

Followup Study of Narcotic Drug Addicts Five Years After Hospitalization

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A RECENT publication (1) reports the findings of a field team which attempted to follow 1,912 addict patients, living in the New York City area, who were discharged from the Public Health Service Hospital at Lexington, Ky., during the period from July 1952 to December 1955. The dischargees were followed until their readdiction to narcotics or until December 31, 1956. Subsequently, the followup functions were continued by the New York Demonstration Center, Community Services Branch, National Institute of Mental Health, Public Health Service. Followup was continued on a sample from 11 population groups which contained 1,359 of the 1,912 dischargees. The stratified sample of 453, or 33.3 percent, was chosen by a system of disproportionate weights. The number of dischargees so selected and the percentage of the total number considered for further followup is presented in table 1. These patients all lived in the New York City area at the time of admission to Lexington. However, an estimated 38 percent are not native New Yorkers.

This study was undertaken to ascertain what happens to the treated narcotic drug addict over a period of years in contrast to previous studies (1-4) which discontinued followup after readdiction. Data cover a 5-year period

from time of discharge for each of the 453 dischargees in the sample.

Of primary concern to the followup team was the ability to maintain contact with the dischargees for this longer period. Table 2 shows the percentage of dischargees with whom contact was maintained and the percentage of those known to be dead 5 years after discharge from the Lexington hospital. One year after discharge there was information on 97 percent of the sample, after 3 years, on 90 percent, and at the end of 5 years, on 88 percent. Observation group 4 (Negro males, voluntary first admissions at under age 30) had the highest percentage followed (100 percent at 5 years), and observation group 3 (Puerto Rican males, voluntary first admissions at under age 30) had the lowest (78.8 percent). Thus, the question of ability to maintain contact was favorably resolved. The followup procedure of the New York field team is described in detail by Hunt and Odoroff (1).

There were 52 deaths among the 453 patients in the sample, 19 occurring in the under age 30 groups and 33 in the groups over 30 years. The average annual death rates per 1,000 for the two age groups (16.0 for those under 30 and 30.7 for those over 30) are higher than the rates for corresponding population groups in New York City. Furthermore, 15 of the 19 (78.9 percent) deaths of those under age 30 were directly attributable to drug usage—overdose of narcotics, tetanus due to unsterile needle, addiction, and such causes. For patients over 30, the average age at death was 52, somewhat higher than the 44-year average age at entry into the study, suggesting that death occurred more frequently

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in the older discharges. Only five (15.2 percent) of these deaths were directly attributable to drug usage.

Addiction Status

A dischargee's addiction status was determined by the use of habit-forming narcotic drugs as specified under the Federal Narcotic Act (5). These addiction status classifications were adopted for this study.

Voluntarily abstinent. Complete disuse of drugs by one who is not institutionalized or incarcerated.

Involuntarily abstinent. Forced disuse of drugs by reasons of incarceration in hospitals or penal institutions.

Table 1. Number and percent in study, by study group, of patients discharged from the Public Health Service Hospital, Lexington, Ky., July 17, 1952–December 31, 1955

Group	Description	Number discharged	Number followed	Percent discharged in followup
<i>Voluntary first admissions</i>				
1	White male under 30 years	195	49	25.1
2	White male 30 years and over	83	26	31.3
3	Puerto Rican male under 30 years	85	52	61.2
4	Negro male under 30 years	348	45	12.9
5	Negro male 30 years and over	82	38	46.3
6	White female under 30 years	42	40	95.2
7	White female 30 years and over	59	38	64.4
8	Negro female under 30 years	102	58	56.9
<i>Voluntary readmissions</i>				
9	White male 30 years and over	131	49	37.4
10	White female 30 years and over	51	34	66.7
<i>Prisoner admissions</i>				
11	Negro male under 30 years	181	24	13.3
Total		1,359	453	33.3

NOTE: Voluntary patients are admitted at their own request to the extent that beds are available after eligible prisoners and probationers have been admitted.

Irregular use. Drug use on a nondaily basis.

Readdicted. The daily, regular use of drugs.

