most likely this increase was due to the higher cost of programmable units.

Distribution

There have been major changes in the distribution of hearing instruments between 1984 and 1994. In 1984, 22% of fittings were performed by audiologists, compared to 49.3% in 1994 (see Figure 5). In comparison, sales by hearing instrument specialists declined from 66.4% of the market in 1984 to 44.7% in 1994.

Fittings by medical doctors and others (e.g., mail-order) have declined during this period. It should be understood that the distribution data represent perceptions of the consumer, who may not always be able to differentiate an audiologist from a hearing instrument specialist.

With respect to the source of distribution, 48.7% of sales in 1984 were through "hearing aid stores," as compared to 21.3% through audiologist's offices. In 1994 (see Figure 6), sales through audiologist's offices had nearly doubled to 40.9%, while sales through "hearing aid stores" had declined to 31.1%. During the last 10 years, seven out of 10 hearing aid sales have taken place in what is viewed by the consumer as either an audiologist's office or a traditional "hearing aid store." There are no other notable shifts in business with the possible exceptions of an increasing

trend toward sales through the Veterans Administration and a decline in home sales.

Satisfaction With Hearing Instruments

Table 3 and Figure 7 document overall satisfaction with hearing instruments for the years 1989-1994; satisfaction data were not measured in 1984 by HIA. Overall satisfaction declined from 58.5% in 1989 to 53.4% in 1994. Similarly, hearing aids not being used (or in the drawer) increased

from 12% in 1991 to 17.9% in 1994. Of interest is that "dissatisfaction" did not increase. Thus the losses in satisfaction were due to shifts to the "neutral" category.

Satisfaction with new hearing instruments (i.e., less than 1 year old) improved from 66.2% to 70.7% over the last 3 years, while dissatisfaction rates were nearly halved to only 6% of sales.

Why has satisfaction declined with all hearing instruments but improved with newer instruments? One possible reason

is that the adverse publicity in the industry in 1993 and 1994 has caused people to reevaluate their hearing instruments and to change their perceived ratings of their hearing instruments. However, this does not explain why so many people now have their hearing instruments in a drawer.

A more plausible reason is that as hearing instruments have aged or broken down, a larger segment of consumers has decided not to replace them. In fact, as

Table 5. The Hearing-Impaired Market (1994) And Hearing Instrument Penetration 1984 vs. 1994.

	Percent of Total (1994)		1994 Population Size (000)			Hearing Aid Penetration (% own hearing aid)	
	Hearing aid owners (n=2,550)	Hearing-impaired Non-owners (N=9,446)	Hearing aid owners	Hearing impaired non-owners	Total hearing impaired	1984	1994
By sex							
Male	60.2%	59.9%	3371	12,346	15,716	24.5%	21.4%
Female	39.8%	40.1%	2229	8254	10,484	22.7%	21.3%
By age group							
Less than 17 yrs	2.2%	6.1%	125	1246	1371		9.1%
18-34 yrs	2.6%	12.7%	146	2624	2770	10.7%	5.3%
35-44 yrs	5.8%	18.2%	322	3749	4071	6.1%	7.9%
45-54 yrs	9.3%	19.2%	518	3957	4475	12.4%	11.6%
55-64 yrs	16.1%	16.6%	904	3409	4313	22.4%	21.0%
65-74 yrs	34.1%	17.0%	1909	3498	5407	34.0%	35.3%
75-84 yrs	24.9%	8.6%	1392	1774	3165	45.6%	44.0%
85 + yrs	5.1%	1.7%	285	340	625	58.6%	45.6%
By household income							
Less than \$10K	14.5%	11.8%	812	2423	3235	32.6%	25.1%
\$10K-19K	24.8%	18.1%	1388	3733	5121	26.3%	27.1%
\$20K-29K	19.6%	17.6%	1098	3619	4718	19.5%	23.3%
\$30K-39K	13.5%	14.7%	757	3018	3774	16.1%	20.0%
\$40K-49K	8.2%	11.5%	461	2373	2835	20.4%	16.3%
\$50K-59K	6.2%	8.0%	348	1652	2000	20.2%	17.4%
\$60K +	13.1%	18.4%	736	3782	4518	19.5%	16.3%
By educational level							
Some elementary	6.1%	3.3%	343	676	1019		33.7%
Elementary degree	12.4%	8.9%	697	1840	2536	36.8%	27.5%
High school (some)	32.7%	31.2%	1828	6429	8258	32.0%	22.1%
High school degree	23.6%	28.2%	1323	5815	7138	21.0%	18.5%
College (some)	4.9%	6.0%	272	1236	1508	20.9%	18.0%
College degree	11.7%	13.4%	657	2756	3413	22.5%	19.2%
College (postgraduate)	8.6%	9.0%	480	1850	2330	21.4%	20.6%
By employment category							
Full-time employment	21.6%	50.0%	1211	10,306	11,517	13.4%	10.5%
Part-time employment	8.1%	9.8%	454	2019	2473	21.2%	18.4%
Unemployed	7.7%	11.7%	431	2414	2845	20.2%	15.1%
Retired	62.6%	28.5%	3504	5861	9365	36.3%	37.4%
By metro size							
Less than 50K	25.3%	28.2%	1417	5801	7218	24.2%	19.6%
50K-499K	17.0%	18.2%	950	3747	4697	22.3%	20.2%
500K-1.99 mil.	21.2%	18.6%	1189	3838	5027	25.2%	23.7%
2 mil. and above	36.5%	35.0%	2043	7212	9255	23.2%	22.1%
By lifestyle							
Roomates	1.2%	1.8%	68	365	432	18.5%	15.7%
Singles - young	1.4%	2.8%	76	581	657	12.4%	11.6%
- middle	4.9%	6.9%	274	1413	1688	13.5%	16.3%
- older	18.2%	6.5%	1018	1339	2357	41.2%	43.2%
Couples - young	3.1%	6.5%	175	1833	2008	7.0%	11.6%
- working older	17.7%	15.2%	988	3123	4111	23.6%	24.0%
- retired	32.3%	15.6%	1808	3209	5018	35.7%	36.0%
Parents - young	3.3%	10.9%	186	2254	2440	10.3%	7.6%
- middle	4.2%	13.8%	236	2849	3085	7.7%	7.7%
- older	13.8%	20.1%	771	4139	4909	19.6%	15.7%

