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A SURVEY RESEARCH DESIGN TO EVALUATE
A HOSPITAL-BASED OCCUPATIONAL
HEALTH PROGRAM

R01-OH-00319

by

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16. Abstract (Limit: 200 words) A research survey to evaluate the utilization of the Occupational Health Program (OHP) at Brookdale Hospital Medical Center, Brooklyn, New York by small industries in the area was designed. The OHP services included treatment and followup care of injuries, preemployment physicals, periodic physical examinations, immunizations, and physical examinations for management personnel. An attempt was made to establish a construct relating the properties of small industries to utilization of the OHP as an aid in development of a research design and methodology for eventual evaluation. In the process of establishing this construct, indications of the impact of the OHP were offered. Practically all of the continual users of the program who only required injury care had totally unionized shops. Those who used injury care as well as other services of the OHP showed the highest proportion of non fully unionized shops, almost half of them reporting less than 90% unionization. The durable goods manufacturers with 20 or more employees were also shown to utilize the fuller range of OHP services if unionization was not a barrier. The continual utiliziers of the fuller range of OHP services tended to be further away from the center of OHP activities than those who used the services for injury only. In shops employing less than 20 persons, this relationship of unionization to utilization disappeared.						
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Section 1.0

INTRODUCTION

An Occupational Health Program has been in existence at Brookdale Hospital Medical Center, Brooklyn, New York, since 1965. The concern of the Program is occupational health among the employees of small industries and business establishments (700 or less employees) within the service area of Brookdale Hospital.

In addition, the Brookdale Hospital Medical Center itself, employing over 2,000 individuals, is a participant in the Program through Brookdale's Employee Health Service.

To the small industries, the Program offers treatment and follow-up care of injuries, pre-employment physicals, periodic physical examinations, immunizations, and physical examinations for management personnel.

Other services of a full occupational health program (e.g., industry-specific health education programs, environmental surveys to aid in accident and illness prevention and in the elimination of safety hazards) were not offered consistently or on a significant level during the start-up years of the Program.

The Program is the only hospital-based occupational health program in the nation and there is high interest in an evaluation of the Program.

The Program was instituted during a period of notable change in the demographic composition of the catchment area, social friction, and turnover among the industrial and business concerns in the area. On the other hand, the same period also saw the infusion of new industry in an industrial park setting, encouraged by the City of New York.

The older industries located throughout the catchment area have extremely poor associational bonds. There are hardly any ways of presenting the Occupational Health Program to a group of industries or employers other than through public media, mail, or on a one-to-one basis. Efforts to contact industry to explain the services and availability of the Program met with the criticism of unethical solicitation. Outreach procedures for this Program are difficult and cannot be similar to those employed, for example, by Neighborhood Health Centers whose target areas contain few remaining professionals to service residents eligible for, but having spotty, uneven third-party health care cost coverage.

The Occupational Health Program, aided by the National Institute of Occupational Safety and Health, contacted the NORC, "to develop a survey research proposal for the purpose of the evaluation of the program at the (Brookdale) Center...the proposal will include the research design, the sampling procedure, and the estimated cost to carry on the survey research program."

In line with the eventual evaluation, Brookdale Center and NIOSH personnel were desirous of obtaining insights into

the reasons the Program did not "take-off" during the start-up years; there was a general feeling that the Program had not yet "gotten off the ground". Plans to continue the Program exist and the area has the potential, and existing City plans, for the significant infusion of more industry.

The advantages of participating in the Occupational Health Program presented to industry are the following:

1. Injuries--emergency room waiting time to see a physician is high in all hospitals. The Occupational Health Program has its own physician, lowering the waiting time significantly. In many instances, two men are sent from industry to the emergency room resulting in a loss of production time for both employees.

Management is rarely notified by the emergency room of the disposition of the case and emergency room care does not allow for systematic follow-up care of the injury; the OHP provides such services.

2. Pre-employment examinations--health screening examinations by the Occupational Health Program lower pre-employment costs for the employer, and the employer is told of risks involved in the employment of the individual.
3. Immunizations for tetanus, smallpox, and influenza are effective in avoiding employees being away from work for long periods.
4. Executive and other physicals utilize the latest multiphasic screening techniques.
5. Environmental surveys performed by hygienists of the State Department of Labor and the State Department of Hygiene take a long time to arrange.

6. Compensation rates are lowered when efficient medical practices are established and injuries are not sent indiscriminately to specialists.

A major portion of this report represents an attempt to establish a construct relating the properties of small industries to utilization of the Occupational Health Program as an aid in development of a research design and methodology for eventual evaluation. In the process of establishing this construct, indications of the impact of the Occupational Health Program are offered.

Section 2.0

THE TARGET AREA CONTAINING THE SMALL-INDUSTRY POPULATION

The target area is not a discrete geo-political unit or section for which data reporting for industry exists. The target area for the Program is the area of 12.6 square miles encompassed within a two-mile radius of the Medical Center and composed of the following Brooklyn communities or sections--

Northeast quadrant of target area
Ocean Hill, Brownsville, Broadway
Junction, East New York

Southeast quadrant
New Lots, Spring Creek, Canarsie,
Paerdegat Basin

Southwest quadrant
East Flatbush, Farragut, Rugby,
Holy Cross, Clarendon, Vanderveer

Northwest quadrant
Prospect-Lefferts, Wingate, Crown
Heights (portions), Stuyvesant Heights
(portions)

Because of the nature of the target area, data for the universe of small industries and business establishments are not available or readily inferred from larger reporting areas such as the City or County.

Also, since industries and businesses cluster highly by type due to zoning policies, land prices, access roads, railroads and other industry-specific factors, an intricate sample survey or a costly census would have to be undertaken to obtain data

for the universe of small industries and business establishments in the area. Such measurements would rapidly become obsolete as there is evidence of significant fluidity in the number and employment profiles of companies in the target area.

In 1965, the Program received a special breakdown of Federal statistics showing 1,600 small industries employing 35,000 persons existing in an area approximating the target area. Data developed during the establishment of the present research construct, however, indicate that 26 per cent of the companies outreached for participation in the Occupational Health Program experienced some form of turnover since outreach; 16 per cent moving out of the area or now out of business and per cent moving within or near the catchment area. One outreach year, 1966, saw fully 47 per cent of the companies showing some form of turnover, 29 per cent moving out of the area or now out of business, 6 per cent moving within or near the catchment area, with the remainder moving parts of operations to other areas or experiencing change in corporate name or ownership.

In addition to changes measurable by the Program's contacts within the target area, the area is probably not immune to the swift changes in employment profiles for the New York City labor market as a whole. Total employment declined by 54,000 in New York City in 1970 and by 130,000 in 1971.¹

¹U.S. Bureau of Labor Statistics, Middle Atlantic Regional Office, The Economics of Living and Working in New York City, April, 1972, p.13.

Between 1960 and 1970, New York City lost 174,000 jobs in manufacturing compared to a net loss of 92,000 in manufacturing in the City in the fifties. During the same two decades, however, jobs in the City's service industries increased from 500,000 in 1950 to 790,000 in 1970.²

The Borough of Brooklyn accounts for one-quarter of the manufacturing jobs in the City with nearly 225,000 manufacturing or wholesaling jobs of which almost 90 per cent are blue collar. Over half of the employees work in five industries; the largest is apparel assembly followed by food and kindred products manufacturing, metal fabrication, and the machinery and electrical products manufacturing industries.³

These very industries were the ones experiencing the major New York City job losses in the 60's and the losses occurred in almost direct relationship to the industry's importance in Brooklyn; 64,000 jobs lost in apparel assembly, 24,000 in food and kindred products manufacturing and between 10-12,000 jobs in miscellaneous manufacturing.

A survey of small businessmen and manufacturers was undertaken in early 1971 in the Bedford-Stuyvesant-Fort Greene area of Brooklyn, immediately adjacent to the northwest quadrant

²U.S. Bureau of Labor Statistics, Middle Atlantic Regional Office, Some Facts Relating to the New York Scene, April, 1971, p. 6

³New York City Planning Commission, Plan for New York City-1969-A Proposal. Volume 3 (Brooklyn), MIT Press, Cambridge, Mass, 1969.

of the Brookdale catchment area.⁴ The results of this survey show that, among the types of businesses contacted, manufacturers were most likely to want to move (63%), service businesses were second (32%) and retail businesses third (23%).

All evidences point to continuation of these trends among the established companies. On the other hand, one large area in the Brookdale catchment area, the Flatlands Industrial Park, has been in operation since 1970. It is the first industrial park within the City designed for light industry and warehousing and will provide 6,000 to 7,000 jobs. This change alone impacts heavily on the 1965 estimate of 35,000 jobs in the target area.

Target area-wide norms for small industry and businesses such as employee size-class, industrial or business activity, injury frequency and severity rates, health and compensation costs to employers, and third-party health care cost coverage patterns for employees are not available for use as tools in the establishment of this construct.

Due to the prohibitive cost of collecting such data and their short effective life span, target-area wide norms also will not be recommended as one evaluation aid to assess the outreach coverage of the Program (which took place in the years 1965 through 1971) or the precise representativeness of the utilizers and non-utilizers of the Program to the industrial population in the target area.

⁴Quatrone, D.E., Dym K. Narcotics and Crime: Their Impact on Ghetto Businesses, Addiction Research & Treatment Corporation Evaluation Team, Columbia University School of Social Work (1973) mimeo.

Section 3.0

AVAILABLE TOOLS FOR A SMALL-INDUSTRY PARTICIPATION EVALUATION

3.1 EXISTENCE OF BASELINE DATA

Baseline data do exist for the companies outreached to participate in the Occupational Health Program. Whenever personal outreach contact occurred, an interview schedule was administered to an official of the company. Data were collected by the Program for the following pre-utilization or baseline variables:

- Nature of industrial activity
- Number of employees
- Number of in-plant production employees by sex
- Number of in-plant production employees by full or part-time status
- Number of office, sales and other non-production personnel by sex and full or part-time status
- Percentage of employees in unions
- Health care plan coverage for employees
- Employer - employee sharing of health care plan costs
- Private or State Compensation coverage
- Hospitals to which more serious compensation injuries are referred
- Number and types of industrial hazards to which workers are exposed
- Number of lost time and no lost time compensation injuries or illness in year preceding outreach.
- Number and kinds of protective devices used by employees.
- Pre-employment physicals required by company
- Periodic physical examinations required by company
- Return to work (after illness) examinations
- Immunizations offered by company
- Presence of a Safety Director or Safety Engineer
- Physician employed by company
- Nurse employed by company

In addition, questions on number of washrooms, company sick leave policy, on-premise first aid rooms, dispensaries and kits, and on-premise first aid practices were administered.

Whether companies utilized the Program or not, the baseline interviews were retained by the Program.

3.2 PROGRAM RECORDS OF UTILIZATION

For each company utilizing the Program, records were kept and synopsized into yearly totals for the individual company; number of injuries treated by the OHP, number of pre-employment physicals, number of periodic examinations and number of executive physicals. Whether the company utilized immunization services in a given year was also recorded by the Program.

3.3 INTEGRATION OF BASELINE DATA, PROGRAM RECORDS, AND OTHER DATA

No systematic integration of baseline data for companies and Program records for companies occurred prior to the Program's request for an evaluation proposal.

NORC coded the baseline instruments and created a file for each company outreached, adding the Program utilization records. In addition, each outreached company was searched for in the January 10, 1973 reverse telephone directory as a check of whether the company still existed the area. City telephone directories and notations made by Program personnel were used in tracing companies moving within the target area or outside it, and in labeling a company as out of business.

Original outreach addresses were plotted on a 1969 New York City Planning Commission map of the target area showing

developed "M1-equivalent" zoning areas (light manufacturing, warehousing), "M2-equivalent" areas (heavy industry - manufacturing and warehousing), and "C7,C8 - equivalent" zoning (heavy commercial and service activities including warehousing, motor vehicle repair and amusements). These plottings were made to obtain a gross visual assessment of the adequacy of the outreach geographical coverage as well as to segregate companies for further analysis into two distance bands from the center of OHP activities; those within a one-mile circular band of the OHP center and those within a one-to-two mile circular band of the OHP center.

3.4 TENTATIVE TREATMENT GROUPS

By integrating baseline data, Program utilization records and other information for a company, it became possible to establish tentative treatment groups for further study in developing a research construct --

1. Companies remaining in or near catchment area

- (a) Continual utilizers of OHP, from outreach to 12/31/72
- (b) Drop-outs from OHP utilization, utilized after outreach but did not utilize in the years 1971 and 1972.
- (c) Never utilized OHP services.

2. Companies out of business or left catchment area

- (a) Utilized OHP after outreach, prior to move
- (b) Never utilized OHP services

3.5 ADEQUACY OF THE BASELINE DATA

Not all companies utilizing the OHP had the outreach baseline interview administered to them. A small number of companies did come to the OHP in various ways other than through the usual outreach and interview procedures. Baseline - interviewed companies do account for 86.1% of the companies ever using the OHP services through December 31, 1972. Baseline-interviewed companies account for 80.5% of the injuries ever treated by the OHP, 96.5% of pre-employment physicals, 61.2% of periodic physical examinations and 92% of executive physicals performed by the OHP. Baseline-interviewed companies also account for 92% of the companies receiving immunization services through the OHP. Forty-one per cent of the baseline-interviewed utilizer companies utilized two or more services of the OHP compared to 35% of the non-interviewed utilizer companies. Thirteen per cent of the baseline-interviewed utilizer companies utilized three or more services of the OHP compared to 6% of the non-interviewed utilizer companies.

Given these proportions, it is safe to state that the utilizer companies for which baseline information is available are fully representative of the utilizer of the OHP to date.

Major gaps, however, do exist in the baseline information. No questioning occurred on the amounts companies spent on employee medical care prior to utilization (or non-utilization) of OHP services, in-plant production personnel turnover rates, medical absenteeism, attitudes toward (and previous experiences with) pre-employment and periodic examinations, attitudes toward

the impact of health care costs on the financial health of the company, and attitudes toward employees in general and toward the community.

Although outreach efforts experienced some difficulty, primarily through refusal to grant the outreach interview and outright refusals by owners to talk to anyone regardless of purpose, no systematic records were kept on the number of such contacts, their location within the target area, the nature of their principal business activities or approximations of employee size-class.

The actual baseline interviewing was the product of only two persons' efforts; one person who performed the interviews in the first year of outreach and one person who performed the interviews in the remaining years. This situation may have allowed for personality differences in the way the Program was presented to potential utilizers, and may have allowed for bias in the kinds of companies outreached. No systematic plan for outreach coverage existed, such as pre-listing intersections in industrial and business areas and choosing an intersection as a daily starting point by a table of random numbers. Outreach efforts ran the hazard of undue concentration in certain areas. As stated previously, industries and businesses tend to cluster geographically by type; with clusters probably having common problems, concerns and properties conducive or not conducive to eventual OHP utilization.

One hundred and ninety-four companies received the baseline interview. Seven per cent of the companies required pre-employment physical examinations and 3.6% required periodic examinations for employees at baseline. These proportions include companies where the examinations were required by law, such as for chauffeurs.

Five per cent of the companies required return-to-work physical examinations after illness. Six per cent of the companies required a note from a physician after illness. (Volunteered comments to the question on physician notes indicate that notes are especially required if the illness occurred at the beginning or end of a weekend. It was clear in some cases included in the 6% requiring notes that the reasons for the notes were not medically oriented but "administrative.")

Immunizations were offered by 2.5% of the companies at baseline. Six per cent of the companies had an employee or someone in management with special training appointed as Safety Director; 9% of the companies had an employee or someone in management appointed as Safety Director with no special training.

Ten per cent of the companies either employed a physician or had a "regular" physician they utilized. One per cent of the companies employed a nurse at baseline.

The baseline-interviewed companies employed 12,744 individuals, 36% of the 1965 estimated total of 35,000 jobs in

the target area. Given the above proportions for baseline medical practices of the companies, it is clear that the OHP was not re-orienting the supply for any appreciable demand for medical services; demand as observable by baseline medical practices.

Regarding the treatment of trauma, 69% of the companies interviewed at baseline who had experiences with on-the-job injuries in the target area named the Brookdale Hospital Medical Center as a hospital to which they had normally been referring trauma cases. The minority of the companies distributed trauma cases to seven other hospitals. The Brookdale Hospital was, then, the major supplier of treatment for target area industrial trauma at baseline.

The proportions given above for baseline medical practices indicate that the pre-OHP medical practices of the companies cannot effectively be used as explanatory variables in contrasting treatment groups; OHP utilizers vs. OHP non-utilizers. The vast majority of companies at baseline provided practically zero medical services beyond required compensation accident and illness care, yet 54% of the baseline companies utilized the OHP at some point and 25% of the companies used services other than treatment of trauma. Why some companies utilized the OHP and others did not cannot be explained by the small variation in their pre-OHP medical practices.

Similarly, the proportions given above for baseline medical practices indicate a dearth of outcome variables in the costs area which could be used to evaluate the OHP treatment.

The OHP treatment could not have lowered pre-employment health cost outlays if there were practically none at baseline; the OHP treatment if utilized, could only have increased such outlays. The OHP treatment could not have provided less costly periodic examinations and immunization services if there were practically no outlays for such services at baseline. Without the measurements of medical absenteeism and employee turnover for medical reasons at baseline, an estimated pre-OHP cost to employers for not having such services cannot be imputed for later evaluation of the cost outcome of treatment.

Since outreach occurred over a long period of time (1965-1971), a second wave of interviewing in an evaluation stage could not rectify the baseline omission of some "hard" evaluation data; retrospective data from many small companies not keeping organized records would be unreliable in direct relation to the number of years elapsing between the baseline year and the year of an evaluation stage interview.

It appeared, then, that an evaluation design would necessarily be restricted to the collection of primarily "soft" data (likes and dislikes about the program, subjective reasons for participating or not participating, perceptions of cost differences, perceptions of absenteeism differences). Without pre-post measures, in order to compare the costs and benefits to participating versus non-participating companies, an evaluation design would have to insure

sizable numbers of participating and non-participating companies when controls are applied for company characteristics. Given the many aspects of industrial life which must be controlled in an analysis of the costs and benefits of participating in a program, an evaluation design would have to extensively screen for, and attempt to include, other target area companies matching the OHP participants and outreached non-participants.

The development of the research construct became two-pronged as a result of these considerations --

(a) To identify those company characteristics which should be controlled for in evaluation design.

(b) To engage in a fairly detailed descriptive analysis of the existing baseline data and the file on actual company behavior after outreach to ascertain if sufficient information was not already available to judge the program's effectiveness and the reasons for participating or not participating.

SECTION 4.0

CORRELATES OF THE SMALL-INDUSTRY OUTREACH YEARS

Few hypotheses existed regarding utilization of the OHP services by small industry. Turnover among industry in the area and distance from the center of OHP activities were some of few suggested correlates of non-utilization.

A first step in the direction of seeking correlates of utilization was to arrange the baseline companies by year of initial contact and to contrast this arrangement against some utilization and company-characteristic variables. It was felt that this step would provide global, tentative hypotheses for later refinement by contrasting actual treatment groups, give an indication of the size of treatment groups available for later analysis, and have as by-products documentation of the outreach effort and some assesment of that effort.

4.1 GROSS UTILIZATION BY YEAR OF OUTREACH INTERVIEW

Table 1 presents the number of baseline companies and the per cent ever utilizing any OHP services by year of outreach.

TABLE 1

NUMBER OF COMPANIES RECEIVING OUTREACH INTERVIEW AND PER CENT
EVER UTILIZED OCCUPATIONAL HEALTH PROGRAM SERVICES, BY YEAR OF
OUTREACH

Year of outreach	Number interviewed	Per cent ever utilized OHP
1965	34	47.1%
66	34	32.4
67	54	59.3
68	33	60.6
69	8	[87.5]
70	9	[88.9]
1971	22	50.0
All years	194	54.1%

[]= percentage based on N of 19 or less, in this and
subsequent Tables.

Wide variation existed in both the number of companies outreached per year by personal contact (8 to 54) and the percent ever utilizing OHP services (32% for the 1966 "cohort" compared to close to 90% in 1969-70)

The number of companies outreached during 1969 and 1970 were small since the one outreach worker, a nurse, was involved in a nursing program at some companies previously outreached.

4.2 DROPPING OUT BY YEAR OF OUTREACH INTERVIEW

During a review of the Program records it was seen that no company lapsed in its use of OHP services for two consecutive years and then resumed using OHP services. If a company did not utilize OHP services during 1971 and 1972 but had ever utilized, the company was classified as ceasing utilization.

All members of the 1971 "cohort" were interviewed in January or February 1971. Also, 1971 was a year in which an appreciable number of companies (45%) showed utilization prior to the outreach interview. These were apparently companies who sent patients to the emergency room for treatment of trauma in late 1970 and the patient was referred to the OHP doctor and the company referred to the OHP outreach worker for baseline interview. If such companies did not utilize in 1971 and 1972 they were classified as ceasing utilization.

Table 2 presents the proportion of OHP utilizers ceasing utilization by year of initial outreach.

TABLE 2

PER CENT OF OUTREACH-INTERVIEWED COMPANIES CEASING TO UTILIZE
OCCUPATIONAL HEALTH PROGRAM, BY YEAR OF OUTREACH

<u>Year of outreach</u>	<u>Per cent ceased utilization</u>
1965	[6.3%] (16)
66	[90.9] (11)
67	71.9 (32)
68	30.0 (20)
69	[57.1] (7)
70	[12.5] (8)
1971	[27.3] (11)
All years	45.7% (105)

() = base N for percentaging; number of outreach-interviewed
companies ever utilizing OHP.