The drug addiction status for each of the 11 groups at 6 months, 2 years, and 5 years after discharge is shown in table 3. It is estimated that only about 9 percent of the study population were voluntarily abstinent at 6 months after discharge from Lexington. Among the groups, the voluntarily abstinent rates range from 2.6 percent to 28 percent. An estimated 67 percent were readdicted, and readdicted rates ranged from 56 percent to 88 percent among the study groups.

Two years after discharge the estimated voluntarily abstinent rate increased to 17 percent. Only groups 3 and 8 showed a decrease in voluntary abstinence from their addiction status at 6 months. Nevertheless, in both instances, the readdicted rate decreased. The estimated readdicted rate at 2 years for the entire study population was 53 percent. There was a general rise in abstinent (involuntary) rates. The size of the irregular use group was negligible, Group 2 (white males, voluntary first admissions at over age 30) continued to have the highest voluntarily abstinent rate (55 percent); group 8 (Negro females, voluntary first admissions at under age 30) had the lowest rate, 3.8 percent. The readdicted rates ranged from 40

Table 2. Percentage of patients followed and dead at fifth year of observation, by study group

Group	Number in sample	Fifth year observation		
		Percent followed	Died but followed until death	
			Number	Percent ¹
1	49	93.5	2	4.3
2	26	80.8	4	19.0
3	52	78.8	1	2.4
4	45	100.0	6	13.3
5	38	81.6	2	6.4
6	40	82.5	5	15.2
7	38	86.8	5	15.2
8	58	91.4	5	9.4
9	49	87.8	16	37.2
10	34	85.3	6	20.7
11	24	83.3	0	0

¹ Percentage based on number with followup information available at the 5th year of observation.

Table 3. Percentage distribution, by drug addiction status, of 11 study groups of patients discharged from the Public Health Service Hospital, Lexington, Ky., at specific time periods after discharge

Length of time since discharge	Abstinent		Irregular use	Readdicted	Length of time since discharge	Abstinent		Irregular use	Readdicted
	Voluntary	Involuntary				Voluntary	Involuntary		
Group 1 (49 white males, voluntary first admissions at under 30 years)					Group 7 (38 white females, voluntary first admissions at 30 years and over)				
6 months	6.1	20.4	2.0	71.4	6 months	18.9	18.9	2.7	59.4
2 years	17.0	36.2	4.2	42.6	2 years	21.2	6.1	3.0	69.9
5 years	31.8	34.1	13.6	20.4	5 years	28.6	7.1	10.7	53.6
Group 2 (26 white males, voluntary first admissions at 30 years and over)					Group 8 (58 Negro females, voluntary first admissions at under 30 years)				
6 months	28.0	8.0	0	64.0	6 months	6.9	5.2	0	87.9
2 years	55.0	5.0	0	40.0	2 years	3.8	13.2	3.8	79.2
5 years	52.9	11.8	0	35.3	5 years	16.7	8.3	2.1	72.9
Group 3 (52 Puerto Rican males, voluntary first admissions at under 30 years)					Group 9 (49 white males, voluntary readmissions at 30 years and over)				
6 months	12.0	26.0	6.0	56.0	6 months	4.3	23.9	4.3	67.4
2 years	11.6	27.9	7.0	53.5	2 years	9.8	21.9	4.9	63.4
5 years	37.5	27.5	10.0	25.0	5 years	29.6	11.1	0	59.3
Group 4 (45 Negro males, voluntary first admissions at under 30 years)					Group 10 (34 white females, voluntary readmissions at 30 years and over)				
6 months	11.1	24.4	6.7	57.8	6 months	12.5	6.2	3.1	78.1
2 years	17.8	24.4	4.4	53.3	2 years	16.7	6.7	0	76.7
5 years	17.9	33.3	5.1	43.6	5 years	43.5	17.4	0	39.1
Group 5 (38 Negro males, voluntary first admissions at 30 years and over)					Group 11 (24 Negro males, prisoner admissions at under 30 years)				
6 months	2.6	18.4	0	78.9	6 months	4.3	26.1	0	69.7
2 years	8.3	47.2	0	44.4	2 years	13.0	43.5	0	43.5
5 years	27.6	10.3	3.4	58.6	5 years	10.0	25.0	5.0	60.0
Group 6 (40 white females, voluntary first admissions at under 30 years)									
6 months	10.5	28.9	0	60.5					
2 years	21.2	30.3	0	48.5					
5 years	28.6	17.9	3.6	50.0					

to 79 percent. Two Negro male groups, 5 and 11, had the highest involuntarily abstinent rates (47.2 percent and 43.5 percent), and group 2 had the lowest (5 percent).