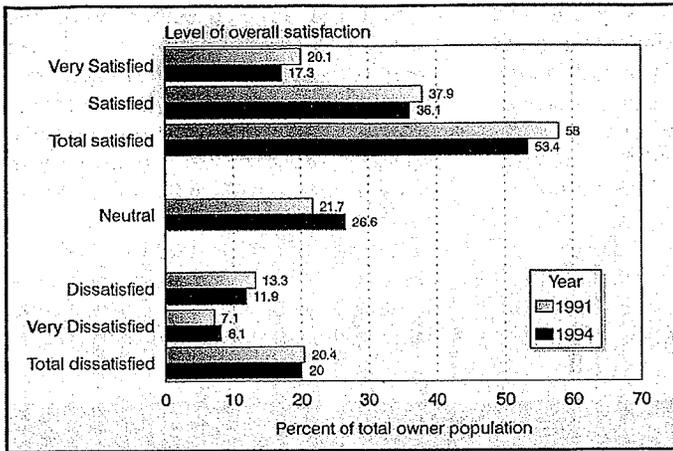


Figure 7. Overall satisfaction with hearing instruments (1991 vs. 1994).

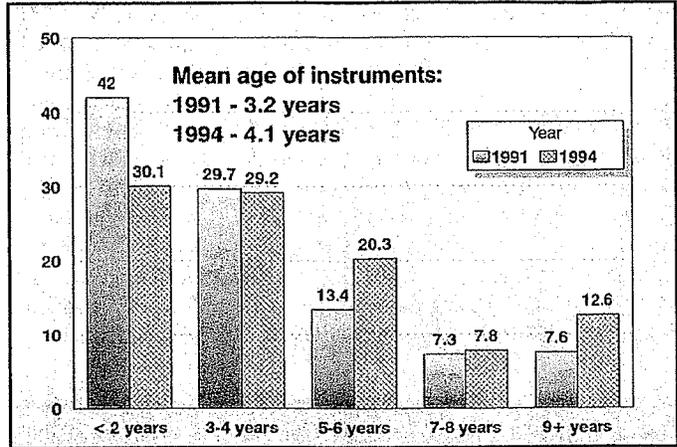


Figure 8. The age of hearing instruments (1991 vs. 1994).

shown in Figure 8, the average age of instruments in the field has increased from 3.2 years in 1991 to 4.1 years in 1994. In 1991, 72% of hearing instruments were 4 years old or less; this has decreased to 59% of hearing instruments.

In MarkeTrak IV, 50 measures of satisfaction (e.g., product, price, service, etc.) were collected from current owners, as were benefit data. It is beyond the scope of this paper to present the detailed satisfaction/benefit data; thus, the next article in this series will be dedicated to comparing the 1991 and 1994 satisfaction results for the U.S. market.

New Hearing Instrument Owners

As shown in Table 4, first-time owners dropped dramatically in 1994 to 29% of sales. By comparison, in 1989 they represented more than half of sales. New owners continue to have an average age exceeding retirement (67.8 years) and an average household income of nearly \$31,000.

Primary factors influencing new, first-time owners to purchase a hearing instrument were the perception that their hearing loss was getting worse (64.4%), family members (49.5%), audiologists (27.1%), hearing instrument specialists (20.7%), and ear doctors (18.6%). Marketing and public relations received their fewest mentions since we began tracking these factors in 1989. This is not surprising given the reduced advertising by the industry in 1993 and 1994 as a reaction to the FDA initiatives. We added to the list of motivating factors presented to first-time purchasers in MarkeTrak IV. Notable are the sizable number (13.8%) of new owners reporting they were moti-

vated by friends who also owned hearing instruments and those reporting they received "free hearing aids" (8.5%).

Hearing-Impaired Population Demography

In Table 5, detailed demography is presented for 1994 and penetration rates are compared for the years 1984 and 1994.

Previous MarkeTraks have underrepresented the population of hearing-impaired children (under age 18). We improved the questioning in MarkeTrak IV so that we now have a more accurate indication of the size of the children's market. We are estimating this market to be about 1.4 million. This figure now compares favorably with the 1990-91 NCHS survey, which estimated there were slightly fewer than 1 million hearing-impaired children, and that 15% of these could not hear and understand normal speech.

When we compare hearing instrument penetration over the last 10 years, it is apparent that little has changed in terms of new markets or new customer segments. Hearing instrument penetration tends to be higher among older, lower-income, less-educated individuals who are retired and often living alone. According to the NCHS study, hearing impairment is statistically more prevalent in the following demographic categories: Caucasians, family income under \$10,000, retired, service and blue-collar occupations, and education less than high school.

With respect to the hearing-impaired nonowner, the largest opportunity continues to be disproportionately men. Only 27% of nonowners are past retirement age while 64% of hearing instru-

ment owners are. More than 10 million of the nonowners hold full-time jobs and nearly four in 10 earn incomes greater than \$40,000.

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