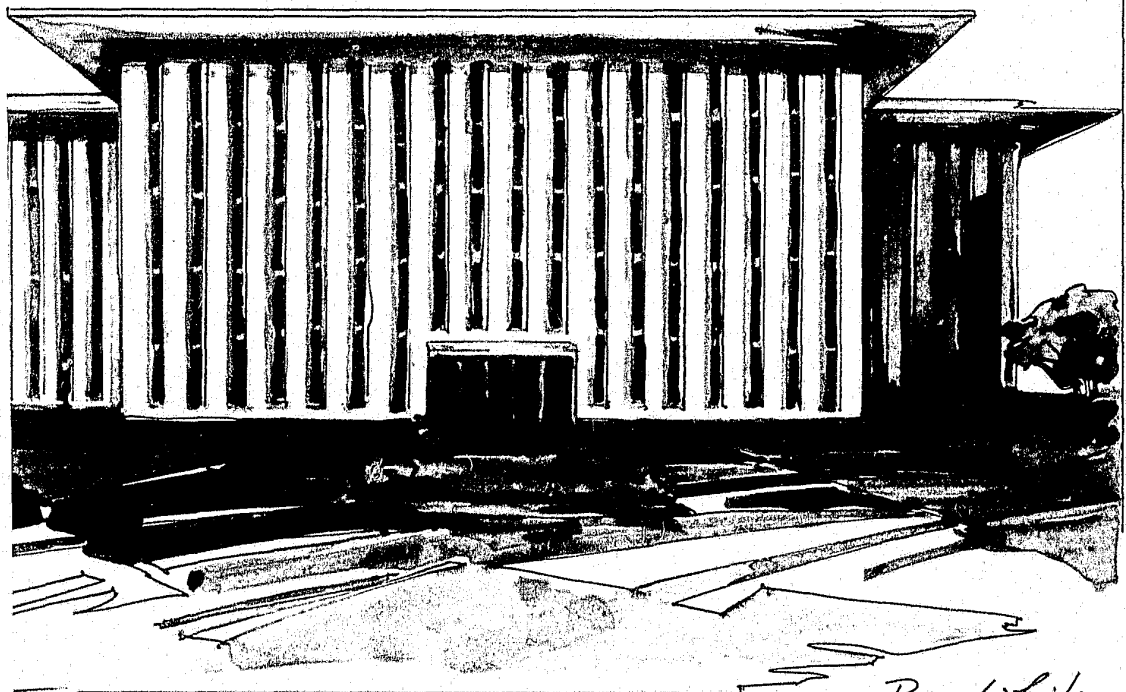


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RHODE ISLAND DEPARTMENT OF HEALTH

NCJRS

JAN 22 1987

ACQUISITIONS

INCIDENT REPORT EXTRAPOLATION

USING ZIPCODES:

A TECHNIQUE IN ENFORCEMENT MANAGEMENT

Edward D. DiPrete, Governor
State of Rhode Island

H. Denman Scott, M.D., M.P.H., Director
Rhode Island Department of Health

FUNDED BY:

U.S. Department of Justice
Bureau of Justice Assistance
Washington, DC

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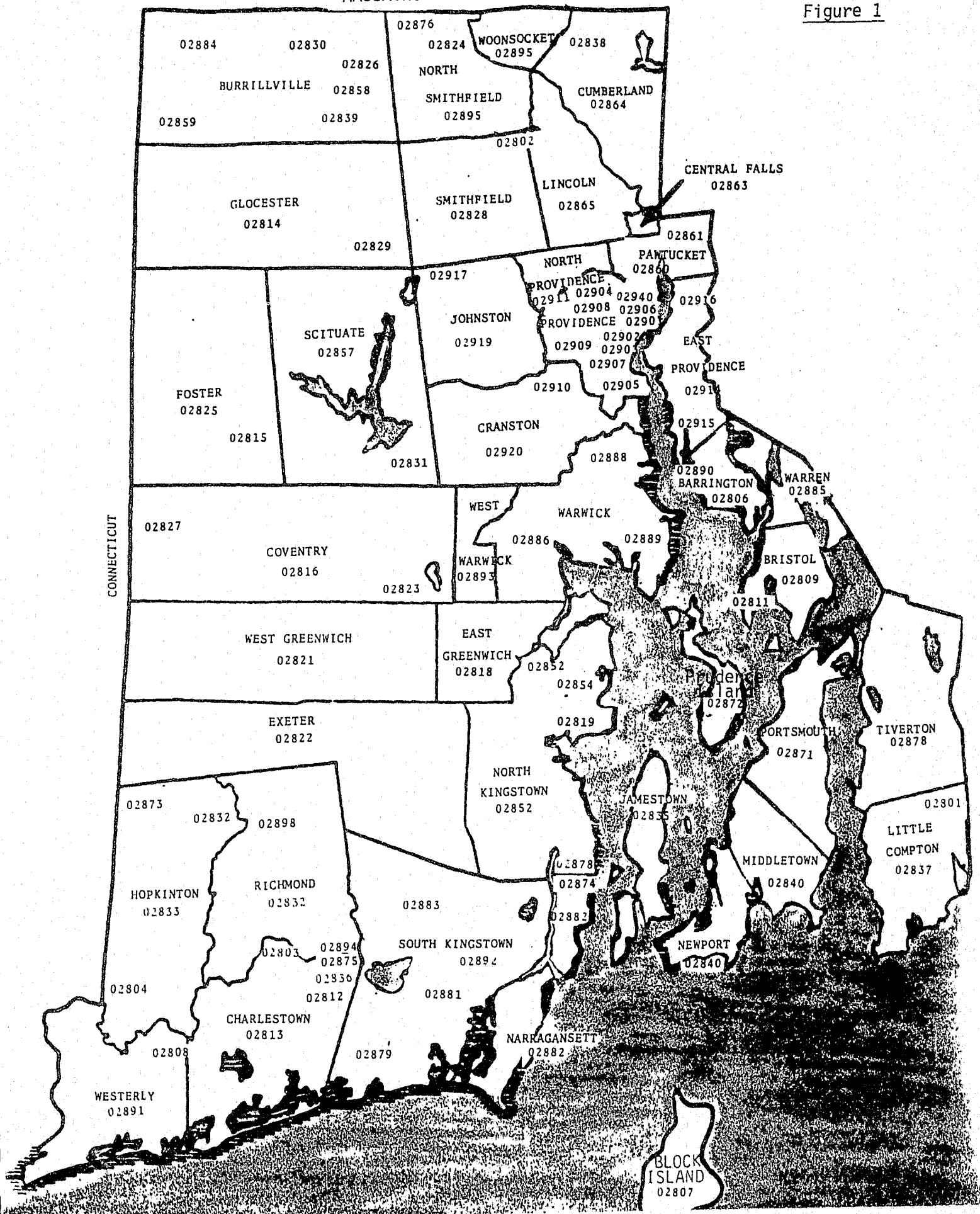
RHODE ISLAND ZIPCODES
AND
MAP OF THE STATE

RHODE ISLAND ZIPCODES

02801	LITTLE COMPTON	02864	CUMBERLAND
02802	SMITHFIELD	02865	LINCOLN
02804	HOPKINTON	02871	PORTSMOUTH
02806	BARRINGTON	02872	PRUDENCE ISLAND
02807	BLOCK ISLAND	02873	HOPKINTON
02808	WESTERLY	02874	NARRAGANSETT
02809	BRISTOL	02875	CHARLESTOWN
02811	BRISTOL	02876	N SMITHFIELD
02812	CHARLESTOWN	02878	TIVERTON
02813	CHARLESTOWN	02878	N KINGSTOWN
02814	GLOCESTER	02879	S KINGSTOWN
02815	FOSTER	02881	S KINGSTOWN
02816	COVENTRY	02882	NARRAGANSETT
02818	E GREENWICH	02883	S KINGSTOWN
02819	N KINGSTOWN	02884	BURRILLVILLE
02821	W GREENWICH	02885	WARREN
02822	EXETER	02886	WARWICK
02823	COVENTRY	02888	WARWICK
02824	N SMITHFIELD	02889	WARWICK
02825	FOSTER	02890	BARRINGTON
02826	BURRILLVILLE	02891	WESTERLY
02827	COVENTRY	02892	S KINGSTOWN
02828	SMITHFIELD	02893	W WARWICK
02829	GLOCESTER	02894	RICHMOND
02830	BURRILLVILLE	02895	N SMITHFIELD
02831	SCITUATE	02895	WOONSOCKET
02832	HOPKINTON	02898	RICHMOND
02832	RICHMOND	02901	PROVIDENCE
02833	HOPKINTON	02902	PROVIDENCE
02835	JAMESTOWN	02903	PROVIDENCE
02836	CHARLESTOWN	02904	PROVIDENCE/N PROVIDENCE
02837	LITTLE COMPTON	02905	PROVIDENCE
02838	CUMBERLAND	02906	PROVIDENCE
02839	BURRILLVILLE	02907	PROVIDENCE
02840	MIDDLETOWN	02908	PROVIDENCE
02840	NEWPORT	02909	PROVIDENCE
02852	N KINGSTOWN	02910	CRANSTON
02852	N KINGSTOWN	02911	N PROVIDENCE
02854	N KINGSTOWN	02914	E PROVIDENCE
02857	SCITUATE	02915	E PROVIDENCE
02858	BURRILLVILLE	02916	E PROVIDENCE
02859	BURRILLVILLE	02917	JOHNSTON
02860	PAWTUCKET	02919	JOHNSTON
02861	PAWTUCKET	02920	CRANSTON
02863	CENTRAL FALLS	02940	PROVIDENCE

MASSACHUSETTS

Figure 1



NARRATIVE

STATEMENT OF THE PROBLEM

To determine what, if any, utility derives from using zipcode location in assessing drug incident data for future enforcement and crime prevention assignment.