By the fifth year, the voluntarily abstinent rate for those still alive and in contact with the field team had risen to 25 percent. The readdicted rate was 46 percent. In general, involuntary abstinence decreased. The over 30 age groups had a higher voluntarily abstinent rate, 35.6 percent, compared with 21.3 percent for the under 30 age group ($P < .01$). The higher percentage of those involuntarily abstinent in the under 30 groups is responsible for this differ-

ence. An estimated 49 percent of the study population was abstinent, either voluntarily or involuntarily, 5 years after their Lexington discharge.

Table 4 shows the fifth year observation based on second year addiction status. Only an estimated 42 percent of those voluntarily abstinent at 2 years were voluntarily abstinent at 5 years, yet 51 percent of those readdicted in the second year of observation were still so categorized in the fifth year observation. Of those involuntarily abstinent at 2 years, 26 percent became voluntarily abstinent and 31 percent became readdicted. The over 30 age groups showed a

Table 4. Percentage distribution, at fifth year as compared with second year, of addiction status of 11 study groups of patients discharged from the Public Health Service Hospital, Lexington, Ky.

Second year observation		Fifth year observation					
Addiction status	Number	Abstinent		Irregular use	Readdicted	Dead	Unknown
		Voluntary	Involuntary				
Group 1 (white males, voluntary first admissions at under 30 years)							
Voluntary abstinent.....	8	25.0	37.5	12.5	12.5	0	12.5
Involuntary abstinent.....	17	17.6	41.2	17.6	23.5	0	0
Irregular use.....	2	50.0	0	50.0	0	0	0
Readdicted.....	20	40.0	25.0	5.0	20.0	0	10.0
Group 2 (white males, voluntary first admissions at 30 years and over)							
Voluntary abstinent.....	12	58.3	0	0	16.7	8.3	16.7
Involuntary abstinent.....	1	0	0	0	100.0	0	0
Readdicted.....	8	25.0	25.0	0	37.5	0	12.5
Group 3 (Puerto Rican males, voluntary first admissions at under 30 years)							
Voluntary abstinent.....	5	80.0	0	0	20.0	0	0
Involuntary abstinent.....	12	33.3	41.7	8.3	8.3	0	8.3
Irregular use.....	3	0	33.3	66.6	0	0	0
Readdicted.....	23	26.1	17.4	4.3	39.1	0	13.0
Group 4 (Negro males, voluntary first admissions at under 30 years)							
Voluntary abstinent.....	8	25.0	37.5	0	25.0	12.5	0
Involuntary abstinent.....	11	45.4	27.5	0	18.2	9.1	0
Irregular use.....	2	0	0	100.0	0	0	0
Readdicted.....	24	0	29.2	0	54.2	16.7	0
Group 5 (Negro males, voluntary first admissions at 30 years and over)							
Voluntary abstinent.....	3	100.0	0	0	0	0	0
Involuntary abstinent.....	17	23.5	11.8	0	52.9	0	11.8
Readdicted.....	16	6.2	6.2	6.2	50.0	12.5	18.8
Group 6 (white females, voluntary first admissions at under 30 years)							
Voluntary abstinent.....	7	71.4	0	0	14.3	0	14.3
Involuntary abstinent.....	10	20.0	20.0	0	40.0	0	20.0
Readdicted.....	16	6.2	18.8	6.2	56.2	12.5	0

significantly higher rate of remaining voluntarily abstinent (61 percent) than those under 30 (33 percent); an estimated 52 percent of the population voluntarily or involuntarily abstinent at 2 years were voluntarily abstinent or remained involuntarily abstinent at 5 years. Only 12 of the patients in the sample group were voluntarily abstinent for the full 5 years.