Again, wide variation existed in the percentage of companies ceasing OHP services by year of outreach and there is no discernible pattern to this variation as the outreach years progress. The first year of outreach, 1965, managed a 47% ever-utilized rate (TABLE 1) and the highest proportion (93%) of continual utilizers. The outreach year of 1966, on the other hand, resulted in the lowest ever-utilized rate with 91% of the utilizers then dropping out. Outreach year 1967 experienced a drop-out rate for its cohort of utilizers more than one and a half times the overall drop-out rate of 46 per cent, but had an ever-utilized rate above the overall rate of 54 per cent.

4.3 UTILIZATION OF OHP SERVICES OTHER THAN TREATMENT OF INJURY BY YEAR OF OUTREACH INTERVIEW.

Another measure of the utilization of the OHP services is the proportion of companies utilizing the OHP for services over and above those required in the treatment of injuries. Twenty-five per cent of all baseline companies utilized such services. Although 47% of the baseline utilizer companies used such service, this proportion also varied widely by outreach year with no discernible pattern to the variation as the years progressed, as shown in Table 3.

TABLE 3

PER CENT OF OHP-UTILIZING COMPANIES USING SERVICES OTHER THAN
TREATMENT OF INJURY

<u>Year of outreach</u>	<u>Per cent using non-injury OHP services</u>	
1965	[75.0%]	(16)
1966	[27.3%]	(11)
1967	68.8%	(32)
1968	20.0%	(20)
1969	[28.6%]	(7)
1970	[25.0%]	(8)
1971	[36.4%]	(11)
All years	46.7%	(105)

() = base N for percentaging; number of outreach-interviewed
companies ever utilized any OHP service.

Striking differences are apparent between the years 1965 and 1966 on all three utilization variables employed. The first outreach year gleaned one-half of its contacts as utilizers, almost all of the utilizers remain with the OHP and three-quarters of the utilizers used services over and above the required care of injuries. On the other hand, the following outreach year "enrolled" only a third of its contacts as utilizers, only ten per cent of the utilizers remain with the OHP and three quarters of the 1966-outreached utilizers used the OHP for required care of injuries only.

4.4 SMALL-INDUSTRY TURNOVER BY YEAR OF OUTREACH

Table 4 reports the proportions of various types of company turnover occurring since the original outreach contact, by outreach year.

TABLE 4

NUMBER OF COMPANIES RECEIVING OUTREACH INTERVIEW AND PER CENT EXPERIENCING
TYPES OF TURNOVER, BY YEAR OF OUTREACH

Year of Outreach	Number Interviewed	Moved out of area, out of business no longer listed in directories	Moved into area, moved within or near catchment area	Parts of operations moved to other areas	Company sold, change in corporate name	Total Turnover
1965	34	8.8%	2.9%	0.0%	2.9%	14.7%
66	34	29.4	5.9	2.9	8.8	47.1
67	54	16.6	9.3	0.0	0.0	25.9
68	33	18.2	9.1	0.0	3.0	30.3
69	8	[12.5]	[12.5]	[0.0]	[0.0]	[25.0]
70	9	[11.1]	[22.2]	[0.0]	[0.0]	[33.3]
1971	22	0.0	0.0	0.0	0.0	0.0
All years	194	15.5%	7.2%	0.5%	2.6%	25.8%

Turnover rates do help to explain some of the striking differences noted earlier between outreach years 1965 and 1966. The turnover rate for the 1966 cohort of contacts was fully 3 times the rate for the 1965 cohort of contacts and appreciably higher than any other year.

When all the outreach years are ranked from highest to lowest in terms of lack of mobility shown by the year's cohort of contacts and all the outreach years are ranked from highest to lowest in terms of continued use of OHP services, there is a sizeable, positive correlation of +.46 between these rankings. The relationship, however, is not statistically significant.

When all the outreach years are ranked from highest to lowest in terms of lack of mobility shown by the year's cohort of contacts, and the outreach years are ranked from highest to lowest in terms of the use, by utilizers, of services other than required injury care, the rank order correlation coefficient is +.82, indicating a statistically significant (5% level of significance) positive relationship between the rankings.

4.5 GEOGRAPHICAL COVERAGE BY OUTREACH YEAR

Table 5 presents the proportions of baseline companies located in zones related to the center of OHP activities.

TABLE 5

NUMBER OF COMPANIES RECEIVING OUTREACH INTERVIEW AND PER CENT LOCATED IN ZONES
RELATED TO THE CENTER OF OHP ACTIVITIES, BY YEAR OF OUTREACH

Year of Outreach	Number Interviewed	<u>0-1 MILE FROM OHP</u>				<u>1-2 MILES FROM OHP</u>				<u>TOTAL</u>
		—QUADRANTS—				—QUADRANTS—				All Areas
		North- East	South- East	South- West	North- West	North- East	South- East	South- West	North- West	
1965	34	11.8%	11.8%	2.9%	0.0%	58.8%	2.9%	8.8%	2.9%	99.9%
66	34	17.6	11.8	47.1	0.0	17.6	0.0	2.9	2.9	99.9
67	54	0.0	33.3	44.4	0.0	18.5	1.9	1.9	0.0	100.0
68	33	21.2	42.4	15.2	3.0	15.2	0.0	3.0	0.0	100.0
69	8	[25.0]	[25.0]	[0.0]	[0.0]	[12.5]	[25.0]	[12.5]	[0.0]	100.0
70	9	[0.0]	[44.4]	[11.1]	[0.0]	[33.3]	[11.1]	[0.0]	[0.0]	99.9
1971	22	9.1	27.3	4.5	0.0	50.0	-	-	9.1	100.0
All Years	194	10.8%	26.8%	24.7%	0.5%	28.8%	2.6%	3.6%	2.1%	99.9%

Heavy concentrations of outreach in years showing high company turnover due to moving out or going out of business ('66-'68) occurred very close to the center of OHP activities, primarily to the southwest.*

When all the outreach years are ranked by company turnover and ranked by proportion of outreach performed in this one area, there is a high positive relationship (+.71)** between the rankings.

Almost half of the outreach performed in 1966 and 1967 occurred in the high turnover area and 25 per cent of outreach over the length of the program occurred there.

When all the outreach years are ranked by the proportion of outreach performed more distantly from the center of OHP activities (in the 1-2 mile circular band, to the northeast) and by company turnover, a negative association (-.43) occurs between the rankings.

The variable of distance from OHP, then, has to be controlled for company turnover to measure the effect of distance from OHP on utilization variables. Uncontrolled for company turnover, there is a high negative association (-.61) between outreach being performed close to the OHP and the yearly cohorts showing continued use of OHP by utilizers.

Ranking the outreach years by proportion of outreach performed in the high turnover area, and by proportion performed in the stable area, the following associations occur to rankings

* most of these along Ditmas Avenue from E86 - E93 Streets.

** a value of .74 is needed for significance at 5% level of significance.

of company characteristics in those years --

	<u>High turnover area outreach</u>	<u>Stable area outreach</u>
<u>Company Characteristics</u>		
20 or more employees	-1.00*	+.17
Employer pays some part or all of production personnel's health plans	-.50	+.57
Ratio of full time production help to total employees of company	-.43	0.00
Compensation coverage by private carrier	-.39	+.07

By the size and direction of the associations it is clear and expected, that the outreach performed in the high turnover area and stable area tended to outreach companies of different characteristics. The companies in high turnover areas tend to be smaller, employers tend not to offer health plans, more employees are involved in office and sales work than in production, and there is a tendency to use State coverage for compensation.

The characteristic of having 20 or more employees, without controlling for company turnover, correlates +.47 with ever utilizing the OHP and +.72 with continual use of the OHP services when outreach years are ranked by these variables. Outreach in the high turnover area, in effect, sought out smaller companies and

*significant at the 1% level of confidence.

businesses with characteristics seemingly not conducive to utilization of the OHP.

While outreach definitely had impact on the utilization of the OHP, and going to more stable areas with larger companies could have increased overall utilization of the OHP, the fact that smaller companies tend not to utilize is a significant planning and evaluation concern. Of the more than 28,000 manufacturing establishments in New York City, about 19,000, or about 70 per cent, have fewer than 20 workers.⁵ Less than 2 per cent have 250 or more employees. The distribution of size of service establishments in the City is even more skewed in the direction of smallness: over 90 per cent have less than 20 workers; under one per cent have over 250 workers.

⁵Center for New York City Affairs of the New School for Social Research. City Almanac - A Bulletin of the Metropolitan Information Service. Vol. 7, No. 3, Oct., 1972.

4.6

TREATMENT OF SPECIFIC TURNOVER GROUPS IN THE ESTABLISHMENT OF THE SMALL-INDUSTRY RESEARCH CONSTRUCT.

Based in large measure on the analysis of the outreach cohorts, decisions were made regarding the statistical treatment of specific turnover groups for the further development of the construct.

Companies which moved out of the area, moved parts of operations, went out of business, and companies which could not be located in the January, 1973 directories are removed from most of the distributions associated with OHP utilization in the remainder of this report. Where company characteristics are given for companies remaining in the target area, attempts are made to also report comparable data for the defunct or moved-out companies. By contrasting the company characteristics of companies remaining against defunct and moved companies, the exigencies of target area industrial life and of belonging to certain industry groups might be described. These comparisons are also intended as potential planning guides for future outreach.

Only 37.5% of the defunct or moved-out companies ever utilized the OHP compared to the overall baseline rate of 54.1%. Only 8% of the defunct or moved-out utilizers used services over and above injury care, compared to an overall baseline rate for utilizers of 46.7%. Continual OHP use while operating in the target area cannot be ascertained for these companies since the year of moving or becoming defunct is not known.

Companies which were known to have moved into the area just prior to baseline interview are included in all remaining

distributions. Also, companies which moved to other sites within or near the target area (1¼ miles from target area perimeter) are included in all remaining distributions.

Companies which were sold or which changed corporate name since baseline are dropped entirely from the remaining discussion of the construct. It is not known if only a change in management occurred, retaining the baseline work force, or whether a new work force came in to man existing facilities, or some combination of changes occurred. A review of baseline information and program records shows no clustering by industry type or employee size-class, and zero OHP utilization, for this very small number of companies.

SECTION 5.0

INJURY FREQUENCY, INJURY SEVERITY AND OHP UTILIZATION

The treatment of industrial injury is the keystone to the structure of the Occupational Health Program. Given the low level of target area company medical practices cited earlier in this report and the high proportion of companies referring injuries to the Brookdale Hospital Medical Center, injury treatment provides for continual OHP-company intercourse through which the benefits of other available OHP services can be made known to participant companies. Continual treatment of injuries and communications about the injuries should reinforce and supplement the outreach worker's message regarding the other OHP services. Accordingly, the first company characteristics considered here, in terms of OHP utilization, are injury-frequency and injury-severity characteristics.

5.1 INDUSTRY CLASSIFICATION, MEASURES OF OCCUPATIONAL INJURY/ILLNESS, AND OHP UTILIZATION

The baseline-interviewed companies were coded by NORC into 22 distinct industry types which could further be grouped into 8 industry classifications outreached. The classifications are presented in Table 6, along with 1970 national "norms" for injury frequency and injury severity.

TABLE 6
CHARACTERISTICS OF OHP-OUTREACHED INDUSTRY REMAINING IN THE TARGET AREA

Industry classification	1970 National injury frequency rate	1970 National injury severity rate	Number of companies outreach- ed	Per cent of total	Number of employees outreach- ed	Per cent of total	Baseline report of compensation illness/injury per 100 employees /yr.	Median months exposure to OHP	Per cent of OHP-utilizer companies for injury services	Volume of OHP injury services consumed 6/67-12/72 (per cent)	Projected OHP injury volum under 100% utilization (per cent)
Motor freight transportation & warehousing	35.3	2311	4	2.5%	436	4.1%	6.0	22.0	2.4%	2.7%	1.0%
Contract construction	28.0	2100	5	3.2	294	2.7	29.9	72.1	2.4	0.3	10.0
Local and interurban passenger transit	23.9	1000	1	0.6	473	4.4	5.3	67.0	1.2	1.2	3.0
Manufacturing	15.2	759	116	73.8	8,913	83.0	8.9	62.5	82.9	92.5	82.0
Automobile repair and services	14.3	427	9	5.7	289	2.7	6.2	60.9	7.3	2.8	2.0
Wholesale and retail trade	11.3	452	19	12.1	329	3.1	6.9	66.6	3.6	0.5	2.0
Miscellaneous business services	6.0	310	1	0.6	8	0.1	0.0	22.0	0.0	0.0	0.0
Miscellaneous services	3.2	148	2	1.3	13	0.1	0.0	60.0	0.0	0.0	0.0
Total -industry remaining in area	-	-	157	99.8%	10,755	100.2%	9.0	-	99.8% N=82	100.0% N=2,595	100.0% N=5,065

The source of the national rates is the U.S. Bureau of Labor Statistics.⁶ The 1970 injury-frequency rate is the number of disabling work injuries per one million employee-hours worked in that industry; the severity rate is the number of days of disability for the same base. (The BLS rates for 1971 utilize another base for the reporting of the occurrence of injuries, but these new rates are not yet available in detail).

In terms of the range of rates displayed by the total outreach, Table 6 shows that only 6% of the outreached industry remaining in the target area are in the three highest categories of injury frequency and severity while 14% are in the three lowest categories of injury frequency.

The outreached industry in the three highest categories of frequency and severity of injury -- motor freight transportation and warehousing, contract construction and local and interurban passenger transit -- could be distinguished from the remainder of the outreached divisions by the fact that most employees of these "dangerous" divisions do not necessarily spend their working days within the catchment area. While the area is home base for these industries, their employees are mobile during work performance and highly likely to have occupational injuries treated elsewhere.

Eighty-six per cent of the outreached companies remaining in the target area are involved in manufacturing or the wholesale and retail trades. Regarding outreach to the wholesale and retail trades, it can be seen in Table 6 that while wholesale and retail companies account for 12% of the outreached companies, they account for only 3% of outreached employees and 4% of the OHP-utilizer

⁶Injury Rates by Industry (annual).

companies for injury services. While 20% of the outreach effort was expended on the industries in the four lowest ranks of injury frequency and severity, these industries represented only 6% of the employees outreached and 11% of the OHP-utilizer companies for injury services.

Conversely, while 6% of the outreach effort was expended on the industries in the three highest ranks of injury frequency and severity, this outreach accounted for 11% of the employees outreached and 7% of the OHP-utilizer companies for injury services.

It would appear from the above comparisons that employee size-class as well as existing data on injury frequency and severity for industry divisions could be used as outreach planning aids.

The calculation of actual and comparable injury - frequency and severity rates for the companies participating in the baseline interview posed some problems. There was a tendency for representatives of larger companies not to know the number of compensation illness or injuries experienced within the year prior to interview. These representatives tended to report in ranges or to refer the outreach interviewer to another person within the company who maintained records; follow-ups to these referrals were seldom accomplished. Representatives of smaller companies could readily report the actual number of compensation illnesses or injuries experienced in the past year. As a result, actual frequency rates within an industry classification could only be calculated by including those companies within the division where the number of baseline injuries and illnesses were known. The baseline reports

of frequency rates are, therefore, somewhat biased towards smaller companies within an industry classification. Also, the base for such rates is usually expressed in terms of the number of hours worked by employees in the reference period. While the baseline interview obtained the number of employees at time of interview there were no systematic indications of whether this level was constant over the baseline year or of total hours worked in the year. Since part-time, in-plant production personnel accounted for less than one-half of one percent of all the employees outreached, the rates shown in Table 6 were calculated per 100 employees, whether full or part-time and whether production workers or not. If one makes the assumption that the number of employees in target-area-remaining companies remained constant in the year prior to baseline interview and each employee worked 40 hours a week, 50 weeks a year, then the baseline rate for occupational injury/illness can be compared to the new 1971 BLS national incidence rates (not shown in Table 6. See Appendix J.)

The crudely calculated measures of baseline injuries, for industry in the classifications participating in baseline, show rank order correlation coefficients of +.51 and +.54 with the 1970 national injury and severity rates, respectively. While the associations between these measures are positive, they are not statistically significant. Of the companies remaining in the target area, motor freight transportation and warehousing, and local and interurban passenger transit, show less reports of injuries than would be expected on the basis of national data. Our measures however, are based on very few companies . . four and one, respectively. The contract

construction industry does show reports of injuries that would be anticipated based on 1970 data. The 1971 BLS data for the contract construction industry are also available and the injury/illness incidence rate is 22.5, compared to our measure of 29.9 for this industry. For the contract construction industry, 1971 BLS reports 6.9 lost workday cases and 15.6 cases without lost workdays. The crudely calculated rates for our small sample of contract construction companies are 3.7 and 26.2, respectively.

The 1971 BLS incidence rate for national wholesale and retail trades is 8.8, compared to the rate for the baseline sample of 6.9. While the overall rate for the baseline sample is lower than for the nation, the profile of severity for the baseline sample of wholesale and retail trade companies indicates more severe injuries; 4.0 lost workday cases and 2.9 cases without lost workdays compared to 3.0 and 5.8 respectively, in the 1971 national preliminary data.

The bulk of industry outreached -- manufacturing (74% of companies and 83% of the employees outreached) -- reports 8.9 injuries per year per 100 employees at baseline. The 1971 BLS national incidence rate is 16.6 occupational injuries/illnesses for a year's work for 100 full-time employees. While we have noted some cautious^{~n} in the interpretation of our crudely calculated rate, the combined consequences of the noted cautions could not be of the magnitude to cause all of the observed difference between national and baseline data for manufacturing. In order for the crudely calculated rate to approach 16.6, given the number of baseline illnesses/injuries reported, the total hours worked in the baseline year would have to be approximately $\frac{1}{2}$ of our assumed total. The strong implication is that the outreached

manufacturing industry remaining in the target area is less dangerous than the manufacturing industry as a whole in the U.S.

The following data synopsise the differences between the national manufacturing division and baseline manufacturers:

	Injury/illness incidence	lost workday cases	cases without lost workday
National manufacturing: (1971 BLS data)	16.6	4.3	12.3
target area manufacturing remaining in area (outreach-baseline data)	8.9	2.8	6.1

The 1971 BLS incidence rate for occupational injury/illness for all industry in the private nonfarm sector is 13.8 for a year's work for 100 full-time employees. The crudely calculated rate for the sample of industry outreached for the OHP is 9.0; fully one-third lower than the national rate.

In order to pre-evaluate the volume of injury services provided by the OHP in terms of how that volume was distributed from the program's inception through December 31, 1972, it should be remembered that outreach did not occur in a relatively short span of time. Outreach in 1965 occurred from July to the end of 1965. Outreach, for our purposes, ended in February, 1971. Utilizers from the 1965 outreach had 7½ years to contribute to the total volume of OHP injury services. Utilizers from 1971 outreach had approximately 2 years to contribute to the volume of OHP injury services. As a pre-evaluation aid, an index was designed to indicate an industry type's exposure to the OHP without reducing already small cells by outreach year.

The index is merely the median number of months from outreach interview to December 31, 1972 for the companies included within an industry division. These medians are reported in Table 6. One of the uses of the index is an added assessment of the outreach effort in terms of industry type. If outreach went to only "safe" companies early in the outreach effort and to a disproportionate number of "dangerous" industries late in the outreach, the overall volume of OHP injury services would have been affected.

Median months exposure to the OHP for the baseline industries shows rank order correlations of +.45 to 1970 national injury rates, +.54 to national severity rates and +.69 to baseline reports of injury/illness. These associations are positive and sizable though not statistically significant. When certain kinds of industry were contacted could not have had a differential negative impact on overall utilization. There appears to have been a fairly adequate mix of the relatively "safe" and "dangerous" industry throughout the outreach years. Within the largest outreach category, manufacturing, this pattern holds true. Median months exposure to the OHP for baseline manufacturing companies shows rank order correlations of +.24 to 1970 national injury/frequency rates, and +.58* to manufacturers' baseline reports of injury/illness. Within manufacturing, the more dangerous types of manufacturing companies were likely to have been outreached first.¹

The volume of OHP injury services consumed by industry divisions remaining in the target area is also presented in Table 6.

* Significant at the 5% level of confidence

¹ Data not shown in table 6.

While industry other than manufacturing accounted for 26% of the outreached companies, only 7.5% of the volume of OHP injury services was utilized by these industries. Manufacturing, accounting for 74% of the outreached companies and 83% of the outreached employees, utilized practically all (92.5%) of the OHP injury services consumed.

Assuming that companies remaining in the target area maintained consistent work forces from their variable outreach to December 31, 1972 and their annual occupational injury rates remained constant during their exposure to the OHP, a projection of the universe of occupational injury/illness to be treated during this period would total 5,065 cases or instances. For the companies remaining in the target area, the OHP provided service for 2,595 injuries/illness; 51% of the projected total.

Based on these projections, industry other than manufacturing under 100% utilization should have had 932 occupational injuries treated; accounting for 18% of the projected volume rather than the 7.5% observed in actual utilization. Industry other than manufacturing had 195 injury/illness cases treated, fully 80% less than under projected full utilization. Under full utilization, the wholesale and retail companies contacted could only have been expected to contribute about two per cent of the volume of OHP injury services based on these companies' reports of baseline experiences with occupational injury and their (rather high) length of exposure to the OHP. In actual utilization, the wholesale and retail trades contributed an even smaller volume (0.5%); representing 90% fewer injuries treated for this industry division than under projected full utilization.

Manufacturing, under this projection procedure, should have had 4,133 occupational injuries treated, accounting for 82% of

the projected volume compared to the 92.5% observed in actual utilization. Manufacturing had 2,400 occupational injuries treated, representing 42% less than under projected full utilization.

Outreach, for our purposes, ended in February 1971. Under full utilization for all the outreached companies, approximately 968 occupational injury/illness cases should have been treated for the baseline companies remaining in the target area in each of the years 1971 and 1972. In 1971, 551 injury/illness services were provided by the OHP for baseline companies; in 1972 this figure dropped to 419.

While both the remaining manufacturing and non-manufacturing industries appear to have under utilized the OHP injury services, they show strikingly different profiles of utilization. The following data synopsizes the differences between the remaining manufacturing industry and non-manufacturing industry on utilization variables.