In this study, a patient is considered voluntarily abstinent at some time only if he refrains from the use of drugs willingly for at least one period of at least 3 consecutive months. After adjustment for the unequal representation in the study groups, the estimated percentage of those voluntarily abstinent at some time during followup is 40.1. The percentage of

Table 4. Percentage distribution, at fifth year as compared with second year, of addiction status of 11 study groups of patients discharged from the Public Health Service Hospital, Lexington, Ky.—Continued

Second year observation		Fifth year observation					
Addiction status	Number	Abstinent		Irregular use	Readdicted	Dead	Unknown
		Voluntary	Involuntary				
Group 7 (white females, voluntary first admissions at 30 years and over)							
Voluntary abstinent.....	7	57.1	28.6	0	0	14.3	0
Involuntary abstinent.....	2	0	0	0	100.0	0	0
Irregular use.....	1	0	0	100.0	0	0	0
Readdicted.....	23	17.4	0	8.7	56.5	4.3	13.0
Group 8 (Negro females, voluntary first admissions at under 30 years)							
Voluntary abstinent.....	2	50.0	0	0	50.0	0	0
Involuntary abstinent.....	7	14.3	0	0	71.4	14.3	0
Irregular use.....	2	0	0	0	50.0	0	50.0
Readdicted.....	43	9.3	9.3	2.3	67.4	7.0	4.7
Group 9 (white males, voluntary readmissions at 30 years and over)							
Voluntary abstinent.....	4	50.0	0	0	0	50.0	0
Involuntary abstinent.....	9	44.4	44.4	0	11.1	0	0
Irregular use.....	2	0	0	0	50.0	50.0	0
Readdicted.....	26	7.7	0	0	53.8	23.1	15.4
Group 10 (white females, voluntary readmissions at 30 years and over)							
Voluntary abstinent.....	5	60.0	0	0	0	0	40.0
Involuntary abstinent.....	2	0	100.0	0	0	0	0
Readdicted.....	23	30.4	8.7	0	39.1	17.4	4.3
Group 11 (Negro males, prisoner admissions at under 30 years)							
Voluntary abstinent.....	3	33.3	0	33.3	33.3	0	0
Involuntary abstinent.....	10	10.0	40.0	0	40.0	0	10.0
Readdicted.....	10	0	10.0	0	70.0	0	20.0

voluntarily abstinent patients in the study groups ranged from a low of 25.0 to a high of 55.1 (table 5). Although the percentage of prisoner admissions who were voluntarily abstinent at some time appears decidedly lower than the voluntary admissions, the difference is not statistically significant. Neither are there significant differences among the groups with respect to such demographic characteristics as age, sex, and race.

An estimated 41 percent of the 1,359 discharges were subsequently readmitted to Lexington or the Public Health Service Hospital

at Fort Worth, Tex., within the 5-year period. Approximately 40 percent of the patients readmitted had two or more readmissions in the 5-year followup period (table 6). Those entering the study as patients with more than one previous admission had a higher rate of readmission (53 percent) during the study period than those entering the study as first admissions (39 percent). The median interval of time between initial discharge and first readmission in the followup period ranged from 5 months to 21 months among the study groups. There are no differences in the comparative figures be-

Table 5. Patients voluntarily abstinent at some time during 5 years following discharge from the Public Health Service Hospital, Lexington, Ky.

Group	Number in followup	Abstinent	
		Number	Percent
1.....	49	27	55.1
2.....	26	14	53.8
3.....	52	18	34.6
4.....	45	20	44.4
5.....	38	14	36.8
6.....	40	13	32.5
7.....	38	16	42.1
8.....	58	15	25.9
9.....	49	18	36.7
10.....	34	14	41.2
11.....	24	6	25.0

NOTE: When adjusted for the different sampling proportions in the 11 groups, it is estimated that 40.1 percent or 545 patients of the 1,359 patients from which the study sample was drawn would have been abstinent at some time during the observation period.

tween the chronically readdicted and those with periods of voluntary abstinence.

Social Data

Along with current status of drug use and relapse history since previous contact, the field team reported social data on the discharges at each time of contact. These data support those who recognize the need for community-based programs of assistance and supervision (2,4,5).

It is estimated that 70 percent of the study population were arrested at some time during the 5-year followup period (table 7). Arrests were more frequent among the under age 30 (81 percent) than the over age 30 (43 percent). Negroes had higher arrest rates than whites, but when age is considered, only Negroes over 30 had significantly higher rates than their white counterparts. Males had higher arrest rates (73 percent) than females (57 percent); however, with race and age factors considered, the differences are not statistically significant.

Multiple arrests were more frequent for the under age 30 group than those over 30. White males under 30 had the highest rate (68.4 percent) of multiple arrests, and group 7 (white females, voluntary first admissions at over 30) had the lowest rate (28.6 percent). Those who were voluntary readmissions had relatively low rates of arrest.

Males received longer sentences than females. An estimated 51 percent of the males served sentences of 1 year or more, and the corresponding statistic for females is 22 percent. The median sentences per arrest range from a low of 2 months for groups 8 and 10 to a high of 8 months for group 5. The modal sentence is 6 months.

Approximately two-thirds of all the reported arrests were directly involved with the use of drugs, that is, possession of narcotics or hypodermic needles, forging prescriptions, selling

Table 6. Patients, by study group, readmitted to the Public Health Service Hospitals at Lexington, Ky., or Fort Worth, Tex., during 5-year followup period

Group	Number in followup	Patients readmitted		Patients with 2 or more readmissions		Median time between discharge and first readmission (months)
		Number	Percent	Number	Percent ¹	
1.....	49	20	40.8	9	45.0	14
2.....	² 25	6	24.0	1	16.7	20
3.....	52	24	46.2	6	25.0	19
4.....	45	22	48.9	9	40.9	14
5.....	38	14	36.8	8	57.1	21
6.....	40	14	35.0	6	42.9	20
7.....	38	18	47.4	11	78.6	12
8.....	58	23	39.7	10	43.5	11
9.....	² 48	24	50.0	11	45.8	5
10.....	34	21	61.8	7	33.3	14
11.....	24	5	20.8	2	40.0	18

¹ Percent based on patients readmitted.

² 1 patient died less than 1 month after discharge and has been excluded.

Table 7. Arrests and sentences of 11 study groups of patients followed for 5 years after discharge from the Public Health Service Hospital, Lexington, Ky.

Group	Number in follow-up	Patients arrested		Patients with more than 1 arrest		Patients serving sentences of 1 year or more		Median sentence per arrest (months)	Percent of arrests directly involving drugs
		Number	Percent	Number	Percent ¹	Number	Percent ¹		
1-----	49	38	77.6	26	68.4	18	47.4	6	60.7
2-----	² 25	8	32.0	4	50.0	4	50.0	4	41.7
3-----	52	41	78.8	24	58.5	22	53.7	6	71.3
4-----	45	37	82.2	22	59.5	19	51.4	6	63.5
5-----	38	28	73.7	16	57.1	17	60.7	8	72.9
6-----	40	25	62.5	14	56.0	12	48.0	6	73.5
7-----	38	14	36.8	4	28.6	3	21.4	4	57.9
8-----	58	45	77.6	25	55.6	6	13.3	2	71.6
9-----	² 48	18	37.5	6	33.3	7	38.9	5½	69.6
10-----	34	11	32.4	4	36.4	3	27.3	2	41.2
11-----	24	22	91.7	12	54.5	12	54.5	6	48.6

¹ Based on number of patients arrested.

² 1 patient in study group died less than 1 month after discharge and has been excluded.

drugs, and similar offenses. Arrests on charges of illegal activities resorted to by addicts as means of supporting their habits are excluded from the last column of data in table 7.

In comparing arrest rates for the voluntarily abstinent at some time with those never voluntarily abstinent during the study period, there were no differences.

A male dischargee was considered employable if he was not institutionalized, without physical handicap, not retired or of retirement age. Table 8 indicates employment status 5 years after discharge of these men. After adjustment for disproportionate sampling and disproportionality of employable males, the estimated percentage of all employable male dischargees engaged in full-time employment 5 years after discharge is 37 percent; the estimate of those employed part time or irregularly is 18 percent, and of those unemployed is 41 percent. The employment status of approximately 44 percent was undetermined.

The estimated rate of full-time employment among those classified as voluntarily abstinent at some time is 59 percent in contrast to the estimate of 13 percent for those never voluntarily abstinent. Unemployment estimates are 30 percent and 52 percent, respectively.