	Remaining manufacturing industry outreached	Remaining non manufacturing industry out- reached
Ever utilized OHP for any service	62%	46%
Utilized OHP injury service	59%	34%
Utilized services other than injury service	22%	39%
Per Cent of utilizers remaining in area and dropping out from OHP use	35%	60%

It is clear from the observed differences that the baseline sample manufacturer is more likely to use the OHP only for required injury services and shows more reluctance to utilize other OHP services

compared to the baseline sample non-manufacturer. The baseline sample non-manufacturer is almost twice as likely to use services other than injury services, and then to drop out, than the baseline sample manufacturer.

A curious finding emerged in contrasting the baseline reports of illness/injury of companies remaining in the target area to the same reports for moved and defunct companies when controlled by industry classification. These comparisons are shown in Table 7.

TABLE 7

PROPORTION OF OHP-OUTREACHED INDUSTRY MOVED OR DEFUNCT AND BASELINE REPORTS
OF COMPENSATION ILLNESS/INJURY INSTANCES FOR REMAINING AND DEFUNCT- MOVED
INDUSTRY, BY INDUSTRY

Industry Classification	Per cent defunct, moved since baseline	Baseline reports of compensation illness/ injury instances per 100 employees per year.	
		Remaining in area	Defunct, moved
Motor freight transportation & warehousing	[42.9%]	6.0	18.6
Wholesale and retail trade	27.0%	6.9	9.7
Manufacturing	15.3%	8.9	9.1
All industry	16.9%	9.0	9.5

The proportion of moved and defunct industry is in direct relationship to the size of the differences observed in reports of baseline injuries/illnesses between the moved, defunct industry and remaining industry.

Given the fact that the more "dangerous" industry classifications tended to be outreached first, one could expect a positive relationship between moving or becoming defunct and the direction of the differences; earlier outreached cases have a longer period to actually exercise a propensity to move or become defunct. That the size of the difference between movers and their industrial counterparts who stayed in the target area is directly related to the proportion of movers within that industry is surprising. Whether the moved, defunct companies were poorly managed thereby inviting more occupational injury, or higher health care costs helped drive the companies out in comparison to their counterparts who stayed, the net result of moves from the catchment area appears to be the survival of the safest. These data tend to support the earlier observation that remaining target area companies are "safer" relative to the private nonfarm sector of industry in general. Moreover, these data show that moving or becoming defunct does not have a random negative impact on volume of OHP utilization; those having the greater need for OHP injury services appear to be differentially leaving the target area.

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5.2 KINDS OF MANUFACTURERS' OUTREACHED -- COMPARISON OF BASELINE AND NATIONAL DATA

The bulk of outreach--to manufacturers--was apparently performed without formal pre-designated quotas for type of manufacturer, yet the array of types of manufacturers outreached includes a wide variety of manufacturers.

Remaining target area manufacturing companies fall into 15 of the 20 groups of the Standard Industrial Classification Code. These 15 groups represented 94% of operating manufacturing establishments in the U.S. in 1967, employing 87% of U.S. manufacturing employees in such establishments at that time.⁸ It is difficult to imagine a 12.6 square mile area of any other city yielding this laboratory-like diversity. Some of the associations between 1967 national data and outreached companies remaining in the area are worthy of note; 10.6% of manufacturers in the nation were involved in food and kindred products manufacture versus 12.1% of the baseline companies; 5.1% of national manufacturers were involved in stone, clay and glass manufacture and the exact proportion is reflected in baseline; 1.5% of national manufacturers made instruments and related products compared to 1.7% of the baseline companies. In terms of outreached employees, 2% of baseline employees were in lumber and wood manufacture compared to 3% in 1967 national data; 6.7% of outreached manufacturing employees were in apparel and related products assembly compared to 7.3% in the nation. The following data synopsize the correspondence between U.S. manufacturers in 1967 and the outreached baseline manufacturers.

⁸ Manufacturers Summary for Industry Groups:1963, 1967 and 1970. U.S. Bureau of the Census, Statistical Abstract of the United States: 1972 (93rd edition) Washington, D.C., 1972 pp. 708-715

<u>MANUFACTURING GROUP</u>	<u>NATION</u>	<u>BASELINE SAMPLE</u>
Food and kindred products manufacture		
companies	10.6%	12.1%
employees	8.9%	14.5%
Other nondurable goods manufacture		
companies	33.1%	22.4%
employees	31.7%	16.5%
Durable goods manufacture		
companies	56.2%	65.5%
employees	59.4%	69.0%

While the overall correspondence, of course, is not direct, the representation of manufacturing types is adequate for further analysis in terms of the relative representation of baseline manufacturing industry to a larger universe, considering that outreach occurred in the heart of an urban area.

From the above data it can be noted that food and kindred products manufacturing companies in the target area tend to be larger (employ more persons) than in the nation. Other nondurable goods manufacturing companies in the sample tend to be smaller than in the nation. The number of durable goods manufacturing companies in the sample bears the same overall relationship to number of employees as does the number of durable goods manufacturing companies in the nation.

The only durable goods manufacturing group not represented in the baseline sample is the primary metal grouping--blast furnace/iron and steel foundries. This group accounted for 2.2% of manufacturing companies in the nation in 1967 and for 6.9% of manufacturing employees. With a 1970 national injury-frequency rate of 16.9 this group would

have ranked sixth in a ranking of the fifteen baseline manufacturing groups in terms of occupational injury frequency; with a 1970 national severity rate of 1,128 it would have ranked fifth in severity.

The four remaining groups not represented in the baseline sample are nondurable goods manufacturing groups; petroleum and coal products, rubber products, leather products and tobacco manufacturers. Two of these groups, petroleum/coal and tobacco manufacturers, have 1970 national injury frequency rates below the 1970 national manufacturing average of 15.2 and accounted for less than 1% of operating national manufacturing companies in 1967 and for 1% of national manufacturing employees. Two of the nondurable groups not included in the baseline sample--rubber products and leather products--have 1970 injury frequency rates higher than or equal to the national manufacturing average (18.6 and 15.2 respectively) and together accounted for 3% of operating national manufacturing companies in 1967 and for 4.6% of manufacturing employees.

The net effect of the absence of representatives of these five manufacturing groups from the baseline sample is a lower overall rate of occupational injury/illness for baseline manufacturers than can be observed in national data. This effect alone, however, cannot fully explain the sharp divergence in rates for national and baseline manufacturers noted earlier.

5.3 MANUFACTURERS AND OHP INJURY SERVICE UTILIZATION

Table 8 presents the outreached fifteen manufacturing groups remaining in the target area along with a number of group characteristics and OHP injury services utilization data.

TABLE 8

CHARACTERISTICS OF OHP - OUTREACHED MANUFACTURING INDUSTRY REMAINING IN THE TARGET AREA

Manufacturing Classification	1970 National injury frequency rate	1970 National injury severity rate	Number of mfg. companies outreached	Per cent of total	Number of mfg. employees outreached	Per cent of total	Baseline report of compensation illness/injury per 100 employees /yr.	Median months exposure to OHP	Per cent of OHP-utilizer mfg. companies for injury services	Volume of OHP injury services consumed 6/67-12/72 (Per cent)	Projected OHP injury volume under 100% utilization (Per cent)
Lumber and wood products	34.1	2,891	8	6.7%	181	2.0%	9.4	58.5	8.6%	2.9%	2.0%
Food and kindred products	28.8	1,156	14	12.1	1,294	14.5	20.0	66.1	11.6	6.3	35.0
Stone, clay & glass prod.	23.8	1,540	6	5.2	116	1.3	11.2	65.0	5.7	2.5	2.0
Fabricated metal products	22.4	1,003	22	18.9	1,125	12.6	7.6	67.8	18.8	22.6	12.0
Furniture and fixtures	22.0	909	7	6.0	453	5.1	7.9	53.0	4.3	2.5	4.0
Miscellaneous mfg.	15.8	561	9	7.8	845	9.5	4.6	54.4	10.1	8.0	4.0
Machinery(non-electrical)	14.0	583	5	4.3	244	2.7	13.9	79.8	5.8	5.4	6.0
Paper, allied products	13.9	937	4	3.4	173	1.9	8.1	86.8	1.4	0.0*	3.0
Printing, publishing	11.7	411	3	2.6	281	3.2	6.8	29.8	1.4	0.2	1.0
Textile, mill products	10.4	579	1	0.9	255	2.9	0.8	22.0	1.4	0.1	0.1
Chemicals, allied prod.	8.5	562	6	5.2	160	1.8	4.4	58.5	5.8	0.5	1.0
Electrical Equipment mfg.	8.1	333	13	11.2	1,967	22.1	7.9	53.0	13.0	21.8	17.0
Transportation equipment	7.9	488	4	3.4	561	6.3	9.4	65.0	4.3	23.7	7.0
Instruments, related prod.	7.9	270	2	1.7	661	7.4	3.9	45.5	2.9	3.0	2.0
Apparel, related products	7.7	207	12	10.3	597	6.7	5.2	66.8	4.3	0.4	4.0
Total -- all manufacturing industry remaining in target area	—	—	116	99.7%	8,913	100.0%	8.9	—	99.4% N=69	99.9% N=2,401	100.1% N=4,133

* = less than 0.5%

The crudely calculated baseline rates of occupational injury/illness for manufacturers show rank order correlation coefficients of +.54 and +.57 to 1970 national injury frequency and severity rates respectively. These associations are positive and statistically significant.*

For ease of discussion and display in Table 8, the fifteen groups are arbitrarily separated into three "danger" groups of five each based on the 1970 national injury frequency rates; 7.7 to 8.5 (low danger), 10.4 to 15.8 (medium danger), and 22.0 to 34.1 (high danger).

5.4 MANUFACTURERS IN THE HIGH DANGER GROUPING BASED ON NATIONAL DATA

Manufacturing companies in the high danger grouping represent 49% of outreached manufacturers and also represent 49% of manufacturers using OHP injury services. Employees of these high danger companies represented 36% of all outreached manufacturing employees. In a national sample, manufacturing companies in this particular high danger grouping would comprise only 40% of the manufacturing companies and 25% of national manufacturing employees. All but one of the groups in the high danger categories are manufacturers of durable goods. The baseline sample, then, contains substantially higher proportions of high danger manufacturing companies and employees than would be expected in a national sample. In using the coarse but generally helpful pre-evaluation tool of projected volume based on company reports of injury in baseline and length of exposure to the OHP, the high danger grouping shows, however, substantially less utilization than would be anticipated--37% of actual volume of services consumed versus a projected volume of 55%. Of the three danger groups, the high danger grouping is the only one showing a smaller proportion of the consumed injury service volume than would be anticipated. Looking into this high danger grouping it can be seen that the one nondurable goods

* At the 5% level of confidence

manufacturing group included--food and kindred products--contributes the most to this observed anomaly; consuming only 6% of the actual volume compared to an anticipated proportion of the volume of 35%. The manufactures of furniture and fixtures contribute to this apparent irregularity to a lesser extent. What distinguishes these two groups of manufacturers from the remaining high danger manufacturers is the relative positioning of their 1970 national injury and severity rates. Food and kindred products manufacturing ranks second in injury frequency but third in severity. Furniture and fixtures manufacturers rank fifth in injury frequency but sixth in severity. In the high danger grouping, when the severity rank is equal to or higher than the injury frequency rank, the proportion of actual volume of injury services consumed is greater than anticipated. The crudely calculated baseline injury frequency and severity rates for these high danger companies also show this relationship to injury services utilization, as the following data indicate:

High danger manufacturing groups (22.0 to 34.1) -National rates-	Baseline reports per 100 employees		(a) x100 (a) + (b)	Actual proportion of volume to projected proportion of volume of injury services
	Lost time injuries (a)	No Lost time injuries (b)		
Lumber and wood	3.9	5.5	42%	higher (+)
Food and Kindred	6.0	14.0	30%	lower (-)
Stone, clay, glass	9.5	1.7	85%	higher (+)
Fabricated metal	3.6	4.2	46%	higher (+)
Furniture, fixtures	2.7	5.3	34%	lower (-)

Where more severe injuries (lost time) account for only about a third of all injuries in a manufacturing group, projecting eventual utilization on the basis of the overall injury rate without considering severity does not appear to "work". The early, strong implication was that high danger manufacturing groups behaved much like other population

groups; only the more severe injuries coming to a hospital's attention with the less severe injuries being treated elsewhere.

5.5 MANUFACTURERS IN THE IMMEDIATE DANGER GROUPING, BASED ON NATIONAL DATA

The medium danger grouping (10.4 to 15.8) represents 19% of outreached manufacturers and they also represent 20% of manufacturers using OHP injury services. Employees of these medium danger companies represent 20% of all outreached manufacturing employees. In a national sample, companies in this particular medium danger grouping would comprise 34% of the manufacturing companies and 29% of national manufacturing employees. The baseline sample, then, contains substantially lower proportions of intermediate danger manufacturing companies and employees than would be expected in a national sample. Three of the groups in the medium danger categories are manufacturers of nondurable goods. The medium danger group shows the exact proportion of the volume of actual injury services consumed as would be anticipated by projecting company reports of injury in baseline and length of exposure to OHP -- 14 per cent.

Although the number of companies in the medium danger group is smaller than in the high danger group, about the same relationship to injury severity and volume of OHP injury service use occurs, but the relationship begins to weaken as the following data indicate:

Medium danger manufacturing groups (10.4 to 15.8) -National data-	Baseline reports per 100 employees		$\frac{(a)}{(a)+(b)} \times 100$	actual proportion of volume to pro- jected proportion of volume of injury services
	Lost time injuries (a)	No lost time in- juries (b)		
Miscellaneous mfg.	1.9	2.7	41%	higher (+)
Machinery (non-elec)	7.4	6.5	53%	same
Paper, allied	2.9	5.2	36%	lower (-)
Print, publish	2.5	4.3	37%	lower (-)
Textile, mill	NA*	NA*	NA*	same

In the medium danger group there is not such a marked divergence between lost time injuries and less severe ones but the relationship of severity to utilization tends to hold; if lost time injuries are only about a third of all injuries for a given group, the projection of volume of services doesn't "work" using an overall injury rate. Less serious injuries appeared not to be coming to the attention of the hospital-based OHP. In the medium danger grouping, two groups showing higher or expected proportions of volume of utilization are manufacturers of durable goods. The two groups showing lower than expected proportions of volume of utilization are manufacturers of nondurable goods.

Although we could not calculate severity rates for textile and mill products, this industry ranks tenth in national injury frequency but eighth in severity. The actual proportion of the volume of OHP injury services consumed is the proportion anticipated. Printing and publishing, ranking ninth in national injury frequency but only twelfth in severity, show a lower proportionate volume of utilization than projected.

5.6 MANUFACTURERS IN THE LOW DANGER GROUPING BASED ON NATIONAL DATA

The low danger grouping (7.7 to 8.5) represents 32% of out-reached manufacturers and this grouping represents 30% of manu-

* Could not be calculated since the one company representative involved only reported number of injuries in baseline year without regard to severity.

facturers using OHP services. Employees of these low danger companies represent 44% of all outreached manufacturing employees. In a national sample, companies in this particular low danger grouping would comprise only 20% of the manufacturing companies and 34% of national manufacturing employees. The baseline sample, then, contains substantially higher proportions of low danger manufacturing companies and employees than would be expected in a national sample. In terms of manufacturing companies and employees, the baseline sample shows almost bi-modal distributions with respect to injury frequency, while the same kinds of manufacturing companies drawn from a national sample would show a negative skewness when companies are distributed and a positive skewness when employees are distributed:

	<u>Low Danger</u> <u>(7.7-8.5)</u>	<u>Medium Danger</u> <u>(10.4-15.8)</u>	<u>High Danger</u> <u>(22.0-34.1)</u>
<u>Baseline Sample</u>			
companies	31.8%	19.0%	48.9%
employees	44.2%	20.2%	35.5%
<u>National Sample</u>			
companies	20.0%	33.7%	40.0%
employees	33.9%	28.7%	24.7%

In terms of national data, the baseline sample is over represented with low danger manufacturing groups and under represented with medium danger groups. The low danger manufacturing groups, however, accounted for almost half (49.4%) of the volume of injury services, with two groups showing practically all of this utilization; electrical equipment manufacturing and one large transportation equipment manufacturing company (the one large transportation equipment company accounts for fully 23% of all baseline injury service utilization).

The apparel industry, representing 10% of the companies outreached and 7% of employees outreached, consumed less than one half of one per cent of actual OHP injury service volume. This

manufacturing group ranks eleventh in national injury frequency but ninth in severity. This group utilized a smaller proportion of OHP volume than would be anticipated.

Each nondurable manufacturing group shows a smaller proportion of actual OHP injury service volume consumed than would be anticipated. Lost time injuries represent only a small fraction of this group's injuries compared to the experiences of manufacturers of durable goods. The forty companies in nondurable goods manufacture show strikingly different patterns of utilization compared to durable goods manufacturers as the following data indicate:

	Durable goods manufacturers (N=76)	Nondurable goods manufacturers (N=40)
Even utilized OHP injury service	64.5%	50.0%
Continual utilizers of OHP injury services	51.3%	15.0%
Remaining in area, drop-outs from OHP injury service utilization	13.2%	35.0%
Utilized non-injury OHP services	23.7%	20.0%

5.7 SUMMARY

The use of grouped national injury frequency data for manufacturing types in an effort to view OHP injury service utilization led to an initial impression that high and intermediate danger manufacturing industries were utilizing the OHP for the care of only their more severe injuries. The ever-utilized rate for the three danger groupings were about the same (high=60% utilized OHP, intermediate=54% utilized OHP, low=57% utilized OHP). As stated earlier, the three danger groupings were represented in the actual utilizer category in the same proportions as in total outreach. Moreover, the drop-out rate was inversely related to national rates of danger; 29% of the high danger grouping dropped out, 36% of the intermediate grouping dropped out, and 43% of the low danger grouping dropped out of OHP utilization. Yet, the high danger grouping showed a significantly smaller proportion of volume of utilization than projected, while the low danger grouping showed a higher proportion of volume of injury services than projected. In addition, instances could be shown where the ratio of severe injury to overall injury could fairly well predict an industry group's falling below projected utilization.

The impression of companies utilizing the OHP for only their more severe injuries had serious implications in terms of long range use of the OHP by utilizers. If the hospital-based OHP could not get to treat the less severe injuries, then a usual, systematic care pattern or policy for all injuries could not be firmly established with the utilizer. Instead of a reflex-type decision on where to treat an injury, each instance would be evaluated along with cost and convenience factors which could result in less injuries of all types being sent to the OHP.

Where severe injuries are only a small fraction of all injuries experienced, one would expect smaller companies to differentially display a lack of an umbrella policy towards all injuries; overall, employers in small companies individually see less injuries of all kinds in a given year because of a small work force and concerns over costs and convenience should be greater in small companies. Smaller companies in addition, require less organizing personnel who entrench procedures and policy, leaving more matters to unroutinized, individual choice. We had already noted that smaller companies were, indeed, associated with low levels of OHP utilization.

AN ACCOUNTING OF OHP INJURY SERVICE LOSSES

To further examine the initially apparent adverse relationship of severity profile to volume of OHP injury service utilization, the following analytic devices were employed--

(a) The company baseline measures of occupational injury/illness were refined. The U.S. Bureau of Labor Statistics, in its report on employee compensation in the private nonfarm economy for 1970⁹ provides a breakdown of the average amounts spent by employers for workmen's compensation per hour of employee working time. Manufacturers pay 2 cents per hour of working time for office personnel for workmen's compensation and 4 cents an hour for in-plant production personnel for this indirect supplement to wages. Nonmanufacturers also pay 2 cents per hour of working time for office personnel for workmen's compensation and pay 5 cents an hour for nonoffice personnel for compensation coverage. The baseline interview question on injuries and illnesses did not distinguish between production and other employees in a firm. The use of total number of employees as a base in the prior calculation of injury rates for baseline industry probably spuriously deflated the injury rates for industry employing sizable proportions of office personnel in relation to production personnel. To obtain a clearer picture of injury rates for the baseline companies, the denominator of number in-plant production personnel was used for manufacturers and the number of nonoffice personnel was used as a denominator for nonmanufacturers in recalculating baseline injury incidence.

The recalculated rates were viewed for manufacturers using the OHP continually for any reason and for those manufacturers ceasing OHP use or never utilizing. The continual utilizers of the OHP showed the higher overall injury rate and the higher lost time and no

9 U.S. Bureau of the Census, Statistical Abstract of the United States: 1972 (93rd edition) Washington, D.C. 1972 p.238

lost time rates, compared to the drop outs and those who never utilized the OHP. In a reversal of what was anticipated based on previous distributions, the continual utilizers of the OHP did show less than a third (31%) of their baseline injuries involving lost time, while the drop outs and non utilizers had close to a half (45%) of their baseline injuries involving lost time. The recalculated rates were used to perform an accounting of OHP injury service losses from anticipated volume.

(b) Other variables relating to OHP utilization uncovered in the course of the descriptive analysis were employed as controls in the performance of an accounting of OHP injury service losses--

- . size of company
- . manufacturing vs. nonmanufacturing
- . mobility (moving, becoming defunct)
- . durable goods manufacture vs. nondurable goods manufacture
- . for nonmanufacturers, those with major portions of their work forces operating and not operating in the catchment area.

National injury frequency and severity rates were not employed.

(c) Median months exposure to the OHP, from variable outreach to 12/31/'72, was calculated separately for the analysis sub groups; those utilizing the OHP continually, those ceasing use, those never utilizing the OHP after receiving the outreach interview, and those leaving the catchment area or becoming defunct.

Utilizing the refined occupational injury rate, the number of in-plant production employees and the length of time from variable outreach to 12/31/'72 for every baseline company, and assuming no change or random change in number of employees and injury frequency, the projected total of OHP injury services which should have been

dispensed is 6,011 injury instances.

Table 9 accounts for the differences from this ideal total for the various types of companies outreached.