It is estimated that less than 10 percent of the patients discharged from Lexington received psychiatric care in the community within

the 5-year followup period (table 9). Subsequent to the beginning of this study, drug withdrawal facilities were introduced in the psychiatric hospital wards in New York City. Such treatments were not considered because of their short duration and the fact that the psychiatric care received was secondary to the withdrawal treatment. Among the study groups, patients receiving psychiatric care ranged from 2 percent to 20 percent.

Summary and Conclusions

A sample of 453 patients selected from 1,359 discharged from the Public Health Service Hospital, Lexington, Ky., between July 1952 and December 1955 were followed for 5 years. Although more than 97 percent became readdicted during the 5 years after treatment at Lexington, by the fifth year after discharge only an estimated 46 percent of the study population were readdicted and 49 percent were abstinent, either voluntarily or involuntarily.

Age appeared as an important factor in voluntary abstinence with the dischargees over 30 years of age showing a significantly higher rate than their younger counterparts. They also showed a significantly greater ability to remain drug free. Although there was fluctuation in the addiction status of patients, in general, abstinence increased with the passage of time

while readdiction rates decreased. An estimated 40 percent of the study population had been voluntarily abstinent at some time during the followup period. Forty-one percent returned to the Public Health Service Hospitals at Lexington, Ky., or Fort Worth, Tex., during the 5-year period.

Social data collected on the patients in the sample during the 5-year period indicated approximately 70 percent of the study population had one or more arrests. The under 30 age group had higher arrest rates than those over 30. Two-thirds of all the arrests reported were definite narcotics violations, and the overwhelm-

Table 8. Employment status of employable males in seven study groups 5 years after discharge from the Public Health Service Hospital at Lexington, Ky., for those voluntarily abstinent at some time and those never abstinent

Group	Number employable	Full time		Irregular or part time		None		Unknown	
		Number	Percent ¹	Number	Percent ¹	Number	Percent ¹	Number	Percent ¹
Voluntarily abstinent at some time									
1.....	19	16	84.2	1	5.3	2	10.5	0	0
2.....	9	6	66.7	1	11.1	2	22.2	0	0
3.....	16	10	62.5	2	12.5	4	25.0	0	0
4.....	13	6	46.2	0	0	7	53.8	0	0
5.....	12	3	25.0	4	33.3	4	33.3	1	8.3
9.....	10	6	60.0	0	0	4	40.0	0	0
11.....	5	3	60.0	2	40.0	0	0	0	0
Never abstinent									
1.....	10	4	40.0	1	10.0	4	40.0	1	10.0
2.....	4	2	50.0	1	25.0	1	25.0	0	0
3.....	12	0	0	3	25.0	4	33.3	5	41.7
4.....	13	1	7.7	4	30.8	8	61.5	0	0
5.....	12	1	8.3	2	16.7	9	75.0	0	0
9.....	9	2	22.2	0	0	4	44.4	3	33.3
11.....	10	0	0	4	40.0	5	50.0	1	10.0

¹ Percent based on number employable.

Table 9. Patients in 11 study groups receiving community psychiatric care during the 5-year period after discharge from the Public Health Service Hospital, Lexington, Ky.

Group	Number in follow-up	Outpatient care		Inpatient care		Inpatient and outpatient care		Total receiving care	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1.....	49	6	12.2	2	4.1	1	2.0	9	18.4
2.....	¹ 25	1	4.0	3	12.0	1	4.0	5	20.0
3.....	52	1	1.9	2	3.8	2	3.8	5	9.6
4.....	45	0	0	3	6.7	0	0	3	6.7
5.....	38	0	0	2	5.3	0	0	2	5.3
6.....	40	4	10.0	3	7.5	1	2.5	8	20.0
7.....	38	0	0	3	7.9	1	2.6	4	10.5
8.....	58	0	0	2	3.4	1	1.7	3	5.1
9.....	¹ 48	0	0	1	2.1	0	0	1	2.1
10.....	34	1	2.9	5	14.7	0	0	6	17.6
11.....	24	0	0	1	4.2	0	0	1	4.2

¹ 1 patient died less than 1 month after discharge and has been excluded.

ing majority of the remaining violations were illegal means resorted to by addicts to support their habits. This adds impetus to the conjecture that it is the influence of narcotics which makes the criminal and not the criminal which makes the narcotics addict. Although there were no differences in the arrest rates between the voluntarily abstinent at some time and the chronically readdicted, almost all instances of arrests in the former group occurred at times of addiction.

Five years after discharge was selected as the instant of time to compile the employment statistics for the discharged male addicts. An estimated 41 percent were unemployed. However, for the dischargée with at least one period of voluntary abstinence during the 5 years, the unemployment rate dropped to 30 percent, and 59 percent were employed full time. The constantly addicted dischargées showed a full-time employment rate of only 13 percent.

Few patients received psychiatric aftercare, particularly the outpatient clinical type, during the 5-year period.

In conclusion, the treated drug addict is a generally antisocial individual upon his return to the community. His high relapse, arrest, and unemployment rates and minimal voluntary use of psychiatric aftercare services support the views of those who propose that there be systematic community aftercare for such persons.

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Ohio River Basin

A comprehensive 7-year program to control water pollution in the upper Ohio River Basin will be conducted by the Division of Water Supply and Pollution Control of the Public Health Service in cooperation with States, communities, and industries of the basin. Acid drainage from mines is a major source of water pollution in the basin.

The program will begin in the area drained by the Allegheny, Monongahela, Beaver, Muskingam, Hocking, and Kanawha Rivers, and the Ohio River itself upstream from the Kanawha River mouth. At the peak of activity a staff of 40 to 50 engineers, chemists, biologists, and other scientific and supporting personnel will be employed, with headquarters at Wheeling, W. Va.

Regulations on Clinical Trials of Drugs

Regulations strengthening control by the Food and Drug Administration over clinical investigation of new drugs went into effect February 7, 1963.

Mainly, the regulations require that the FDA be notified and given full details about the distribution of drugs for investigations, that clinical testing be based on adequate testing on animals, that clinical investigations be planned properly and executed by qualified investigators, and that investigators and the FDA be kept fully informed of the progress of investigations. If an investigation develops evidence that the drug is not safe or is ineffective, the FDA will require discontinuance of the study. Previously FDA regulations required neither initial notices nor progress reports of clinical trials.

Since August 1962, when new regulations were publicly proposed, more than 300 written comments have been submitted. Meetings were held with various groups representing the scientific community to discuss the proposals.

The principal modifications that resulted from the comments and discussions were:

The requirements for the planning of clinical investigations were made more flexible than they were in the proposed regulations. For the early phases of investigation, which are carried out in a scientific environment controlled by the research organization, planning may be less detailed than for the clinical trials, in which larger numbers of patients and physicians in different places are involved. In the early phases, investigators may pursue promising leads. In the clinical trials, reasonable variations and alternatives will be permitted. Investigators may be added after the testing program has begun.

"Adequate" records of each stage will be required rather than the "complete" records first proposed.

The section requiring the sponsor to immediately report to the FDA and all investigators

any findings that suggest significant hazards or other factors pertaining to the drug's safety was changed to a requirement that such findings be investigated promptly by the sponsor and reported to all concerned. If the finding is alarming, it shall be reported immediately, and clinical testing will be discontinued while the finding is thoroughly evaluated.

Provisions for inspection of patients' records have been modified to make clear that investigators may withhold names unless the records of a particular volunteer or patient require further detailed study or there is reason to believe the records do not represent actual results.

The revised regulations made clear that while neither sponsors nor their agents may disseminate promotional material representing a drug under investigation to be safe or effective for the purpose for which it is being tested, no bars are intended against factual reporting to scientists or the public.

The proposed regulations were said to prevent the use of new drugs, not yet approved for general distribution, as a possible lifesaving measure in certain urgent cases. The revised regulations allow for such situations by permitting the sponsor to add new investigators during the testing program. The instructions to and commitments from a new investigator may be communicated by telephone if necessary.

George P. Larrick, commissioner of the FDA, stated that the new regulations meet all the provisions in the Kefauver-Harris Amendments of 1962, including assurance that patient consent to the use of drugs under investigation will be obtained by the investigators unless in their professional judgment this is not feasible or is contrary to the patient's best interest.

The new regulations were published in the Federal Register of January 8, 1963. Copies of the regulations are available from the Division of Public Information, Food and Drug Administration, Department of Health, Education, and Welfare, Washington 25, D.C.