TABLE 9

ANTICIPATED AND ACTUAL OHP INJURY SERVICES FOR ALL COMPANIES OUTREACHED
BY COMPOSITE COMPANY TYPE/UTILIZATION/MOBILITY VARIABLES

Company type/utilization/mo- bility	Anticipated injury services (a)	Actual injury services (b)	If (a) > (b); (a) - (b)	Per ce of los accoun for N=3,52
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Durable goods manufacturers
with 20+ in-plant production
personnel

Remaining in target area:

utilized OHP injury and other services continually	1,410	1,397	13	0.4
used OHP injury services only, continually	634	709	--	--
never utilized OHP, ceased utilization	322	7	315	8.9
Moved, defunct	435	24	411	11.7

Durable goods manufacturers
with 19 or less in-plant
production personnel

Remaining in target area:

utilized OHP continually	95	86	9	0.3
ceased OHP utilization	124	20	104	3.0
never utilized OHP	55	0	55	1.6
Moved, defunct	12	5	7	0.2

Nondurable goods manufacturers
with 20+ in-plant production
personnel

Remaining in target area:

Utilized OHP continually	1,351	151	1,200	34.1
ceased OHP utilization	151	9	142	4.0
never utilized OHP	296	0	296	8.4
Moved, defunct	75	0	75	2.1

-- continued --

TABLE 9 CONTINUED

Company type/utilization/mo	Anticipated injury services (a)	Actual injury services (b)	If (a) > (b); (a) - (b)	Per of 10 accoun for N=3,5
Nondurable goods manufacturers with 19 or less in-plant production personnel				
Remaining in target area:				
utilized OHP continually	12	0	12	0.3%
ceased OHP utilization	42	20	22	0.6%
never utilized OHP	34	0	34	1.0%
Moved, defunct	18	0	18	0.5%
Nonmanufacturers with major portion of work force operating in target area				
Remaining in target area:				
utilized OHP continually	109	151	--	--
ceased OHP utilization	30	11	19	0.5%
never utilized OHP	118	0	118	3.3%
Moved, defunct	80	4	76	2.2%
Nonmanufacturers with major portion of work force <u>not</u> operating in the target area				
Remaining in target area:				
utilized OHP continually	97	8	89	2.5%
ceased OHP utilization	247	0	247	7.0%
never utilized OHP	227	1	226	6.4%
Moved, defunct	37	1	36	1.0%
Totals	6,011	2,604	3,524	100.0%

Upon inspection, the revised projection procedure shows a great deal of face validity. The revised procedure was able to predict, almost to the case, the number of injuries which were treated for durable goods manufacturers with large work forces remaining in the target area and utilizing the OHP injury and other services continually. Of the twenty-four analysis subgroups, only two show utilization greater than expected; durable goods manufacturers remaining in the target area with large work forces using the OHP continually for injury services only (634 anticipated services vs. 709 actual services, an 11% difference) and nonmanufacturers remaining in the target area who utilized the OHP continually (109 anticipated injury services vs 151 actual services, a 38% difference). In the latter case, the discrepancy is due to a warehousing operation which began operating in the target area just at the time of baseline interview and could report no baseline information on injuries because of the newness of the operation. In practice, the particular company utilized 69 OHP injury services; enough to account for the discrepancy.

The revised projection procedure sheds new light on the severity profile vs. utilization relationship. Durable goods manufacturers with large and small work forces do send all of their injuries, severe and otherwise, to the OHP if they continue to use the OHP. The projections for these companies, using the overall injury rate, adequately reflect the number of actual services consumed.

The only manufacturing group selectively sending severe cases to the OHP is the nondurable goods manufacturer. These manufacturers account for the paradoxical situation of continual OHP utilizers contributing the most to OHP injury service losses; fully 34.1% of the OHP injury service losses are accounted for by the nondurable goods manufacturer with large work forces using the OHP continually. No

other group outreached comes close to approximating this level of loss. Nondurable goods manufacturers accounted for a projected 1,200 injury case loss in the overall OHP operation. The large nondurable goods manufacturers continually utilizing the OHP report only 22% of their overall injury rate being lost time cases. Projecting solely on the basis of their lost time injuries, the result is 252 anticipated lost time injuries; much closer to the figure of 151 actual injury services consumed.

It is obvious from the above data for nondurable goods manufacturers that they, as a group, have other places to treat their less severe injuries. These places were not reported, due to lack of precise questioning, in the baseline interview. It also appears that when decisions on where to treat injuries are made, some of the injuries involving lost time are sent to the other usual source of medical care rather than to the OHP.

Other important types of loss to the OHP injury service pale in comparison to the losses mentioned above for continually-utilizing nondurable goods manufacturers. The next most important type of loss was that obtaining from companies never utilizing the OHP after outreach interview--23% of the OHP injury service losses were due to manufacturers and nonmanufacturers (with the major portion of their work force operating in the area) never utilizing the OHP. Again, the nondurable goods manufacturers contribute a disproportionately heavy share to this loss; they represent 27% of the outreach to manufacturers and nonmanufacturers operating in the area, yet the nondurable goods manufacturers account for 41% of the OHP injury loss due to not utilizing OHP at all.

The next most important type of loss, in decreasing order of

numerical importance, is loss due to moving out of the area or becoming defunct. Seventeen per cent of the OHP injury service loss is attributable to manufacturers and nonmanufacturers who operated in the target area moving away or becoming defunct. Fully 70% of this loss was caused by durable goods manufacturers who had 20 or more in-plant production personnel at the time of outreach. These moved, defunct durable goods manufacturers had an overall injury rate 43% higher than their counterparts who remained in the target area.

The next sizable type of loss is that caused by the geographical location of the work performed. Nonmanufacturers with a major portion of their work force not operating in the target area--interurban passenger transit, contract construction, motor freight handling, certain warehousing operations,--account for 16% of the OHP injury loss. Practically no OHP injury services were administered to this group of companies. They show an overall injury rate of 16.0 but 81% of these injuries involve no lost time. These injuries are probably treated at facilities "in the field" and, by their nature, provide little opportunity for follow-up care by the OHP.

The final type of loss to the OHP injury service is that attributable to manufacturers and nonmanufacturers (operating in the area) ceasing to use OHP services. About 8% of the OHP injury service loss is attributable to this factor. Very little of this loss is accounted for by manufacturers of durable goods with 20 or more production personnel. The category in Table 9 for these manufacturers, "never utilized OHP, ceased utilization" includes only three (23% of category) companies which ceased use. In contrast, about 57% of this type of loss is attributable, again, to the nondurable goods manufacturer.

Under optimal conditions, those ceasing to utilize the OHP (durable and nondurable goods manufacturers, large and small, and non-manufacturers operating in the area) could only have been expected to utilize about 6% of the anticipated total volume of OHP services if they continued to 12/31/'72. These facts argue against including, in an evaluation stage re-interview, questioning on likes and dislikes of the OHP injury service, waiting time problems, and questioning on other so-called "barriers to utilization" in an effort to distinguish continual utilizers from those ceasing utilization. The indications are clear that ceasing to utilize the OHP is not a tremendous problem to the OHP injury service in terms of keeping up volume of services, and the most important determining factors are probably the level of injury frequency for these companies and the characteristics peculiar to nondurable goods manufacturers.

Outreach to manufacturers having 19 or less production personnel consumed 36% of the outreach effort to all manufacturers. If all of these small manufacturing companies remained in the target area and utilized OHP injury services fully to 12/31/'72, they could only have been expected to contribute 8% of the volume of anticipated injury services given to manufacturers. In actual practice, small manufacturing companies consumed 5% of manufacturing OHP injury services; 85% of this small volume was utilized by durable goods manufacturers. Nondurable goods manufacturers represented 32% of the outreach to small manufacturers and they utilized the remaining 15% of this small actual volume.

6.1 SUMMARY

The accounting of OHP injury services and OHP injury service losses aided in developing a perspective for some of the main reasons for the earlier reported feeling that the OHP operation was not operating at full capacity.

The OHP has little or no control over three of the five main reasons noted. That a highly significant portion of the manufacturers have two usual sources of injury/illness care, and that this portion of manufacturers are effectively committed to the "competing" source of care, are matters which could take years of administrative efforts and negotiation to change, if they can be changed. Similarly, the OHP can do little, if anything, about companies moving out of the area or becoming defunct. Nor can the OHP do much about providing services to work forces who are geographically mobile in the performance of their jobs.

The immediate answer to maintaining a substantial volume of injury care appears to be continual, planned outreach and replacement, by outreach, for companies whose characteristics predict low levels of utilization.

While outreach to certain small companies can be defended on humanistic grounds and by the fact that OHP has other services to offer aside from injury care, outreaching many small companies does not result in a large, outreached labor pool which can significantly affect volume of OHP injury services. Such outreach, if desirable, must be compensated for by the use of more outreach workers. The large amounts of time needed to outreach small companies precludes the outreach worker's contacting more immediate "prospects". We have already seen that personal outreach is effective, one answer to increasing volume of OHP utilization is to make personal outreach efficient.

Throughout the accounting of OHP injury services and OHP injury illnesses service losses, it was noted for some of the twenty-four analysis groups that they contributed heavily or lightly to certain types of loss. An analysis of some company characteristics of these twenty-four analysis groups follows in an effort to further describe injury utilization patterns and to describe other OHP services utilization.

SMALL-INDUSTRY CHARACTERISTICS AND OHP UTILIZATION7.1 COMPANY CHARACTERISTICS EMPLOYED

Most of the company characteristics employed in the remainder of this report are shown in Appendices A-G. Appendix A reports a number of company characteristics for all manufacturers remaining in the target area. Gross OHP utilization behavior in Appendix A is shown as a percentage of manufacturing companies having the characteristic. Appendices B-E refer to specific groups of manufacturers; durable goods manufacturers with large and small work forces and to nondurable goods manufacturers with large and small work forces, respectively. Appendices F and G refer to nonmanufacturers with work forces operating within and outside the target area, respectively. Appendices B-G report company characteristics as a percentage of varying types of OHP utilization groups, as a percentage of the particular companies remaining in the area, and as a percentage of the companies who have moved or become defunct. In most instances in the Appendices, relative frequencies (percent) are reported despite low bases for ease of discussion and comparison. In some instances where bases are extremely small, only the absolute frequencies are reported, and are so noted.

Most of the company characteristics are regroupings of information gathered by baseline interviewing; some of the characteristics are imputed to target area companies from national data on industries.

7.2 SIZE AND COMPOSITION OF THE WORK FORCE

The number of in-plant production personnel (page a, App. A) shows a linear relationship to OHP utilization for manufacturers; no outreached manufacturing company having 5 or less employees utilized the OHP while very few of the companies employing 100 or more in-plant production personnel were lost to the OHP. The largest group of manufacturers outreached were those employing 20-99 in-plant production personnel (43% of manufacturing outreach) and they show a continual OHP use rate of 40%; the exact average for all manufacturers as the disparate behaviors of larger and smaller companies cancel each other.

In durable goods manufacture involving 20 or more employees, three size/composition characteristics identify the non utilizer of OHP services; his company is much more likely to be in the lowest size category (20-99) than his counterparts in the area who utilized OHP, his total employment is more likely to be totally involved in production, and his company is more likely to be an all-male operation. In terms of size and male composition, his company is more likely to resemble the moved, defunct companies than the durable goods manufacturers with 20 or more employees remaining in the area.

In nondurable goods manufacture involving 20 or more employees, only two of these three size/composition characteristics identify the non utilizer of OHP services; his company is also much more likely to be in the lowest size category (20-99=93%) than his counterparts in the area who utilized OHP, but his total employment is less likely to be totally involved in production than continual OHP utilizers and his company is more likely to have a high proportion of females involved in production. In terms of size and female composition; his

company is more likely to resemble the moved, defunct companies than the nondurable goods manufacturer with 20 or more employees remaining in the area.

National data for 1971 show that 20% of the durable goods manufacture work force is composed of women; almost twice that proportion--39%--of the nondurable goods manufacture work force is composed of women. A strong relationship to utilization exists in the baseline data as large manufacturers approach the national norm for their industry group. The closer they approach national norms for their industry group, the less likely they are to utilize the OHP. The more females involved in durable goods production, the more likely is OHP utilization. The less females involved in nondurable goods production; the more likely is OHP utilization. If the nondurable goods manufacturer's work force composition more closely resembles what one would expect in durable goods manufacture, the chances of his utilizing the OHP is greater. If the durable goods manufacturer's work force composition more closely resembles what one would expect in nondurable goods manufacture, the chances of his utilizing the OHP is greater.

7.3 UNIONIZATION

In 1970, women composed 21% of labor union membership in the United States. In 1971, full-time wage and salary working women, nationally, averaged \$100 in weekly earnings, compared to \$162 for males. Thirty-seven percent of the large nondurable goods manufacturers outreached report that 25% or more of their work force is composed of women; none of these companies utilized the OHP continually. Forty-two per cent of the drop-outs from utilization, 50% of the non utilizers of OHP, and 75% of the moved, defunct companies reported work forces composed of 25% or more women. In comparing the continual utilizers against drop-outs, non utilizers, and defunct companies in the large nondurable

goods manufacturing category, one would expect these latter groups, because of their high proportions of women employees, to --

- be lower-paying manufacturing industry
- show less unionization of employees
- show less employee benefits paid by the employer as measured by paid sick leave and contributions to employee health plans
- show less severe occupational injury/illness
- report less industrial hazards and number of protective devices used
- show less concern for occupational injury/illness as measured by absence of safety directors and no company or "regular" doctor

In going through the company characteristics for the nondurable goods manufacturers with 20 or more employees, all these expectations, but one, are borne out. The drop-outs, non utilizers, and moved, defunct companies show the expected differences from the continual users.

The one exception is union membership. The drop-outs, non utilizer and defunct nondurable goods manufacturers show the highest proportions of total union membership. In viewing the company characteristic, "product", it can be seen that the non utilizers concentrate heavily in the apparel industry. Appendix F is a report by the Bureau of Labor Statistics for the Women's and Misses Dresses industry in New York City for August 1971. This report shows that 93% of the establishments surveyed have agreements with the International Ladies Garment Workers Union. Under these agreements, employers contribute 8 1/2% of their weekly payrolls to a fund providing for a range of services, including doctor's care and union health center services. As mentioned previously, no direct questioning in the baseline instrument inquired into union health center services; this variable could have

been highly useful to this descriptive analysis.

In continuing to view the characteristic, "product", for the large nondurable goods manufacturers, it can be seen that 67% of the continual utilizers were involved in food and kindred products; primarily large beer breweries and soft beverage bottling concerns. Brewery workers, beer deliverers, and some other food products workers are represented by locals and affiliates of the Teamsters Union^{10,11}, who maintained a Comprehensive Health Care Program during outreach years, an Advice Unit on sources of medical care, and who provide Teamsters and their families with extensive physician care, jointly with management.

10 See New York Daily News, April 10, 1973: Why Local Brewers are in a Froth.--"According to Department of Labor figures, the average wage paid to brewery workers in Brooklyn in 1970 was \$211. In Winston Salem it was \$188. Also taxes are higher in Brooklyn, water costs more and so does waste disposal. Delivery contracts in New York City require local brewers to use small trucks employing two men. Out-of-state contracts permit the use of one-man trucks that carry up to four times as much beer. It cost (Brewer) about \$2.32 to brew a case of beer in Brooklyn, and \$1.86 to brew it in Winston-Salem. (Including shipping costs) it costs (Brewer) 29¢ a case less to sell beer in Brooklyn by moving to North Carolina."

11 Anne Zanes, "Attitudes, Utilization and Out-of-Pocket Costs for Health Services" Report of Interviews with Selected Teamster Families" Sept. 1967, Columbia University School of Public Health and Administrative Medicine.

In the large nondurable goods category, running through the continuum of continual OHP use to non use, there is a concentration of larger, all-male industry on one end, and a concentration of smaller, heavily female industry on the other; each concentration represented by strong unions with varying health care programs and facilities.

In the center - those ceasing OHP use-are smaller, heavily female companies concentrated in chemicals (cosmetics) textiles, and smaller food and apparel companies.

In the large nondurable goods category, the use of other OHP injury services aside from required injury care is very small -- only 11% of the companies remaining in the area used such services. The use of such services is negatively associated with the degree of unionization the companies show. The continual OHP utilizers show 67% of their companies with almost total unionization; 34% used services other than injury care. The drop-outs show 71% of their companies with almost total unionization; 14% used services other than injury care. The non utilizers of any OHP services show 79% of their companies with almost total unionization.

Durable goods manufacturers with 20 or more employees were categorized differently on the utilization continuum because of larger numbers available for study. Those who used the OHP injury services and other services continually could be segregated from those who utilized for required injury care only, but continually. Those who did not utilize the OHP and those who ceased OHP utilization are grouped together. Due to the small number of drop-outs in durable goods included with the non utilizers, the category will be referred to as non utilizers. No durable goods manufacturer used the OHP for other services only.

As opposed to large nondurable goods manufacturers, the large durable goods manufacturers do not show such polarization along the utilization continuum in terms of product manufactured. Accordingly, no one or two specific union health policies or facilities can be shown to be differentially operating on utilization. The large durable goods manufacturers, as mentioned earlier, do show the female-male polarity along the utilization continuum, but to a lesser extent than the nondurable goods manufacturer and in a different direction; 27% of the continual utilizers for injury and other services have 25% or more if their work force composed of women, as do 45% of the continual utilizers for injury services. The non utilizers and the moved, defunct companies report 22% and 10% respectively for this variable. In comparison to the continual utilizers then, one would expect the non utilizers and the moved, defunct companies, because of their largely male employment forces, to --

- be higher-paying manufacturing industry
- show more unionization of employees
- show more employee benefits paid by the employer (sick leave, health plans)
- show more severe occupational injury
- report more industrial hazards and number of protective devices used
- show more concern for occupational injury/illness as measured by the presence of safety directors and of company or "regular" doctors.

In going through the company characteristics for the durable goods manufacturers with 20 or more employees, not one of these expectations is clearly borne out. The non utilizer companies differ from the moved, defunct companies in several important characteristics in terms of OHP utilization; the two continual utilizer groups of companies also

differ from one another in several important characteristics.

The smaller and heavily male non-utilizing companies and defunct companies differ in terms of safety, concern over safety, types of employees, unionization and source of medical care. The moved, defunct durable goods companies show the highest overall injury rate of all manufacturers outreached -- 12.3 vs. 8.6 -- 43% higher. What one would expect in terms of injury rates for the non-utilizers and moved, defunct groups based on national injury rates is completely reversed in comparing these two groups. Sixty-two per cent of non utilizers are categorized in the highest national injury frequency rates and report a baseline rate of 8.5 injuries. Only 40% of the moved, defunct companies are categorized in the highest national injury frequency rates, yet report a baseline injury rate of 12.3. The non utilizers and moved, defunct companies are categorized about the same in terms of national injury severity rates, yet the moved, defunct companies report a 44% higher lost time injury rate than the non utilizers.

The moved, defunct companies report, proportionately, the highest number of industrial hazards compared to all manufacturing outreach, yet the highest proportion of "no protective devices" of all manufacturing outreach. The moved, defunct companies were completely without safety directors or safety engineers, compared to 26% of the remaining companies having such personnel. The moved, defunct companies showed the highest rate of non unionization, 40% of them having no union members in their employ. In terms of type of manufacturing companies, the moved, defunct durable goods companies were the lowest paying of all manufacturing outreach indicating less skilled personnel, the lowest unionized industry in the nation, and their types of manufacture showed the highest loss of production employees in the nation,

compared to all outreach/utilization groups, probably as a result of automation.

In sum, the moved, defunct companies represented the typical picture of where an OHP operation could have done the most good.

While there are a number of differences between the two groups of continual utilizers with 20 or more employees in durable goods manufacture, the largest difference is to be found in the characteristics of union membership. Practically all of the continual utilizers for or required injury care have totally unionized shops. Those who utilized injury care as well as other services of the OHP show the highest proportion of non fully unionized shops--almost half (47%) reporting less than 90% unionization.

As in nondurable goods, where the full complement of injuries was not brought to the OHP and non-injury services were not used due to specific union health policies and facilities, the durable goods manufacturers with 20 or more employees can also be shown to utilize the fuller range of OHP services if unionization is not a "barrier".

These continual utilizers of the fuller range of OHP services tended to be further away from the center of OHP activities than those who utilized for injury only. These continual utilizers also had less prior experience with the Brookdale Hospital Medical Center than the other large durable goods manufacturers outreached, and had just as high a proportion of company or regular doctors as the more highly unionized non utilizers.

In small (19 or less employees) durable goods manufacture, the relationship of unionization to utilization disappears. There is a direct decrease in injury frequency as one goes across the utilization continuum and the more traditional barriers to utilization appear; the

utilizers tend to be closer to the OHP center and have more experience with the Brookdale Hospital Medical Center, there is a direct relationship between utilization and the burden on the employer in terms of his paying all of health plan costs, the non utilizer reports more industrial hazards but less protective devices, etc.

There are not enough baseline nondurable goods manufacturers with 19 or less employees along the steps of the utilization continuum to describe their behavior after outreach.

Nonmanufacturers with major portions of their work forces not operating in the area, traditionally have not had as strong unions with health facilities and policies as manufacturers. These nonmanufacturers show a complete reversal of the unionization-utilization pattern. The higher the proportion totally unionized, the higher the proportions of continually or ever utilizing the OHP.

Nonmanufacturers, proportionately, show by far the highest rates of use of the other services OHP provides. In terms of numbers, however there are too few to return to further explore the differences between those who used these other services continually and those who ceased the use of these services.

Nonmanufacturing, with employees remaining in the area, seems a fertile ground for outreach for other OHP services aside from injury care.

SUMMARY AND RECOMMENDATIONS

The original mandate for an evaluation design called for returning to management again in the outreached companies to obtain some insights into why some took advantage of the OHP and some did not; whether in fact the "wrong" person in management was contacted and the information did not filter to the "right" persons; why some companies used the OHP and only took minor advantage of the agency.

Using the baseline data and the actual behavior of companies after outreach, we were able to demonstrate the effects of outreach on utilization without entering the morass of how information is filtered and decisions are made within disparate companies. Furthermore, we were able to account for service losses by their sources and point out the relative importance of major reasons for service losses.

We believe that many valuable facts and insights have been offered which provide an evaluation of the program and the problems which confront it. We have pointed out many of the things that are lacking in the numbers of types of utilizers and certain baseline data bases for a rigorous, "hard" evaluation of the costs and benefits of participating or not participating in the program.

In sum, we do not recommend an evaluation research program using survey research techniques.

THE EMPLOYEE HEALTH SERVICES AT THE BROOKDALE HOSPITAL
MEDICAL CENTER

A general plan existed in tentative outline for a study to evaluate another aspect of the Occupational Health Program; Brookdale Hospital's Employee Health Service which serves the employees of the hospital. The plan sought to evaluate services from the recipients' point of view by sampling from the Employee Master List and making provisions for sampled employees to be interviewed by professional interviewers at a facility in the hospital using an instrument with the following question topics:

- . services respondent would like to see included in an employee health service
- . number of times respondent used the services in a given period
- . reasons for the visits to the Service
- . rating of the perceived quality of care received
- . things liked best about the Employee Health Service
- . things liked least about the Employee Health Service
- . bad experiences with the Service
- . likes and dislikes about the doctor and the nurses in the Service
- . feelings about the necessity of seeing a physician at each visit to the Service
- . rating of selected qualities an "ideal" physician should have
- . satisfactions and dissatisfactions with services received through referral by the Employee Health Service
- . self-rating of current state of health
- . agreement or disagreement with statements regarding the advisability of certain health practices
- . rating of the treatment received at the Employee Health Service in relation to services from private physicians

and clinics

- . perceptions of the amount of money saved by respondent by using the Service
- . Analysis variables: age, sex, job at hospital, tenure, union membership, education, marital status, income

The Department of Community Medicine of the Mount Sinai School of Medicine (N.Y.) recently completed a field survey of 1,500 households in East Harlem to identify the health demands of that section of the city. Their instrument contained questions, to be asked of employed persons, about employee health services at their places of employment. The questions, and distributions of replies, are reproduced here since they are cogent to the development of procedures for the Brookdale Employees Health Service survey.

Source: Final Report on Contract HSM 110-71-149 to the National Center for Health Services, Research and Development, Health Services and Mental Health Administration. Kurt Deuschle, Principal Investigator. Department of Community Medicine, Mt. Sinai School of Medicine N.Y. May 1972

Existence of Employee Health Service (for Respondents
Employed) and Services Provided

Q. 17 Is there an employee health service at the place where you work?

Of those employed

Yes have an employee health service	47%	(N) (346)
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Staffed by

Doctor only	10%
Nurse only	10
Both Doctor and Nurse	68
Don't know	12
	100%
	(161)

Of those who have employee health service

It provides:	<u>Percent Have</u>	<u>Percent Pay</u>
(1) A physical exam at the time you are employed	92%	3%
(2) Immunizations, like flu shots	75	9
(3) An annual chest x-ray	76	3
(4) A regular physical exam every year or so	75	5
(5) Examination or tests to find what is wrong when you are not feeling well	72	3
(6) Prescriptions for medicine	60	22
(7) Other services	34	11
Eye doctor	5%	
Comprehensive	49	
Emergency service	16	
Comprehensive care with dental	5	
Lab tests	7	
Other	18	
	100%	
	(43)	

Satisfaction:

Satisfied with employee health service	76%
Don't know, haven't used it	10
Dissatisfied	<u>14</u>
	100%
	(161)

Of those who are dissatisfied:

Reasons for dissatisfaction

(1) Not top medical care	17
(2) Family members not covered	9
(3) Care given is limited	26
(4) Care is impersonal	9
(5) Unit is off job premises	4
(6) It takes too long to get care	22
(7) No particular reason	<u>13</u>
	100%
	(23)

In reviewing the Mt. Sinai experience it can be seen that of the 161 respondents having the services, only 23 could have been asked the reasons for dissatisfaction because of the high level of satisfaction with employee health services (76%). This is a common occurrence when health facilities are asked about in terms of satisfaction; it is difficult for low income populations, especially, to criticize institutions and operations within the context of a face-to-face personal interview. Survey research literature abounds with studies of the effect of acquiescence on responses.¹² Conducting the Brookdale Employee Health Service interview within the hospital setting could add to this effect, differentially, for large portions of the employee group, biasing the results and producing low N's in analysis groups.

In reviewing the topics of the interview to be administered to the Brookdale employees, it appears that the questions are especially amenable to self-administration.

Other investigators' evidences indicate that without the social component of face-to-face contact with the interviewer, as in mail or telephone surveys, respondents are less likely to offer socially acceptable responses^{13, 14}.

12 See, for example, Lenski, Gerhard E, and John C. Leggett, "Caste, Class and Deference in the Research Interviewer", American Journal of Sociology, 1960, Vol. 65, pp. 463-467.

13 Hochstim, Joseph, "Comparison of Three Information Gathering Strategies in a Population Study of Sociomedical Variables," American Statistical Association, Proceedings of the Social Statistics Section 1962.

14 Colombotos, John, "Personal Versus Telephone Interviews: Effect on Responses," Public Health Reports, Vol. 84, No. 9, September, 1

Stationing trained interviewers within the hospital to interview sampled employees can also be an expensive, and sometimes abrasive, procedure. Recent NORC experiences with in-facility interviews have shown that there is much more unused interviewing time than anticipated. Respondents coming late to appointments, or reporting at the wrong time or day, require the presence of additional interviewers beyond the total ideally required to perform the original task. Moreover, despite obtaining administrators' and supervisors' cooperation in advance, this cooperation tends to wear thin as daily routine is actually altered. Interviewers are powerless to insure respondents' expeditious return to work stations after the interview. Where large portions of a work force operate at nights, it becomes administratively difficult to insure that all employees are included in the sample interviewed.

For the reasons presented above, we propose to adapt the employee interview to a self-administered questionnaire and to conduct the survey by mail. To insure acceptable completion rates, we also propose to supplement the mail survey with a telephone survey of the initial non-responders. Stages of the proposed mail/telephone survey follow, with descriptions of the tasks proposed to be performed at each stage.

Stage 1

This stage would be a tooling-up stage, primarily to refine the questionnaire. We propose to refine the instrument in consultation with Program personnel. The major changes we propose involve the inclusion of more behavioral information and the

placing of less reliance on reports on satisfaction;

(a) obtain information on the number of visits made to private physicians and other health services providers within the 12 months preceeding the survey, and the health reasons for these visits. The current outline of question topics asks about satisfactions with these services but not for frequency, health reason and cost to the consumer.

(b) obtain information on the convenience reasons for non-accident care visits to other health services providers within the 12 months preceeding the survey.

We propose to include direct questions, such as,

What was it that made you to decide that you should go somewhere else for health care--

Was it because you were dissatisfied with the medical care you received at the Employee Health Service? IF YES: What was unsatisfactory?

Was it because of the time of day or night you needed care?

Was it because of a problem of transportation? etc.

Was there any other reason why you went somewhere else for health care? IF YES: What reason was that?

(c) Replies to the question on self-evaluation of health status included in the outline of question topics can be shown to vary by sex, ethnicity, and income group membership. In conjunction with this self-evaluation, we propose a quantifiable measure of health status over the 12 months preceeding the interview, such as,

During the last 12 months, how many days altogether were you unable to go to work because of sickness or accidents?

How many days of that total were lost due to accidents?

How many days of that total were lost due to sickness?

It will be difficult to obtain variation in health status and, therefore, its relation to EHS utilization. The sample, being composed entirely of working persons, might well provide little variation on this variable.

- (d) We propose deletion of the question area regarding likes and dislikes about the doctors and nurses in the Employee Health Service. Many of the respondents will be health professionals and the question will be distasteful to them. The question also places the professionals who do work the Service in a singularly unfair position. There should be ample opportunity for this area to arise spontaneously in response to other question areas, if, indeed, the respondent sees a difficulty.

Stage 2

This stage would consist of drawing the sample from the Employee Master List. There will be a need for a fairly sizable sample of the employees because of the following reasons--

- 1) high levels of satisfaction with the Service are anticipated, providing little variation for analysis of the dissatisfied users. To increase the yield of dissatisfied users to a number suitable for study, the overall sample size has to be fairly large.
- 2) persons who began their employment at the Brookdale Hospital Medical Center within the 12 months preceeding survey will show different levels of awareness and satisfaction

with the services of the Employee Health Service and have different patterns of, and reasons for, "outside" utilization of services. This sizable group of persons cannot be combined with the other employees in the analysis of the survey, but viewed separately, thereby reducing analysis N's.

- 3) persons who have been employed at Brookdale for over a year preceeding survey can only be asked of their "outside" utilization and relative satisfaction/dissatisfaction with other providers of health care within a limited period of recall-12 months is the usual recall period employed. Given the fact that the sample is composed of only employed persons, we would anticipate relatively low levels of both types of utilization - EHS and otherwise, compared to a cross-section survey of the population.

Exempt (administrators and executives) hospital personnel will be deleted from the employee list before sampling. Physicians will also be deleted. Physicians have patterns of seeking health care peculiar to their training, superior knowledge of where and who to turn to for specific conditions, and professional friendship and peer constellations determining patterns of care. Most physicians on the employee list are exempt personnel. Temporary personnel will likewise be deleted from the employee list before sampling, as will be listed employees of the Employee Health Service.

These deletions should remove about 20% of the total number of names appearing on the master list, based on the analysis of

one such list. The universe to be sampled consists of about 1,975 permanent employees of Brookdale, after exclusion of the above-mentioned categories of persons. We propose to draw a fully representative sample of this population. The names of the 1,975 permanent employees of Brookdale will be ordered without regard to the Department in which they work and a selection interval chosen to yield 395 names; approximately 20% of the universe.

Stage 3

An executive officer of the hospital will be asked to inform, by letter or memorandum, other officers and administrators and union representatives of the impending survey--its nature, sponsorship and mode of operation. Arrangements will also be made later in this stage for publicity in Brookdale newspapers and newsletters.

Arrangements will be made at this stage for securing the addresses and phone numbers of sampled employees and confidentiality arrangements made between the hospital and research agency regarding this information and the survey information collected.

Stage 4

Only after the successful completion of stages 1-3 will stage 4 begin. This will involve mailing of the following materials to respondents--

- 1) a questionnaire with a distinctive identification number so the respondent need not sign.
- 2) a franked, return envelope for returning the completed questionnaire to the offices of the research agency

- 3) a letter from appropriate hospital personnel stressing
 - . the need for the survey
 - . the confidentiality of response
 - . the credentials of the research agency
 - . the fact that response is voluntary
 - . urging candid response
- 4) a letter from the research agency
 - . giving short, concise instructions
 - . urging early completion and explaining that normal operations call for telephoning to check on questionnaires not returned
 - . a franked postal card to the research agency, to be used in instances where the respondent wishes not to be called

Response rates to mail surveys vary widely by sponsorship of the of the survey, appearance of the questionnaire, and a host of other considerations. They are generally successful with telephone follow-up. Current assumptions call for an initial return of about 55% of the initially-mailed questionnaires. If the questionnaire is not returned within two weeks, a follow-up letter and questionnaire is sent. This results in about a 30% return of the follow-up questionnaires. Accordingly, 100-125 telephone interviews are proposed to be attempted; at an anticipated yield rate of 60%

The overall yield should be 330 completed cases, an overall completion rate of 84%.

The main reason for lack of response will be "too busy, didn't have the time" for a goodly number of the initial non-responders; usually those respondents who have professional and technical occupations. Although the questionnaire will be designed to be simply and quickly completed, some personell will not initially respond

due to unfamiliarity with completing forms and language barriers. Both of these groups welcome the opportunity to complete the interview by telephone. Bi-lingual interviewers will be employed for some of the telephone follow-ups.

Stage 5

Coding and keypunching of the completed questionnaires will occur during this stage.

During coding a Field Supervisor will telephone any respondents who inadvertently omitted questions in the questionnaire. The data will also be subjected to a machine edit to "clean" any coding or keypunch error.

Data for non-responders will be obtained from the hospital records, primarily age and occupation, and a file created for an analysis of non-response.

Stage 6

During this stage the composite analysis variables will be constructed, primarily on the basis of occupation within the hospital. A descriptive analysis of the data will be performed and a narrative report will accompany the tabular presentations of the data collected.

Time Schedule

<u>Stage</u>	<u>Elapsed Calendar Time</u>
1	1 week
2	1½ weeks
3	none-concurrent with Stage 2
4	5 weeks
5	2 weeks
6	3 weeks

Total elapsed time = 12½ weeks

Cost Schedule

The cost schedule is submitted under separate cover.

* * *

APPENDIX A

	Outreached manufacturing companies remaining in target area (Number)	Per Cent using OHP services continually	Per Cent ceasing utilization or never utilized OHP services
<u>COMPANY CHARACTERISTICS</u>			
Number of in-plant production personnel	<u>N</u>		
5 or less	5	[0%]	[100%]
6-10	14	[14]	[86]
11-19	24	26	74
20-99	50	40	60
100-249	18	[78]	[22]
250-650	5	[100]	[0]
total	116	40	60
Proportion of in-plant production personnel to total employment	<u>N</u>		
.90-.99	54	39%	61%
.80-.89	22	45	55
.70-.79	22	41	59
.60-.69	12	[33]	[67]
.59 or less	6	[33]	[67]
Proportion of female production personnel to total in-plant production employment	<u>N</u>		
.75+	15	[27%]	[73%]
.50-.74	10	[40]	[60]
.25-.49	9	[56]	[44]
.11-.24	8	[38]	[62]
.10 or less	9	[50]	[50]
none	65	38	62

	Outreached manufacturing companies remaining in target area (Number)	Per Cent using OHP services continually	Per Cent ceasing utilization or never utilized OHP services
<u>COMPANY CHARACTERISTICS</u>			
Sick leave policy	<u>N</u>		
granted	40	50%	50%
not granted	74	35	65
no information	2	[0]	[100]
Per Cent of in-plant production personnel belonging to unions	<u>N</u>		
90-100%	77	43%	57%
89% or less	24	46	54
none	13	[8]	[92]
no information	2	[0]	[100]
Contributions to health plan payments	<u>N</u>		
employer pays all	51	45%	55%
employer/employee share	34	53	47
employee pays all	15	[20]	[80]
no plan	11	[9]	[91]
no information	5	[20]	[80]
1971 U.S. average wage rate for manufacturing industry	<u>N</u>		
\$2.49-3.14	38	37%	63%
\$3.15-3.68	37	43	57
\$3.74-4.44	41	39	61
Compensation coverage	<u>N</u>		
private carrier	49	37%	63%
state coverage	66	42	58
no information	1	[0]	[100]

	Outreached manufacturing companies remaining in target area (Number)	Per Cent using OHP services continually	Per Cent ceasing utilization or never utilized OHP services
<u>COMPANY CHARACTERISTICS</u>			
Labor tension index - (U.S. 1970 work stoppages in mfg. industry)	<u>N</u>		
28-54	23	48%	52%
69-139	35	17	83
140-266	58	50	50
Industry degree of unionization (percentage of national employment claimed by unions in industry)	<u>N</u>		
0.2 - 1.0%	27	48%	52%
1.4 - 2.7%	24	25	75
4.1 - 5.4%	65	42	58
Change in number of in-plant production personnel, period 1965-1971, nationally:	<u>N</u>		
lost employees, nationally	58	43%	52%
gained employees, nationally	58	36	64
Per Cent change in average hourly pay above or below average for (durable/non- durable goods) manufacturers, period 1965-1971, nationally:	<u>N</u>		
above average increase	47	51%	49%
below average increase	69	32	68

		Outreached manufacturing companies remaining in target area (Number)	Per Cent using OHP services continually	Per Cent ceasing utilization or never utilized OHP services
<u>COMPANY CHARACTERISTICS</u>				
1970 National injury frequency rate		<u>N</u>		
7.7 - 8.5		37	32%	68%
10.4 - 15.8		22	41	59
22.0 - 34.1		57	44	56
1970 National injury severity rate		<u>N</u>		
207 - 488		29	28%	72%
561 - 909		34	47	53
937 - 2,891		53	42	58
Baseline injury/illness per 100 production employees		12.2	14.4	8.6
Baseline lost time injury/ illness per 100 production employees		4.2	4.5	3.9
Baseline no lost time injuries/illnesses per 100 production employees		7.9	9.9	4.7
Baseline reports of number of industrial hazards on premises		<u>N</u>		
none		28	21%	79%
1-2		64	44	56
3-5		23	48	52
no information		1	[100]	[0]
Baseline reports of number of protective devices used on premises		<u>N</u>		
none		34	18%	82%
1-2		59	44	56
3-5		19	58	42
no information		[4]	[75]	[25]

	Outreached manufacturing companies remaining in- target area (Number)	Per Cent using OHP services continually	Per Cent ceasing utilization or never utilized OHP services
<u>COMPANY CHARACTERISTICS</u>			
Manufacturer is:	<u>N</u>		
<u>Durable goods manufacturer</u>			
20 or more production personnel	46	72%	28%
19 or less production personnel	30	20	80
<u>Nondurable goods manufacturer</u>			
20 or more production personnel	27	22	78
19 or less production personnel	13	[8]	[92]
Distance from center of OHP activities	<u>N</u>		
within 0-1 mile band	70	39%	61%
within 1-2 mile band	46	41	59
Used Brookdale Hospital Medical Center exclusively for occupational injury prior to outreach	<u>N</u>		
Yes	68	40%	60%
No	30	43	57
No experience, no information	18	[33]	[67]

APPENDIX B

DURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;
OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=46	Utilized injury and other OHP services continually N=15	Utilized injury services only, continually N=18	Did not utilize OHP or ceased utilization N=13	Moved, defunct N=10
Number of in-plant production personnel					
20- 99	63%	60%	50%	85%	80%
100-249	28	20	44	15	20
250-650	9	20	6	0	0
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
Proportion of in-plant production personnel to total employment					
.90-.99	46%	27%	50%	62%	40%
.80-.89	28	33	28	23	20
.70-.79	17	27	17	8	30
.60-.69	7	7	6	8	10
.59 and less	2	7	0	0	0
	<u>100%</u>	<u>101%</u>	<u>101%</u>	<u>101%</u>	<u>100%</u>
Proportion of female production personnel to total in-plant production employment					
.75+	9%	7%	11%	8%	10%
.50-.74	9	7	17	0	0
.25-.49	15	13	17	15	0
.11-.2	7	7	6	8	10
.10 or less	11	13	11	8	10
None	50	53	39	62	70
	<u>101%</u>	<u>100%</u>	<u>101%</u>	<u>101%</u>	<u>100%</u>
Overall proportion	.28	.35	.23	.26	.11

DURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;
OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=46	Utilized injury and other OHP services continually N=15	Utilized injury services only, continually N=18	Did not utilize OHP or ceased utilization N=13	Moved, defunct N=10
Sick leave policy granted	39%	53%	39%	23%	30%
not granted	$\frac{61}{100\%}$	$\frac{47}{100\%}$	$\frac{61}{100\%}$	$\frac{77}{100\%}$	$\frac{70}{100\%}$
Per cent of in-plant production personnel belonging to unions					
90-100%	74%	53%	94%	69%	60%
89% or less	22	47	0	23	0
None	2	0	0	8	40
No information	$\frac{2}{100\%}$	$\frac{0}{100\%}$	$\frac{6}{100\%}$	$\frac{0}{100\%}$	$\frac{0}{100\%}$
Contributions to health plan payments					
Employer pays all	50%	47%	50%	54%	40%
Employer/employee share	33	40	33	23	40
Employee pays all	7	7	11	0	10
No plan	7	7	0	15	10
No information	$\frac{4}{100\%}$	$\frac{0}{100\%}$	$\frac{6}{100\%}$	$\frac{8}{100\%}$	$\frac{0}{100\%}$
1971 U.S. average wage rate for industry					
\$2.49-3.14	37%	40%	33%	38%	50%
\$3.15-3.68	26	27	22	31	30
\$3.74-4.44	$\frac{37}{100\%}$	$\frac{33}{100\%}$	$\frac{45}{100\%}$	$\frac{31}{100\%}$	$\frac{20}{100\%}$
Compensation coverage					
private carrier	48%	33%	56%	54%	50%
state coverage	$\frac{52}{100\%}$	$\frac{67}{100\%}$	$\frac{44}{100\%}$	$\frac{46}{100\%}$	$\frac{50}{100\%}$

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=46	Utilized injury and other OHP services continually N=15	Utilized injury services only, continually N=18	Did not utilize OHP or ceased utilization N=13	Moved, defunct N=10
Labor tension index- (U.S. 1970 work stoppages in mfg. industry)					
28- 54	24%	13%	39%	15%	75%
69- 139	15	20	0	31	0
140- 266	61	67	61	54	25
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
Industry degree of unionization (percentage of national employment covered by unions in industry).					
0.2- 1.0%	37%	33%	39%	38%	75%
1.4- 2.7%	9	13	6	8	0
4.1- 5.4%	54	53	56	54	25
	<u>100%</u>	<u>99%</u>	<u>101%</u>	<u>100%</u>	<u>100%</u>
Change in number of in-plant production personnel, period 1965-1971, nationally:					
lost employees, nationally	54%	60%	56%	46%	70%
gained employees nationally	46	40	44	54	30
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

DURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;
OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=46	Utilized injury and other OHP services continually N=15	Utilized injury services only, continually N=18	Did not utilize OHP or ceased utilization N=13	Moved, defunct N=10
Per cent change in average hourly pay above or below average for durable goods manufacturers, period 1965-1971, nationally:					
above average increase	61%	67%	50%	69%	70%
below average increase	39	33	50	31	30
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
1970 National injury frequency rate					
7.7- 11.5	28%	33%	28%	23%	20%
10.4- 15.8	22	20	28	15	40
16.0- 34.1	50	47	44	62	40
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
1970 National injury severity rate					
207- 488	20%	7%	28%	23%	20%
561- 909	43	67	28	38	40
937-2,891	37	27	44	38	40
	<u>100%</u>	<u>101%</u>	<u>100%</u>	<u>99%</u>	<u>100%</u>
Baseline injury/illness per 100 production employees	8.6	13.2	6.4	8.5	12.3
Baseline <u>lost time</u> injury/illness per 100 production employees	3.5	4.3	3.6	2.5	3.6
Baseline <u>no lost time</u> injuries/illness per 100 production employees	5.1	8.9	2.8	6.0	8.7

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=46	Utilized injury and other OHP services continually N=15	Utilized injury services only, continually N=18	Did not utilize OHP or ceased utilization N=13	Moved, defunct N=10
Baseline reports of number of industrial hazards on premises					
None	13%	7%	17%	15%	20%
1-2	59	67%	50	62	40
3-5	26	20	33	23	40
No information	<u>2</u> 100%	<u>7</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%
Baseline reports of number of protective devices used on premises					
None	9%	13%	0%	15%	40%
1-2	61	40	83	54	30
3-5	22	40	6	23	30
No information	<u>9</u> 100%	<u>7</u> 100%	<u>11</u> 100%	<u>8</u> 100%	<u>0</u> 100%
Safety Director on premises					
None	74%	60%	83%	77%	100%
With no special training	24	40	17	15	0
With special training	<u>2</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>8</u> 100%	<u>0</u> 100%
Physician					
None	85%	80%	94%	77%	92%
Company or "regular" doctor	<u>15%</u> 100%	<u>20</u> 100%	<u>6</u> 100%	<u>23</u> 100%	<u>8</u> 100%

DURABLE GOODS MANUFACTURERS WITH OHP PROTECTION SERVICES,
OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=46	Utilized injury and other OHP services continually N=15	Utilized injury services only, continually N=18	Did not utilize OHP or ceased utilization N=13	Moved, defunct N=10
Distance from center of OHP activities -					
Within 0-1 mile band	61%	60%	67%	54%	50%
Within 1-2 mile band	<u>39%</u> 100%	<u>40%</u> 100%	<u>33%</u> 100%	<u>46%</u> 100%	<u>50%</u> 100%
Used Brookdale Hospital Medical Center exclusively for occupational injury prior to OHP outreach					
Yes	52%	47%	61%	46%	30%
No	35%	47%	22%	38%	50%
No experience, no information	<u>13</u> 100%	<u>7</u> 101%	<u>17</u> 100%	<u>15</u> 99%	<u>20</u> 100%
Product -					
Lumber & wood	7%	7%	11%	0%	10%
Stone, clay and glass	2	0	0	8	10
Fabricated metal	28	20	33	31	20
Furniture & fixtures	13	20	0	23	0
Miscellaneous mfg.	15	7	22	15	40
Machinery, non-electric	7	13	6	0	0
Electrical equip.	22	27	17	23	10
Transportation equipment	2	7	0	0	0
Instruments and related	<u>4</u> 100%	<u>0</u> 100%	<u>11</u> 100%	<u>0</u> 100%	<u>10</u> 100%

APPENDIX C

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Number of in-plant production personnel					
5 or less	17%	0%	11%	27%	40%
6 - 10	33	33	67	13	40
11 - 19	<u>50</u>	<u>67</u>	<u>22</u>	<u>60</u>	<u>20</u>
	100%	100%	100%	100%	100%
Proportion of in-plant production personnel to total employment					
.99	30%	33%	22%	33%	40%
.80 - .89	13	0	11	20	0
.70 - .79	30	33	44	20	20
.60 - .69	13	17	0	20	0
.59 and less	<u>13</u>	<u>17</u>	<u>22</u>	<u>7</u>	<u>40</u>
	99%	100%	99%	100%	100%
Proportion of female production personnel to total in-plant production employment					
.75+	7%	17%	0%	7%	0%
.50 - .74	3	0	0	7	20
.25 - .49	0	0	0	0	0
.11 - .24	10	0	0	20	0
.10 or less	3	0	0	7	0
None	<u>77</u>	<u>83</u>	<u>100</u>	<u>60</u>	<u>80</u>
	100%	100%	100%	101%	100%
Overall proportion	.11	.16	.00	.14	.17

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Sick leave policy					
granted	17%	17%	22%	13%	0%
not granted	83	83	78	87	100
no information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	100%	100%	100%	100%	100%
Per cent of in-plant production personnel belonging to unions					
90% - 100%	63%	67%	56%	67%	100%
89% or less	17	17	0	27	0
None	20	17	44	7	0
no information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	100%	101%	100%	101%	100%
Contributions to health plan payments					
Employer pays all	47%	33%	33%	60%	40%
Employer/employee share	33	67	44	13	20
Employee pays all	7	0	0	13	40
No plan	10	0	22	7	0
No information	<u>3</u>	<u>0</u>	<u>0</u>	<u>7</u>	<u>0</u>
	100%	100%	99%	100%	100%
1971 U.S. average wage rate for industry					
\$2.49-3.14	27%	17%	33%	27%	60%
\$3.15-3.68	30	50	33	20	20
\$4-4.44	<u>43</u>	<u>33</u>	<u>33</u>	<u>53</u>	<u>20</u>
	100%	100%	99%	100%	100%
Compensation coverage					
private carrier	33%	0%	33%	47%	40%
state coverage	67	100	67	53	40
no information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>20</u>
	100%	100%	100%	100%	100%

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Labor tension index (U.S. 1970 work stoppages in mfg. industry)					
28- 45	27%	17%	44%	20%	40%
69-139	20	33	22	13	40
140-266	<u>53</u> 100%	<u>50</u> 100%	<u>33</u> 99%	<u>67</u> 100%	<u>20</u> 100%
Industry degree of unionization (percentage of national employment claimed by unions in industry)					
0.2 - 1.0%	30%	17%	44%	27%	60%
1.4 - 2.7%	23	33	33	13	20
4.1 - 5.4%	<u>47</u> 100%	<u>50</u> 100%	<u>22</u> 99%	<u>60</u> 100%	<u>20</u> 100%
Change in number of in-plant production personnel, period 1965-1971, nationally:					
lost employees, nationally	63%	67%	78%	53%	60%
gained employees nationally	<u>37</u> 100%	<u>33</u> 100%	<u>22</u> 100%	<u>47</u> 100%	<u>40</u> 100%

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Per cent change in average hourly pay above or below average for non-durable goods manufacturers, period 1965-1971, nationally:					
above average increase	60%	67%	67%	53%	80%
below average increase	$\frac{40}{100\%}$	$\frac{33}{100\%}$	$\frac{33}{100\%}$	$\frac{47}{100\%}$	$\frac{20}{100\%}$
1970 National injury frequency rate					
- 8.5	20%	17%	22%	20%	0%
10.4 - 15.8	13	0	22	13	20
22.0 - 34.1	$\frac{67}{100\%}$	$\frac{83}{100\%}$	$\frac{56}{100\%}$	$\frac{67}{100\%}$	$\frac{80}{100\%}$
1970 National injury severity rate					
207 - 488	16%	0%	22%	20%	0%
561 - 909	20	17	22	20	40
937-2,891	$\frac{63}{100\%}$	$\frac{83}{100\%}$	$\frac{56}{100\%}$	$\frac{60}{100\%}$	$\frac{60}{100\%}$
Baseline injury/illness per 100 production employees	15.2	25.5	23.4	6.9	7.7
Baseline lost time (inj /illness per 100 production employees	9.7	12.7	18.2	4.1	5.1
Baseline no lost time injuries/illness per 100 Production employees	5.4	12.7	5.2	2.8	2.6

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Baseline reports of number of industrial hazards on premises					
None	33%	33%	33%	33%	0%
1-2	57	67	55	53	60
3-5	10	0	11	13	40
No information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 99%	<u>0</u> 99%	<u>0</u> 100%
Baseline reports of number of protective devices used on premises					
None	37%	50%	33%	33%	40%
1-2	53	33	55	60	40
3-5	10	17	11	7	20
No information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%
Safety Director on premises					
None	83%	83%	89%	80%	100%
With no special training	10	17	0	13	0
With special training	<u>7</u> 100%	<u>0</u> 100%	<u>11</u> 100%	<u>7</u> 100%	<u>0</u> 100%
Physician					
None	97%	100%	100%	93%	100%
Company or "regular" doctor	<u>3</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>7</u> 100%	<u>0</u> 100%

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Distance from center of OHP activities -					
Within 0-1 mile band	77%	83%	78%	73%	100%
Within 1-2 mile band	$\frac{23}{100\%}$	$\frac{17}{100\%}$	$\frac{22}{100\%}$	$\frac{27}{100\%}$	$\frac{0}{100\%}$
Used Brookdale Hospital Medical Center exclusively for occupational injury prior to outreach					
Yes	73%	83%	67%	73%	100%
No	13	17	11	13	0
No experience, No information	$\frac{13}{99\%}$	$\frac{0}{100\%}$	$\frac{22}{100\%}$	$\frac{13}{99\%}$	$\frac{0}{100\%}$
Product -					
Lumber & wood	17%	17%	22%	13%	20%
Stone, clay and glass	17	33	22	7	20
Fabricated metal	30	33	11	40	20
Furniture & fixtures	3	0	0	7	20
Miscellaneous mfg.	7	0	11	7	20
Machinery, non-electric	7	0	11	7	0
Electrical equip.	10	17	0	13	0
Transportation equipment	7	0	11	7	0
Instruments and related	$\frac{3}{101\%}$	$\frac{0}{100\%}$	$\frac{11}{99\%}$	$\frac{0}{101\%}$	$\frac{0}{100\%}$

DURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=30	Utilized any OHP services continually N=6	Ceased Utilization N=9	Did not utilize OHP N=15	Moved, defunct N=5
Utilized -					
OHP injury services	40%	67%	89%	—	0%
Other OHP services only	0	0	0	—	20
Both injury and other services	10	33	11	—	0
None	<u>50</u> 100%	<u>—</u> 100%	<u>—</u> 100%	<u>100</u> 100%	<u>80</u> 100%

APPENDIX D

NONDURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
Number of in-plant production personnel					
20 - 99	78%	33%	86%	93%	100%
100 - 249	19	50	14	7	0
250 - 650	4	17	0	0	0
	<u>101%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
Proportion of in-plant production personnel to total employment					
.90 - .99	63%	83%	29%	71%	50%
.80 - .89	7	0	14	7	0
.70 - .79	11	0	43	0	50
.60 - .69	15	17	14	14	0
.59 and less	4	0	0	7	0
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>99%</u>	<u>100%</u>
Proportion of female production personnel to total in-plant production employment					
.75+	19%	0%	14%	29%	25%
.50 - .74	11	0	14	14	25
.25 - .49	7	0	14	7	25
.11 - .24	7	17	14	0	25
.10 or less	7	17	0	7	0
None	48	67	43	43	0
	<u>99%</u>	<u>101%</u>	<u>99%</u>	<u>100%</u>	<u>100%</u>
Overall proportion	.17	.03	.18	.40	.56

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
Sick leave policy					
granted	41%	67%	14%	43%	50%
not granted	52	33	71	50	50
no information	<u>7</u>	<u>0</u>	<u>14</u>	<u>7</u>	<u>0</u>
	100%	100%	99%	100%	100%
Per. cent of in-plant production personnel belonging to unions					
90-100%	74%	67%	71%	79%	75%
89% or less	19	33	14	14	25
None	7	0	14	7	0
No information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	100%	100%	99%	100%	100%
Contributions to health plan payments					
Employer pays all	48%	67%	57%	36%	25%
Employer/employee share	22	33	0	29	25
Employee pays all	22	0	29	29	50
No plan	7	0	14	7	0
No information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	100%	100%	101%	100%
1971 U.S. average wage rate for industry					
\$2.49-3.14	37%	17%	29%	50%	50%
\$3.15-3.68	41	67	29	36	25
.74-4.44	<u>22</u>	<u>17</u>	<u>43</u>	<u>14</u>	<u>25</u>
	100%	101%	101%	100%	100%
Compensation coverage					
ivate carrier	48%	50%	43%	50%	50%
state coverage	48%	50	43	50	50
no information	<u>4</u>	<u>0</u>	<u>14</u>	<u>0</u>	<u>0</u>
	100%	100%	100%	100%	100%

NONDURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
labor tension index- U.S. 1970 work toppings in mfg. industry)					
28- 54	15%	17%	14%	14%	50%
69-139	56	17	57	71	25
140-266	<u>30</u> 101%	<u>67</u> 101%	<u>29</u> 100%	<u>14</u> 99%	<u>25</u> 100%
Industry degree of unionization percentage of national employment by unions in industry)					
0.2 - 1.0%	4%	0%	14%	0%	50%
1.4 - 2.7%	33	17	43	36	25
4.1 - 5.4%	<u>63</u> 100%	<u>83</u> 100%	<u>43</u> 100%	<u>64</u> 100%	<u>25</u> 100%
Change in number of in-plant production personnel, period 1965-1971, nationally:					
lost employees, nationally	33%	17%	14%	50%	25%
gained employees nationally	<u>67</u> 100%	<u>83</u> 100%	<u>86</u> 100%	<u>50</u> 100%	<u>75</u> 100%

COMPENSATION DATA

STOCK OWNERSHIP

MANAGEMENT

NONDURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
Per cent change in average hourly pay above or below average for non-durable goods manufacturers, period 1965-1971, nationally:					
above average increase	0%	0%	0%	0%	0%
below average increase	$\frac{100}{100\%}$	$\frac{100}{100\%}$	$\frac{100}{100\%}$	$\frac{100}{100\%}$	$\frac{100}{100\%}$
1970 National injury frequency rate					
7.7- 8.5	41%	17%	43%	50%	25%
10.4-15.8	30	17	29	36	50
22.0-34.1	$\frac{30}{101\%}$	$\frac{67}{101\%}$	$\frac{29}{101\%}$	$\frac{14}{100\%}$	$\frac{25}{100\%}$
1970 National injury severity rate					
207 - 488	44%	33%	14%	64%	0%
561 - 909	15	0	57	0	75
937 - 2,891	$\frac{41}{100\%}$	$\frac{67}{100\%}$	$\frac{29}{100\%}$	$\frac{36}{100\%}$	$\frac{25}{100\%}$
Baseline injury/illness per 100 production employees	17.2	24.6	8.9	7.0	6.6
Baseline lost time injury/illness per 100 production employees	4.5	5.3	3.2	3.6	4.6
Baseline no lost time injuries/illness per 100 production employees	12.7	20.4	5.8	3.4	2.0

NONDURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
Baseline reports of number of industrial hazards on premises					
None	30%	0%	29%	43%	75%
1-2	48	0	29	50	0
3-5	22	67	43	7	25
No information	<u>0</u> 100%	<u>33</u> 100%	<u>0</u> 101%	<u>0</u> 100%	<u>0</u> 100%
Baseline reports of number of protective devices used on premises					
None	56%	17%	71%	64%	0%
1-2	26	33	29	21	100
3-5	19	50	0	14	0
No information	<u>0</u> 101%	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 99%	<u>0</u> 100%
Safety Director on premises					
None	81%	33%	100%	93%	75%
With no special training	7	17	0	7	25
With special training	<u>11</u> 99%	<u>50</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%
Physician					
None	93%	67%	100%	100%	75%
Company or "regular" doctor	<u>7</u> 100%	<u>33</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>25</u> 100%

NONDURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
Distance from center of OHP activities - Within 0-1 mile band	44%	17%	43%	57%	75%
Within 1-2 mile band	$\frac{56}{100\%}$	$\frac{83}{100\%}$	$\frac{57}{100\%}$	$\frac{43}{100\%}$	$\frac{25}{100\%}$
Used Brookdale Hospital Medical Center exclusively for occupational injury prior to OHP outreach					
Yes	44%	67%	57%	29%	50%
No	37	17	29	50	0
No experience, No information	$\frac{19}{100\%}$	$\frac{17}{101\%}$	$\frac{14}{100\%}$	$\frac{21}{100\%}$	$\frac{50}{100\%}$
Product --					
Apparel	33%	17%	14%	50%	25%
Food	30	67	29	14	0
Paper	15	0	14	21	0
Print & Publish	11	17	0	14	0
Textile Mill Products	4	0	14	0	50
Chemicals & allied	$\frac{7}{100\%}$	$\frac{0}{101\%}$	$\frac{29}{100\%}$	$\frac{0}{99\%}$	$\frac{25}{100\%}$

NONDURABLE GOODS MANUFACTURERS WITH 20+ PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=27	Utilized any OHP services continually N=6	Ceased Utilization N=7	Did not utilize OHP N=14	Moved, defunct N=4
Utilized --					
OHP injury services only	37%	67%	86%	—	0
Other OHP services only	7	17	14	—	0
Both injury and other services	4	17	0	—	0
None	<u>52</u>	<u>—</u>	<u>—</u>	<u>100</u>	<u>100</u>
	100%	101%	100%	100%	100%

APPENDIX E

NONDURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
Number of in-plant production personnel	- Per Cent -	Absolute frequency			Absolute frequency
5 or less	0%	—	0	0	2
6-10	31	—	4	0	0
11-19	69	1	3	5	0
	<u>100%</u>	<u>1</u>	<u>7</u>	<u>5</u>	<u>2</u>
Proportion of in-plant production personnel to total employment					
.90 -.99	54%	1	3	3	0
.80 -.89	23	—	1	2	0
.70 -.79	15	—	2	0	0
.60 -.69	8	—	1	0	0
.59 or less	0	—	0	0	2
	<u>100%</u>	<u>1</u>	<u>7</u>	<u>5</u>	<u>2</u>
Proportion of female prooduction personnel to total in-plant production employment					
.75+	30%	—	1	3	0
.50 -.74	15	—	2	0	0
.25 -.49	0	—	0	0	0
.11 -.24	0	—	0	0	0
.10 or less	8	—	0	1	0
None	46	1	4	1	2
	<u>99%</u>	<u>1</u>	<u>7</u>	<u>5</u>	<u>2</u>
All proportion	.34	.00	.19	.60	.00

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
Sick leave policy	-Per Cent-	Absolute frequency			Absolute frequency
granted	46%	--	3	3	1
not granted	54%	1	4	2	1
no information	0	--	0	0	0
	100%	1	7	5	2
Per cent of in-plant production personnel belonging to unions					
90% - 100%	31	--	2	2	0
89% or less	31	1	1	2	2
none	31	--	3	1	0
no information	8	--	1	0	0
	101%	1	7	5	2
Contributions to health plan payments					
Employer pays all	8%	1	0	0	1
Employer/employee share	23	--	1	2	0
Employee pays all	31	--	2	2	1
No plan	23	--	3	2	0
No information	15	--	1	1	0
	100%	1	7	5	2
1971 U.S. average wage rate for industry					
\$2.49 - 3.14	23%	--	1	2	0
\$3.15 - 3.68	38	1	3	1	2
\$3.74 - 4.44	38	--	3	2	0
	99%	1	7	5	2
Compensation coverage					
private carrier	31%	--	3	1	1
coverage	69	1	4	4	1
no information	0	--	0	0	0
	100%	1	7	5	2

NONDURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
	- Per Cent -	Absolute frequency			Absolute frequency
Labor tension index (U.S. 1970 work stoppages in mfg. industry)					
28 - 45	0%	--	0	0	0
46 - 139	54	--	4	3	1
140 - 266	<u>46</u> 100%	<u>1</u> 1	<u>3</u> 7	<u>2</u> 5	<u>1</u> 2
Industry degree of unionization (percentage of total employment claimed by unions in industry)					
0.2 - 1.0%	0%	--	0	0	0
1.4 - 2.7%	31	--	3	1	1
4.1 - 5.4%	<u>69</u> 100%	<u>1</u> 1	<u>4</u> 7	<u>4</u> 5	<u>1</u> 2
Change in number of in-plant production personnel, period 1965-1971, nationally					
lost employees, nationally	31%	--	3	1	0
gained employees, nationally	<u>69</u> 100%	<u>1</u> 1	<u>4</u> 7	<u>4</u> 5	<u>2</u> 2

NONDUPABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
Per cent change in average hourly pay above or below average for non-durable goods manufacturers, period 1965-1971, nationally:	- Per Cent -	Absolute frequency			Absolute frequency
above average increase	0%	-	0	0	0
below average increase	100%	1	7	5	2
	100%	1	7	5	2
1970 National injury frequency rate					
7.1 - 8.5	54%	-	4	3	0
10.4 - 15.8	0	-	0	0	1
22.0 - 34.1	46	1	3	2	1
	100%	1	7	5	2
1970 National injury severity rate					
207 - 488	23%	-	1	2	0
561 - 909	31	-	3	1	0
937-2,891	46	1	3	2	2
	100%	1	7	5	2
Baseline injury/illness per 100 production employees	9.6	10.5	9.3	9.6	22.2
Baseline lost time injury/illness per 100 production employees	3.6	0.0	1.3	6.9	0.0
Baseline no lost time injuries/illness per 100 production employees	6.0	10.5	8.0	2.7	22.2

NONDURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
Baseline reports of number of industrial hazards on premises	- Per Cent -	Absolute frequency			Absolute frequency
None	31%	-	1	3	2
1-2	54	1	5	1	0
3-5	15	-	1	1	0
No information	-	-	0	0	0
	100%	1	7	5	2
Baseline reports of number of protective devices used on premises					
None	31%	-	1	3	1
1-2	61	1	6	1	1
3-5	8	-	0	1	0
No information	0	-	0	0	0
	100%	1	7	5	2
Safety Director on premises					
None	85%	1	6	4	2
With no special training	8	-	0	1	0
With special training	8	-	1	0	0
	101%	1	7	5	2
Physician	100%	1	7	5	2
Company or "regular" doctor	0	-	0	0	0
	100%	1	7	5	2

NONDURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
Distance from center of OHP activities -	- Per Cent -	Absolute frequency			Absolute frequency
Within 0-1 mile band	54%	-	6	1	1
Within 1-2 mile band	$\frac{46}{100\%}$	$\frac{1}{1}$	$\frac{1}{7}$	$\frac{4}{5}$	$\frac{1}{2}$
Used Brookdale Hospital Medical Center exclusively for occupational health prior to OHP outreach					
Yes	77%	-	6	4	2
No	0	-	0	0	0
No experience, no information	$\frac{23}{100\%}$	$\frac{1}{1}$	$\frac{1}{7}$	$\frac{1}{5}$	$\frac{0}{2}$
Product -					
Apparel	31%	-	3	1	0
Food	46	1	3	2	1
Chemical and allied	23	-	1	2	0
Paper	$\frac{0}{100\%}$	$\frac{-}{1}$	$\frac{0}{7}$	$\frac{0}{5}$	$\frac{1}{2}$

NONDURABLE GOODS MANUFACTURERS WITH 19 OR LESS PRODUCTION EMPLOYEES;

OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=13	Utilized any OHP services continually N=1	Ceased Utilization N=7	Did not utilize OHP N=5	Moved, defunct N=2
Utilized -	- Per Cent -	Absolute frequency			Absolute frequency
OHP injury services	23%	-	3	-	1
Other OHP services only	15	1	1	1	0
Both injury and other services	23	-	3	-	0
None	38	-	-	5	1
	99%	1	7	5	2

APPENDIX F

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Number of non-office workers					
5 or less	36%	29%	25%	44%	38%
6 - 10	27	14	63	17	25
11 - 19	12	14	0	17	13
20 - 99	21	29	13	22	25
100 - 249	<u>3</u>	<u>14</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	100%	101%	100%	101%
Proportion of non-office personnel to total employment					
.90 - .99	27%	14%	63%	17%	63%
.80 - .89	9	0	13	11	0
.70 - .79	9	14	0	11	0
.60 - .69	18	29	13	17	25
.50 - .59	3	14	0	0	0
.49 and less	<u>31</u>	<u>29</u>	<u>13</u>	<u>44</u>	<u>13</u>
	99%	100%	102%	100%	101%
Proportion of female non-office personnel to total non-office employment					
.75+	3%	0%	0%	5%	0%
.50 - .74	0	0	0	0	13
.25 - .49	3	14	0	0	13
.11 - .24	9	0	13	11	0
.10 or less	0	0	0	0	0
None	<u>85</u>	<u>86</u>	<u>88</u>	<u>83</u>	<u>75</u>
	100%	100%	101%	99%	101%
Overall proportion	.02	.01	.10	.02	.27

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Sick leave policy granted	42%	86%	25%	33%	38%
not granted	55	14	63	67	63
no information	<u>3</u>	<u>0</u>	<u>13</u>	<u>0</u>	<u>0</u>
	100%	100%	101%	100%	101%
Per cent of non-office personnel belonging to unions					
90% - 100%	45%	71%	50%	33%	38%
51% - 89%	9	0	13	11	13
50% or less	21	14	13	28	25
no information	24	14	25	28	25
	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	99%	101%	100%	101%
Contributions to health plan payments					
Employer pays all	33%	14%	38%	39%	13%
Employer/employee share	21	29	13	22	50
Employee pays all	24	29	25	22	13
No plan	18	14	25	17	25
No information	<u>3</u>	<u>14</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	100%	101%	100%	101%
1971 U.S. average wage rate for industry					
\$ 9-3.14	52%	57%	75%	39%	63%
\$3.15-3.68	39	29	13	56	38
\$3.74-4.44	<u>9</u>	<u>14</u>	<u>13</u>	<u>5</u>	<u>0</u>
	100%	100%	101%	100%	101%
Compensation coverage					
private carrier	42%	14%	50%	50%	63%
state coverage	58	86	50	50	25
no information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>13</u>
	100%	100%	100%	100%	101%

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Sick leave policy granted	42%	86%	25%	33%	38%
not granted	55	14	63	67	63
no information	<u>3</u>	<u>0</u>	<u>13</u>	<u>0</u>	<u>0</u>
	100%	100%	101%	100%	101%
Per cent of non-office personnel belonging to unions					
90% - 100%	45%	71%	50%	33%	38%
51% - 89%	9	0	13	11	13
50% or less	21	14	13	28	25
no information	24	14	25	28	25
	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	99%	101%	100%	101%
Contributions to health plan payments					
Employer pays all	33%	14%	38%	39%	13%
Employer/employee share	21	29	13	22	50
Employee pays all	24	29	25	22	13
No plan	18	14	25	17	25
No information	<u>3</u>	<u>14</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	100%	101%	100%	101%
1971 U.S. average wage rate for industry					
\$ 9-3.14	52%	57%	75%	39%	63%
\$3.15-3.68	39	29	13	56	38
\$3.74-4.44	<u>9</u>	<u>14</u>	<u>13</u>	<u>5</u>	<u>0</u>
	100%	100%	101%	100%	101%
Compensation coverage					
private carrier	42%	14%	50%	50%	63%
state coverage	58	86	50	50	25
no information	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>13</u>
	100%	100%	100%	100%	101%

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
1970 National injury frequency rate					
3.2 - 8.5	6%	0%	13%	6%	0%
10.4 - 15.8	85	86	75	89	100
22.0 - 35.3	<u>9</u> 100%	<u>14</u> 100%	<u>13</u> 101%	<u>6</u> 101%	<u>0</u> 100%
1970 National injury severity rate					
148 - 408	91%	86%	88%	94%	100%
561 - 909	0	0	0	0	0
2,891	<u>9</u> 100%	<u>14</u> 100%	<u>13</u> 101%	<u>6</u> 100%	<u>0</u> 100%
Baseline injury/illness per 100 non-office employees	10.6	14.0	6.8	7.7	13.0
Baseline lost time injury/illness per 100 non-office employees	3.1	3.0	1.4	3.9	5.0
Baseline no lost time injuries/illness per 100 non-office employees	7.5	11.1	5.5	3.9	8.0

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Baseline reports of number of industrial hazards on premises					
None	61%	57%	63%	61%	50%
1-2	30	43	25	28	50
3-5	9	0	13	11	0
No information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 101%	<u>0</u> 100%	<u>0</u> 100%
Baseline reports of number of protective devices used on premises					
None	55%	71%	38%	56%	75%
1-2	39	29	50	39	13
3-5	6	0	13	6	13
No information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 101%	<u>0</u> 101%	<u>0</u> 101%
Safety Director on premises					
None	94%	100%	100%	89%	75%
With no special training	3	0	0	6	25
With special training	<u>3</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>6</u> 101%	<u>0</u> 100%
Physician					
None	91%	100%	100%	83%	100%
Company or "regular" doctor	<u>9</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>17</u> 100%	<u>0</u> 100%

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Distance from center of OHP activities					
Within 0-1 mile band	70%	57%	100%	61%	88%
Within 1-2 mile band	$\frac{30}{100\%}$	$\frac{43}{100\%}$	$\frac{0}{100\%}$	$\frac{39}{100\%}$	$\frac{13}{101\%}$
Used Brookdale Hospital Medical Center exclusively for occupational injury prior to OHP outreach	61%	57%	75%	56%	75%
No	9	0	0	17	13
No experience, no information	$\frac{30}{100\%}$	$\frac{43}{100\%}$	$\frac{25}{100\%}$	$\frac{28}{101\%}$	$\frac{13}{101\%}$
Service --					
Wholesale trade	30%	29%	13%	56%	38%
Retail trade	18	29	13	17	50
Auto repair	27	29	50	17	13
Warehousing	9	14	13	6	0
Miscellaneous services	$\frac{6}{99\%}$	$\frac{0}{101\%}$	$\frac{13}{102\%}$	$\frac{6}{102\%}$	$\frac{0}{101\%}$

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=3	Did not utilize OHP N=18	Moved, defunct N=8
Utilized-					
OHP injury services only	9%	14%	25%	--	25%
Other OHP services only	9	29	13	--	0
Both injury and other services	27	57	63	--	0
None	<u>55</u>	<u>--</u>	<u>--</u>	<u>100</u>	<u>75</u>
	100%	100%	101%	100%	100%

APPENDIX G

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Number of non-office workers					
5 or less	36%	29%	25%	44%	38%
6 - 10	27	14	63	17	25
11 - 19	12	14	0	17	13
20 - 99	21	29	13	22	25
100 - 249	<u>3</u>	<u>14</u>	<u>0</u>	<u>0</u>	<u>0</u>
	99%	100%	101%	100%	101%
Proportion of non-office personnel to total employment					
.90 - .99	27%	14%	63%	17%	63%
.80 - .89	9	0	13	11	0
.70 - .79	9	14	0	11	0
.60 - .69	18	29	13	17	25
.50 - .59	3	14	0	0	0
.49 and less	<u>3</u>	<u>29</u>	<u>13</u>	<u>44</u>	<u>13</u>
	99%	100%	102%	100%	101%
Proportion of female non-office personnel to total non-office employment					
.75+	3%	0%	0%	5%	0%
.50 - .74	0	0	0	0	13
.5 - .49	3	14	0	0	13
.11 - .24	9	0	13	11	0
.10 or less	0	0	0	0	0
None	<u>85</u>	<u>86</u>	<u>88</u>	<u>83</u>	<u>75</u>
	100%	100%	101%	99%	101%
Overall proportion	.02	.01	.10	.02	.27

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Sick leave policy granted	42%	86%	25%	33%	38%
not granted	55	14	63	67	63
no information	<u>3</u> 100%	<u>0</u> 100%	<u>13</u> 101%	<u>0</u> 100%	<u>0</u> 101%
Per cent of non-office personnel belonging to unions					
90% - 100%	45%	71%	50%	33%	38%
51% - 89%	9	0	13	11	13
50% or less	21	14	13	28	25
	24	14	25	28	25
No information	<u>0</u> 99%	<u>0</u> 99%	<u>0</u> 101%	<u>0</u> 100%	<u>0</u> 101%
Contributions to health plan payments					
Employer pays all	33%	14%	38%	39%	13%
Employer/employee share	21	29	13	22	50
Employee pays all	24	29	25	22	13
No plan	18	14	25	17	25
No information	<u>3</u> 99%	<u>14</u> 100%	<u>0</u> 101%	<u>0</u> 100%	<u>0</u> 101%
1971 U.S. average wage rate for industry					
49-3.14	52%	57%	75%	39%	63%
\$3.15-3.68	39	29	13	56	38
\$3.74-4.44	<u>9</u> 100%	<u>14</u> 100%	<u>13</u> 101%	<u>5</u> 100%	<u>0</u> 101%
Compensation coverage					
private carrier	42%	14%	50%	50%	63%
state coverage	58	86	50	50	25
no information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>13</u> 101%

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
1970 National injury frequency rate					
3.2 - 8.5	6%	0%	13%	6%	0%
10.4 - 15.8	85	86	75	89	100
22.0 - 35.3	<u>9</u> 100%	<u>14</u> 100%	<u>13</u> 101%	<u>6</u> 101%	<u>0</u> 100%
1970 National injury severity rate					
148 - 483	91%	86%	88%	94%	100%
561 - 909	0	0	0	0	0
910 - 2,891	<u>9</u> 100%	<u>14</u> 100%	<u>13</u> 101%	<u>6</u> 100%	<u>0</u> 100%
Baseline injury/illness per 100 non-office employees	13.6	14.0	6.8	7.7	13.0
Baseline lost time injury/illness per 100 non-office employees	3.1	3.0	1.4	3.9	5.0
Baseline no lost time injuries/illness per 100 non-office employees	7.5	11.1	5.5	3.9	8.0

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Baseline reports of number of industrial hazards on premises					
None	61%	57%	63%	61%	50%
1-2	30	43	25	28	50
3-5	9	0	13	11	0
No information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 101%	<u>0</u> 100%	<u>0</u> 100%
Baseline reports of number of protective devices used on premises					
None	55%	71%	38%	56%	75%
1-2	39	29	50	39	13
3-5	6	0	13	6	13
No information	<u>0</u> 100%	<u>0</u> 100%	<u>0</u> 101%	<u>0</u> 101%	<u>0</u> 101%
Safety Director on premises					
None	94%	100%	100%	89%	75%
With no special training	3	0	0	6	25
With special training	<u>3</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>6</u> 101%	<u>0</u> 100%
Physician					
None	91%	100%	100%	83%	100%
Company or "regular" doctor	<u>9</u> 100%	<u>0</u> 100%	<u>0</u> 100%	<u>17</u> 100%	<u>0</u> 100%

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Distance from center of OHP activities					
Within 0-1 mile band	70%	57%	100%	61%	88%
Within 1-2 mile band	$\frac{30}{100\%}$	$\frac{43}{100\%}$	$\frac{0}{100\%}$	$\frac{39}{100\%}$	$\frac{13}{101\%}$
Used Brookdale Hospital Medical Center exclusively for occupational injury prior to 1970					
Yes	61%	57%	75%	56%	75%
No	9	0	0	17	13
Experience, no information	$\frac{30}{100\%}$	$\frac{43}{100\%}$	$\frac{25}{100\%}$	$\frac{28}{101\%}$	$\frac{13}{101\%}$
Services --					
Electricity	30%	29%	13%	56%	38%
Mail	18	29	13	17	50
Insurance	23	29	50	17	13
Warehousing	9	14	13	6	0
Cellaneous services	$\frac{6}{99\%}$	$\frac{0}{101\%}$	$\frac{13}{102\%}$	$\frac{6}{102\%}$	$\frac{0}{101\%}$

NONMANUFACTURERS WITH MAJOR PORTION OF WORK FORCE OPERATING
IN TARGET AREA: OHP UTILIZATION BEHAVIOR BY COMPANY CHARACTERISTICS

Company characteristics	Remaining in target area N=33	Utilized any OHP services continually N=7	Ceased Utilization N=8	Did not utilize OHP N=18	Moved, defunct N=8
Utilized- HP injury services only	9%	14%	25%	--	25%
Other OHP services only	9	29	13	--	0
Both injury and other services	27	57	63	--	0
One	<u>55</u>	<u>--</u>	<u>--</u>	<u>100</u>	<u>75</u>
	100%	100%	101%	100%	100%

APPENDIX H

B	L	S
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**INDUSTRY
WAGE
SURVEY**

WOMEN'S AND MISSES' DRESSES

New York City

August 1971

This advance report on wages and related benefits in the women's and misses' dresses manufacturing industry in New York City is based on an August 1971 sample survey conducted by the Bureau of Labor Statistics. The survey covered establishments employing eight or more workers primarily engaged in manufacturing women's and misses' (including junior misses') dresses and pants-dress ensembles for street, sport, and evening wear.

Straight-time hourly earnings of production workers in the women's and misses' dresses industry in New York City averaged \$3.79 in August 1971, compared to \$3.27 in August 1968, the last time the industry was surveyed. This 52-cent gain represents a 16-percent increase.

Three types of shops were included in the survey: regular shops which own the materials and perform all or most of the manufacturing operations; contract shops, most important in terms of employment, which process materials owned (and frequently cut) by others, and jobbing shops, which contract out most of the manufacturing operations but may perform their own cutting, finishing, packing, and shipping. Production worker average earnings in regular and jobbing shops combined were the same as in contract shops. The average in both cases was \$3.79 an hour.

Among the numerically important occupations studied in all shops, sewing machine operators performing the single-hand (tailor system) method of sewing earned \$3.78, up 9.9 percent between August 1968 and August 1971. The single-hand system is one in which an operator performs all or most of the sewing operations required to complete the garment. Section system sewing machine operators who perform the sewing operations required to make or join parts or sections of garments, earned \$3.45, up 25 percent and hand sewers averaged \$3.22, an increase of 22 percent. Cutters and markers, the occupation employing about a fourth of all men surveyed, averaged \$5.23 an hour or 22 percent higher than in the previous survey.

Approximately 61 percent of the production workers covered by the survey were paid on an incentive basis. Among key occupations studied, earnings of women sewing machine operators using the single-hand system averaged \$3.74 an hour for incentive-paid workers, compared to \$3.43 for those paid on a time basis. This occupation accounted for over half of all the women surveyed.

The wage information included in this report relates to average straight-time earnings, excluding premiums paid for overtime and for work on weekends, holidays, and late shifts. Incentive payments and cost-of-living bonuses were included in the workers pay; but non-production payments such as Christmas or year-end bonuses were excluded.

The New York survey was based on data reported by 186 establishments. These establishments, employing 7,763 workers, were selected to represent 45,657 workers in 1,502 establishments.

Of the 186 establishments studied in New York City, 173 had agreements with affiliated locals of the International Ladies' Garment Workers' Union. Workers covered by these agreements were entitled to the following benefits:

Paid Holidays Eight and one-half days annually received by all workers. Timeworkers are paid their regular rate; those working on an incentive basis are paid amounts ranging from \$19.50 to \$24.50 per day, according to craft.

Health, welfare, and vacation benefits are paid directly to workers from a health and welfare fund to which employers contribute $8\frac{1}{2}$ percent of their weekly payrolls for workers covered by the agreement and which is jointly administered by the union and employers. Three annual vacation payments are made from this fund, two are equal to 2 percent of annual earnings up to a maximum of \$140 each, the other ranges from \$75 to \$85 according to craft. The fund also provides for doctor's care, basic hospital and surgical benefits supplemented by a major medical program, disability insurance, maternity, eyeglasses, death benefits, and union health center services.

Employers contribute an additional $\frac{3}{8}$ of one percent of their weekly payrolls to a national health service plan, a fund administered jointly by the union and employers for the purpose of providing mail-order prescription drugs to covered workers and their families and to retired union members.

Supplementary unemployment benefits Employers contribute $\frac{1}{8}$ of one percent of their weekly payrolls for workers covered by the agreement to a national industry-wide supplemental unemployment benefits

fund which is administered jointly by the union and employers. The benefits are paid to eligible workers whose employer has gone out of business. The benefits, which vary according to earnings and length of service, include both a lump-sum payment up to \$400 and weekly supplementary unemployment insurance benefits for up to 48 weeks. The maximum weekly benefit is \$25 for the first 26 weeks and \$37.50 for the 27th through 48th week. If continuously unemployed for 52 weeks, the worker receives a second lump-sum payment up to \$400.

Retirement plan Employers contribute 5 percent of their weekly payrolls for workers covered by the union agreement to a national retirement fund which is administered jointly by the union and employers. A benefit of \$75 a month is paid to qualified workers at age 65. Workers may retire between ages 62 and 65 with a proportionate benefit reduction for each year prior to age 65. Totally disabled workers may retire at any age with full benefits.

Nonunion shop benefits Among the thirteen establishments not having contracts with the ILGWU, eight provided paid holidays (7 to 10 days a year). Six of the eight also granted paid vacations, usually 1 week after 6 months of service and 2 weeks after 1 year or more. Four establishments provided health and insurance benefits and three had retirement plans.

A comprehensive survey report providing detailed data on occupational wages and related benefits for New York City and eleven other areas, including Paterson and Newark-Jersey City, will be available from this office later this year. Requests for additional copies of this

report, or information on the other areas, should be addressed to:

Herbert Bienstock
Regional Director
U.S. Department of Labor
Bureau of Labor Statistics
1515 Broadway, Room 3400
New York, N.Y. 10036

18-1972

GPO 951-605

report, or information on the other areas, should be addressed to:

Herbert Bienstock
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U.S. Department of Labor
Bureau of Labor Statistics
1515 Broadway, Room 3400
New York, N.Y. 10036

18-1972

GPO 951-605

U. S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Area NEW YORK CITY, NEW YORK¹

Estimated total
in industry
and area
Number of establishments with
8 or more workers 1,502 186
Total employment in these
establishments 45,657 7,763

Women's and Misses' Dresses

(Regular and Contract Shops)

Payroll Period AUGUST 1971

Occupational Earnings

Occupation and sex	Number of workers	Average hourly earnings	NUMBER OF WORKERS RECEIVING STRAIGHT-TIME HOURLY EARNINGS OF--																									
			\$1.85 and under	\$1.90	\$1.95	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$5.00	\$5.40	\$5.80	\$6.20 and over
			\$1.90	\$1.95	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$5.00	\$5.40	\$5.80	\$6.20	
All production workers-----	36,518	\$3.79	605	88	108	624	406	598	1439	1555	833	2478	1854	1009	1240	2618	1948	2095	1905	1511	1860	1546	1271	2309	1667	1037	785	242
Women-----	28,161	3.45	515	71	91	487	264	431	1312	1137	652	2357	1525	1354	1131	2314	1769	1885	1725	1531	1717	1303	974	1474	895	439	347	1461
Men-----	8,357	4.94	90	17	17	137	142	167	127	418	181	121	329	253	109	304	179	214	183	80	153	233	297	835	772	598	438	1960
Selected production occupations																												
Cutters and markers (all men)-----	2,138	5.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	38	78	207	678	437	300	167	221
Time-----	2,101	5.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	38	78	207	678	429	296	167	200
Inspectors, final (examiners) (all timeworkers)-----	672	2.73	-	-	-	-	8	-	147	151	68	6	55	76	16	44	32	20	12	31	4	2	-	-	-	-	-	-
Women-----	664	2.72	-	-	-	-	8	-	147	151	68	6	55	76	16	44	32	20	12	23	4	2	-	-	-	-	-	-
Pressers, hand-----	2,258	7.12	36	-	-	-	-	4	-	-	4	-	8	42	-	33	-	32	50	6	44	37	44	74	118	122	139	1467
Women-----	244	3.90	36	-	-	-	-	4	-	-	4	-	8	21	-	33	-	16	10	8	8	-	8	16	32	13	9	18
Incentive-----	189	4.28	-	-	-	-	-	4	-	-	-	-	8	21	-	29	-	16	4	8	8	-	8	16	32	13	4	18
Men-----	2,014	7.50	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	16	40	-	36	37	36	58	86	109	126	1449
Time-----	123	5.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	-	-	21	4	16	-	12	10
Incentive-----	1,891	7.63	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	6	32	-	36	16	32	42	86	97	116	1405
Pressers, hand and machine (all men) (all incentive workers)-----	40	6.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sewers, hand (finishers)(all women)-----	3,302	3.22	21	21	-	54	8	2	28	425	191	171	216	143	237	392	288	255	142	150	153	167	40	121	37	12	18	8
Time-----	540	2.68	21	21	-	42	8	-	4	80	72	18	74	41	35	64	24	19	16	-	-	-	-	-	-	-	-	-
Incentive-----	2,762	3.33	-	-	-	12	-	2	24	345	119	153	144	102	202	326	264	241	126	150	153	163	40	119	37	12	18	8
Sewing-machine operators, section system-----	1,805	3.45	-	-	8	112	24	120	8	-	46	200	60	108	59	126	120	155	99	107	61	35	51	70	39	46	44	44
Women-----	1,765	3.44	-	-	8	112	24	120	8	-	38	200	60	108	59	126	120	157	99	107	61	35	51	70	39	46	44	44
Time-----	506	2.53	-	-	8	112	24	120	8	-	36	20	18	68	2	8	28	26	14	14	-	-	-	-	-	-	-	-
Incentive-----	1,259	3.80	-	-	-	-	-	-	-	-	2	180	42	40	57	118	92	131	85	93	61	72	43	70	39	46	44	44
Sewing-machine operators, single-hand (tailor) system-----	15,761	3.78	71	-	9	99	118	44	63	124	93	1734	707	605	688	1365	1059	1238	976	1093	1053	750	646	1163	801	417	376	469
Women-----	15,049	3.74	71	-	9	99	118	44	63	124	93	1711	707	605	657	1306	1035	1168	972	1084	1021	713	622	1115	721	360	274	366
Time-----	211	3.43	-	-	-	-	24	-	-	-	-	24	8	-	-	31	26	-	35	23	8	4	-	-	-	-	-	-
Incentive-----	14,838	3.74	71	-	9	99	94	44	63	124	93	1687	699	605	657	1275	1009	1168	937	1061	1013	707	622	1099	709	360	274	366
Men-----	712	4.79	-	-	9	-	-	-	-	-	-	23	-	-	-	31	59	24	70	4	9	32	37	24	48	57	102	103
Incentive-----	652	4.76	-	-	9	-	-	-	-	-	-	23	-	-	-	31	59	20	70	4	9	28	33	24	44	56	94	103
Thread trimmers (all women)-----	1,451	2.39	98	-	-	45	8	40	771	185	53	50	58	80	10	29	16	-	-	-	-	-	-	-	-	-	-	-
Time-----	1,411	2.39	94	-	-	45	8	40	763	185	53	54	58	72	6	29	16	-	-	-	-	-	-	-	-	-	-	-
Work distributors (all timeworkers)-----	143	2.67	-	-	-	-	-	-	-	41	20	12	6	27	2	2	8	23	-	-	-	-	-	-	-	-	-	-
Women-----	81	2.79	-	-	-	-	-	-	-	12	20	4	5	3	2	2	8	23	-	-	-	-	-	-	-	-	-	-
Men-----	62	2.51	-	-	-	-	-	-	-	29	-	8	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ The study covered establishments employing 8 workers or primarily engaged in manufacturing women's and misses' (including junior misses') dresses and pants-dress ensembles for street, sport, and evening wear (part of Industry 2335 as defined in the 1967 edition of the Standard Industrial Classification Manual prepared by the U.S. Office of Management and Budget, formerly U.S. Bureau of the Budget). House dresses are excluded from the study. All of the 186 shops studied were primarily manufacturing dresses sold at wholesale on a single-unit basis. Jobbing shops which perform manufacturing operations are included as regular shops.

² New York City (the 5 boroughs).

³ The estimates of the number of workers within the scope of the study presented in this report are intended to be a general guide to the size and composition of the labor force. The advance planning necessary to make a wage survey requires the use of lists of establishments assembled considerably in advance of the payroll period studied.

⁴ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Approximately 61 percent of the production workers covered by the study were paid on an incentive basis. Workers were distributed as follows: 254 at \$5.20 to \$5.50; 388 at \$5.50 to \$7; 194 at \$7 to \$7.40; 121 at \$7.40 to \$7.80; 219 at \$7.80 to \$8.20; 725 at \$8.20 to \$8.60; 64 at \$8.60 to \$9; 98 at \$9 to \$9.40; 56 at \$9.40 to \$9.80; 129 at \$9.80 to \$10.20; and 204 at \$10.20 and over.

⁵ Workers were distributed as follows: 191 at \$6.20 to \$6.50; 179 at \$6.50 to \$7; 156 at \$7 to \$7.40; 64 at \$7.40 to \$7.80; 195 at \$7.80 to \$8.20; 368 at \$8.20 to \$8.60; 64 at \$8.60 to \$9; 98 at \$9 to \$9.40; 52 at \$9.40 to \$9.80; 129 at \$9.80 to \$10.20; 57 at \$10.20 to \$10.60; and 147 at \$10.60 and over.

⁶ Workers were distributed as follows: 8 at \$5.20 to \$5.50; 9 at \$5.50 to \$7; 4 at \$7 to \$7.40; 4 at \$7.40 to \$7.80; and 3 at \$7.80 to \$8.20.

⁷ Workers were distributed as follows: 15 at \$5.20 to \$5.50; 26 at \$5.50 to \$7; 9 at \$7 to \$7.40; 64 at \$7.40 to \$7.80; and 71 at \$7.80 to \$8.20.

U. S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Area NEW YORK CITY, NEW YORK

Women's and Misses' Dresses¹

(Regular Shops)

Payroll Period AUGUST 1971

Number of establishments with 8 or more workers . . . 598 74
Total employment in these establishments² . . . 18,424 3,879

Occupational Earnings

Occupation and sex	Number of workers	Average hourly earnings ³	NUMBER OF WORKERS RECEIVING STRAIGHT-TIME HOURLY EARNINGS OF--																									
			\$1.85 and under	\$1.90	\$1.95	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$5.00	\$5.40	\$5.80	\$6.20 and over
			\$1.90	\$1.95	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$5.00	\$5.40	\$5.80	\$6.20	over
All production workers-----	10,726	\$3.79	134	9	16	246	166	368	317	591	292	376	544	388	207	623	495	435	670	403	659	525	517	954	703	359	263	466
Women-----	5,737	3.44	44	-	8	125	32	229	271	249	164	283	272	236	137	391	372	331	546	343	572	381	290	243	119	22	43	34
Men-----	4,989	4.20	90	9	8	121	134	139	46	342	128	93	272	152	70	232	123	104	124	50	87	144	227	711	584	337	220	432
<u>Selected production occupations</u>																												
Cutters and markers (all men)-----	1,858	5.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	34	57	207	546	393	181	155	173
Time-----	1,821	5.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	34	57	207	646	385	177	155	152
Inspectors, final (examiners)(all women)	362	2.76	-	-	-	-	-	-	80	77	44	4	30	26	8	28	12	20	12	19	-	2	-	-	-	-	-	-
(all timeworkers)-----	184	7.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	2	18	16	14	112	
Pressers, hand (all men)-----	168	7.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	18	16	12	100
Incentive-----	168	7.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sewers, hand (finishers)(all women)---	511	2.97	-	-	-	-	2	12	62	37	51	66	40	27	84	36	14	32	12	4	4	-	2	-	-	-	2	4
Time-----	332	2.91	-	-	-	-	-	4	38	22	16	74	33	27	68	24	6	16	-	-	-	-	-	-	-	-	-	-
Incentive-----	179	3.07	-	-	-	-	-	2	8	24	15	33	12	7	-	20	12	8	16	12	4	-	-	-	-	-	2	4
Sewing-machine operators, single-hand	1,717	3.92	3	-	-	3	-	-	5	5	-	149	54	53	45	111	163	93	142	182	163	87	57	152	129	50	55	26
(tailor) system-----	1,570	3.84	3	-	-	3	-	-	5	5	-	138	54	53	45	108	159	89	132	177	159	83	57	124	89	22	39	26
Women-----	139	3.75	-	-	-	-	-	-	-	-	-	-	-	-	-	23	26	-	35	23	8	4	-	16	4	-	-	-
Time-----	1,431	3.84	3	-	-	3	-	-	5	5	-	138	54	53	45	85	133	89	97	154	151	79	57	103	85	22	39	26
Incentive-----	147	4.84	-	-	-	-	-	-	-	-	-	-	11	-	-	-	3	4	-	5	4	4	-	28	40	28	16	-
Men-----	147	4.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread trimmers (cleaners)(all women)	108	2.40	-	-	-	-	-	-	75	21	-	-	4	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-
(all timeworkers)-----	108	2.40	-	-	-	-	-	-	75	21	-	-	4	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ The study covered establishments employing 8 workers or more primarily engaged in manufacturing women's and misses' (including junior misses') dresses and pants-dress ensembles for street, sport, and evening wear (part of Industry 2335 as defined in the 1957 edition of the Standard Industrial Classification Manual prepared by the U.S. Office of Management and Budget, formerly U.S. Bureau of the Budget). House dresses are excluded from the study. All of the 75 shops studied were primarily manufacturing dresses sold at wholesale on a single-unit basis, jobbing shops which perform manufacturing operations are included as regular shops.

² New York City (the 5 boroughs).

³ The estimates of the number of workers within the scope of the study presented in this report are intended as a general guide to the size and composition of the labor force. The advance planning necessary to make a wage survey requires the use of lists of establishments assembled considerably in advance of the payroll period studied.

⁴ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Approximately 81 percent of the production workers covered by the study were paid on a time basis.

⁵ Workers were distributed as follows: 3 at \$6.20 to \$6.60; 4 at \$6.60 to \$7; 16 at \$7 to \$7.40; 12 at \$7.40 to \$7.80; 10 at \$7.80 to \$8.20; 10 at \$8.20 to \$8.60; 4 at \$8.60 to \$9; 32 at \$9.80 to \$10.20; 12 at \$10.20 to \$10.60, and 4 at \$10.60 to \$11.

⁶ Insufficient data to warrant publication of separate averages by method of wage payment, predominantly incentive workers.

U. S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Area NEW YORK CITY, NEW YORK¹

Women and Misses' Dresses¹

(Contract Shops)

Payroll Period AUGUST 1971

Number of establishments with
8 or more workers

Estimated total
in industry
and area

Actually studied

904

111

Total employment in these
establishments¹

27,233

3,884

Occupational Earnings

Occupation and sex	Number of workers	Average hourly earnings ⁴	NUMBER OF WORKERS RECEIVING STRAIGHT-TIME HOURLY EARNINGS OF—																										
			\$1.85 and under	\$1.90	\$1.95	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$5.00	\$5.40	\$5.80	\$6.20 and over	
			\$1.90	\$1.95	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40	\$2.50	\$2.60	\$2.70	\$2.80	\$2.90	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$5.00	\$5.40	\$5.80	\$6.20	over	
All production workers-----	25,792	\$3.79	471	79	92	378	240	230	1122	964	541	2102	1310	1221	1033	1995	1453	1664	1238	1203	1201	1021	754	1355	964	678	522	1955	
Women-----	22,424	3.46	471	71	83	362	232	202	1041	888	488	2074	1253	1118	994	1923	1397	1554	1179	1188	1149	922	684	1231	776	417	304	427	
Men-----	3,368	6.04	-	8	9	16	8	28	81	76	53	28	57	103	39	72	56	110	60	20	58	99	70	124	188	261	218	1528	
Selected production occupations																													
Cutters and markers (all men)																													
(all timeworkers)-----	280	5.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	32	44	119	12	88	
Inspectors, final (examiners)																													
(all timeworkers)-----	310	2.70	-	-	-	-	8	-	67	74	24	2	25	50	8	16	20	-	-	12	4	-	-	-	-	-	-	-	
Women-----	302	2.67	-	-	-	-	8	-	67	74	24	2	25	50	8	16	20	-	-	12	4	-	-	-	-	-	-	-	
Pressers, hand-----	2,074	7.10	36	-	-	-	-	-	-	-	-	-	8	42	-	33	-	24	50	8	32	37	42	72	100	106	121	1355	
Women-----	244	3.90	36	-	-	-	-	-	-	-	-	-	8	21	-	33	-	16	10	8	8	8	8	16	32	13	9	18	
Incentive-----	189	4.28	-	-	-	-	-	-	-	-	-	-	8	21	-	29	-	16	8	8	8	8	8	16	32	13	4	18	
Men-----	1,830	7.53	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	8	40	-	24	37	74	58	68	93	112	1337	
Time-----	107	5.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	-	21	2	18	-	12	8	32	-	
Incentive-----	1,723	7.65	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	32	-	24	16	32	40	68	61	104	1305	
Pressers, hand and machine (all men)																													
(all incentive workers)-----	40	6.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	-	28	
Sewers, hand (finishers) (all women)---	2,791	3.27	21	21	-	54	8	-	16	363	154	120	132	103	210	308	252	241	110	130	149	163	40	119	37	12	16	4	
Time-----	208	2.33	21	21	-	42	8	-	-	42	30	-	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Incentive-----	2,583	3.35	-	-	-	12	-	-	16	321	104	120	132	95	20	308	252	233	110	130	149	163	40	119	37	12	16	4	
Sewing-machine operators, section																													
system (all women)-----	1,491	3.64	-	-	-	8	-	48	8	-	38	124	50	96	51	126	112	149	99	107	61	64	43	68	39	46	44	44	
Time-----	282	2.84	-	-	-	8	-	48	8	-	36	12	16	64	2	126	112	149	99	107	61	64	43	68	39	46	44	44	
Incentive-----	1,209	3.63	-	-	-	-	-	-	-	-	2	172	34	32	49	110	92	123	82	93	61	54	43	68	39	46	44	44	
Sewing-machine operators, single-hand																													
(tailor) system-----	14,044	3.77	68	-	9	96	118	44	58	119	93	1585	653	552	643	1254	896	1145	844	911	890	663	589	1011	672	367	321	443	
Women-----	13,479	3.73	68	-	-	96	118	44	58	119	93	1573	653	552	612	1198	876	1075	840	907	862	630	565	991	632	338	235	340	
Time-----	72	2.80	-	-	-	-	24	-	-	-	24	8	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	
Incentive-----	13,407	3.73	68	-	-	96	94	44	58	119	93	1549	645	552	612	1190	876	1075	840	907	862	630	565	991	624	338	235	340	
Men (all incentive workers)-----	565	4.78	-	-	9	-	-	-	-	-	-	12	-	-	31	56	20	66	-	-	24	33	24	20	40	29	86	103	
Thread trimmers (cleaners)																													
(all women)-----	1,343	2.39	98	-	-	45	8	40	696	164	53	50	54	78	4	29	16	-	8	-	-	-	-	-	-	-	-	-	
Time-----	1,303	2.39	94	-	-	45	8	40	688	164	53	54	54	70	-	29	16	-	8	-	-	-	-	-	-	-	-	-	
Work distributors (all timeworkers)---	117	2.69	-	-	-	-	-	-	29	18	12	6	23	-	-	8	21	-	-	-	-	-	-	-	-	-	-	-	
Women-----	57	2.88	-	-	-	-	-	-	-	18	4	6	-	-	-	8	21	-	-	-	-	-	-	-	-	-	-	-	
Men-----	60	2.50	-	-	-	-	-	-	29	-	8	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

¹ The study covered establishments employing 8 workers or more and primarily engaged in manufacturing women's and misses' (including junior misses') dresses and paste-dress ensembles for street, sport, and evening wear (part of Industry 2335 as defined in the 1967 edition of the Standard Industrial Classification Manual prepared by the U.S. Office of Management and Budget, formerly U.S. Bureau of the Budget). House dresses are excluded from this study. All of the 111 shops studied were primarily manufacturing dresses sold at wholesale on a single-unit basis.

² The estimates of the number of workers within the scope of the study presented in this report are intended as a general guide to the size and composition of the labor force. The advance planning necessary to make a wage survey requires the use of lists of establishments assembled considerably in advance of the payroll period studied.

³ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Approximately 79 percent of the production workers covered by the study were paid on an incentive basis. Workers were distributed as follows: 217 at \$6.20 to \$6.60; 227 at \$6.60 to \$7; 135 at \$7 to \$7.40; 60 at \$7.40 to \$7.80; 197 at \$7.80 to \$8.20; 192 at \$8.20 to \$8.60; 60 at \$8.60 to \$9; 98 at \$9 to \$9.40; 56 at \$9.40 to \$9.80; 97 at \$9.80 to \$10.20; 45 at \$10.20 to \$10.60; and 133 at \$10.60 and over.

⁴ Workers were distributed as follows: 12 at \$6.20 to \$6.60; 8 at \$6.60 to \$7; 8 at \$7 to \$7.40; 8 at \$7.40 to \$7.80; 8 at \$7.80 to \$8.20; 8 at \$8.20 to \$8.60; and 4 at \$8.60 to \$9.

⁵ Workers were distributed as follows: 173 at \$6.20 to \$6.60; 175 at \$6.60 to \$7; 129 at \$7 to \$7.40; 52 at \$7.40 to \$7.80; 193 at \$7.80 to \$8.20; 199 at \$8.20 to \$8.60; 60 at \$8.60 to \$9; 98 at \$9 to \$9.40; 52 at \$9.40 to \$9.80; 97 at \$9.80 to \$10.20; 45 at \$10.20 to \$10.60; 32 at \$10.60 to \$11; and 111 at \$11 and over.

⁶ Workers were distributed as follows: 8 at \$6.20 to \$6.60; 8 at \$6.60 to \$7; 4 at \$7 to \$7.40; 4 at \$7.40 to \$7.80; and 8 at \$7.80 to \$8.20.

⁷ Workers were distributed as follows: 16 at \$6.20 to \$6.60; 58 at \$6.60 to \$7; 8 at \$7 to \$7.40; and 21 at \$7.40 to \$7.80.

APPENDIX J

USDL - 73-27

FOR RELEASE: Noon
Tuesday, February 6, 1973

Bureau of Labor Statistics
W. Mead (202) 961-2705
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BLS REPORTS FIRST RESULTS OF SURVEY OF OCCUPATIONAL INJURIES AND ILLNESSES

Preliminary results of the first survey of occupational injuries and illnesses under the Williams-Steiger Occupational Safety and Health Act of 1970 were reported today by the U.S. Department of Labor's Bureau of Labor Statistics. The estimates are based on the first six months of employers' recordkeeping experience under the legislation. Estimates in the future will cover an entire year.

The estimates show that approximately 3.1 million recordable occupational injuries and illnesses were reported by private employers in the nonfarm sector during the 6 months from July 1 to December 31, 1971. The incidence rates by industry division, which are calculated on the basis of the number of injuries and illnesses per 100 man-years of work, ranged from 2.8 in finance, insurance, and real estate to 22.5 for contract construction.

During the same period nearly 4,300 work-related deaths were reported in the industries surveyed.

Background of the survey

The data on occupational injuries, illnesses and deaths reported in this release are not comparable with similar data issued by the Labor Department in the past.

These new statistics on occupational safety and health are different in concept from the previous BLS statistics on work injuries based on the American National Standards Institute's Standard Method of Recording and Measuring Work Injury Experience (Z16.1), which they replace.

The new survey covered most nonfarm employers in private industry, with the exception of railroad and mine employers who are covered by other Federal safety and health laws. In a separate reporting system, agencies of the Federal government are filing reports comparable to those of private industry with the Secretary of Labor.

The estimates cover approximately 56 million persons in the nonfarm sector. Total employment during the year averaged 79 million persons.

The new series differs conceptually from the Z16.1 series primarily in two ways. First, the base for reporting the occurrence of injuries and illnesses is equivalent to that of a year's work for 100 full-time employees as opposed to 1 million employee hours worked. Second, as a result of changes in recordable occupational injury and illness classification, Z16.1 measures of injury severity and average days charged per case will no longer be available. In their place will be a series of measures including not only the incidence rates for occupational injuries and illnesses but also separate incidence rates for fatalities, lost workday cases, and nonfatal cases without lost workdays.

The survey questionnaire, which was sent to 60,000 employers, requested data on deaths, lost workday cases, and nonfatal cases without lost workdays. The reported lost workday cases include not only days in which the employee was absent from his job because of a work-related injury or illness but also include the number of days in which an employee was restricted from performing all the duties of his permanent job. For the reporting period covered by the survey, an estimated 12.2 million days were lost.

1971 Incidence rates

The incidence rate for all recordable cases in the private nonfarm sector was 13.8 per 100 full-time employees. If injuries and illnesses occurred during the first half of 1971 at the same rate as the last half of the year, then, on the average, one out of every eight workers would have experienced a job related injury or illness during the year. Contract construction and manufacturing, with rates of 22.5 and 16.6 respectively, were above the level for the private nonfarm sector, whereas transportation and public utilities (12.1), wholesale and retail trade (8.8), services (7.1), and finance, insurance and real estate (2.8) fell below this level. Occupational injuries accounted for 95 percent of all recordable cases; the other 5 percent were

occupational illnesses. It is believed that some illnesses of occupational origin may not be recognized and therefore not be reflected in the statistics.

Although the incidence rates for lost workday cases varied greatly by industry division, the average number of lost workdays for each lost workday case varied only slightly from a low of 12 days in wholesale and retail trade to a high of 15 days in transportation and public utilities.

Additional industry detail will become available in an analytical report to be published in mid-1973. This report will include separate injury and illness incidence rates for fatalities, lost workday cases, and nonfatal cases without lost workdays at the 2-digit Standard Industrial Classification level where the data are sufficient to warrant publication.