Historically, law enforcement agencies were reactive, and attempted to clear complaints as received. It was decided to assign historic data taken from complainants, drug control duplicate prescription reports for CII substances, complete ARCOS data, and other information to determine if geographic patterns of drug related activity existed, and to determine utility.

METHODOLOGY

GEOGRAPHICAL DIVISION - The State of Rhode Island, is divided by municipal and county boundaries, by postal zipcodes and by census tracts. The study required a division large enough to be significant yet unique, and not so small as to be impractical. Effective controls against diversion of controlled substances by or from registrants must be maintained. All registrants have zipcode designation, drug control data can be assigned this designation, and federal drug distribution is similarly coded. For these reasons, the zipcode division was chosen.

COMPLAINT SECTION

The source of complaints from July 1984 to August 1986 received by the Division of Drug Control were tabulated by zipcodes.

The word "complaint" is used universally by law enforcement and regulatory agencies to describe the report of any event which appears to the complainant to be a violation of law, rule, or policy, a threat to someone's health or safety, or is used as a method of receiving and recording intelligence information or simply as questioning suspicious activity.

Complaint forms usually describe the "nature" of the case. Tables 1-3 and Charts 1-4. review 822 complaints received by the Division of Drug Control, and brings into focus the need to standardize the descriptions of the character of the case being described. One event of armed robbery, might also include assault, diversion of controlled substances, or other crimes. The agent taking the complaint determines the character of the case. There are several possible "characters" in the above example.

The administrative review required for complaints is to determine which agent is best able to handle the investigation, and to then record the assignment and issue a required return date for closing the complaint. The agent, a supervisor, and the administration all receive copies of the complaint. They are reviewed for performance, and completion, on a periodic basis.

Table 1 lists the total number of complaints reported in each zipcode. The first two numbers "02" refer to all of Rhode Island. The last three numbers describe a location within the state (see map, Figure 1) already differentiated as to population distribution. The first criticism of the Division of Drug Control complaint report past performance was that, in 66

cases, zipcodes were not noted if known. This represents a small percent of the total, but is, none the less, important for ongoing assignment to problem areas.

The next two figures describe the statistical incidences, and list the percent of complaints by character of case, as determined by agent review of the complainant's information.

The largest single description of "miscellaneous", indicates that, in over 400 complaints, information was important enough to be reported, but the event described did not occur repeatedly enough to become statistically meaningful.

It would be expected that major categories of complaints to a drug control unit, would be drug complaints, just as arson or statutory burning would be expected to be reported to the fire marshall. Miscellaneous would include reports taken and referred to an appropriate agency for investigation.

DUPLICATE PRESCRIPTION DATA

Duplicate prescription data from January 1985 to December 1985 were tabulated by zipcode.

In 1978, the General Assembly enacted the following section which focused responsibilities in a concise manner and revolutionized the Rhode Island reporting systems [21-28-3.18(d)]:

"The form of record for prescription slips for controlled substances in Schedule II shall consist of two parts, an original and a duplicate which are required to be presented to the pharmacy by the ultimate user or his representative. Pharmacists dispensing controlled substances in Schedule II are required to deliver to the Division of Drug Control all duplicate copies of such prescriptions on or before the fifth day of the month following the date of dispensing. The prescription slip shall be a form provided by the director of health."

Each prescription contains the name and address of the particular practitioner, the serial number of the prescription involved and a magnetically encoded series of numbers which includes the prescription serial number and the Rhode Island state registration number of the physician. The blank includes the required two signature lines permitting choice of substitution of generic drugs, space for the practitioners' federal Drug Enforcement Administration registration number and a section to be completed by the pharmacist relative to a special NDC number for the substances dispensed and the DEA number of the dispensing pharmacy.

Despite the success reported by the Division of Drug Control with the Duplicate Prescription Program, it was necessary to test the data with independent reporting systems to verify the relationship between implementation of the program and decline of use of Schedule II controlled substances within the State of Rhode Island.

The Drug Enforcement Administration conducted an evaluation comparing 1978 and 1979 relating to per capita consumption of controlled substances in Schedule II. The Drug Enforcement Administration concluded that there was a decrease and that the decrease was especially pronounced in Schedule II drugs, such as stimulants and depressants which were historically highly abused. If this decline were due to a general national decrease, it would be expected that Rhode Island should remain relatively unchanged in per capita consumption based on grams per 100,000 population. Statistical analysis of the decrease in distribution in the Northeastern region showed there were significant decreases in Amphetamines, Phenmetrazine, Secobarbital, Oxycodone, and Methaqualone.

Rhode Island dropped 12 state rankings in Methamphetamine, 8 state rankings in Methyphenidate, 13 state rankings in Amobarbital, 11 state rankings in Pentobarbital, 20 state rankings in Oxycodone, 9 state rankings in Dihydromorphinone, 12 state rankings in Methadone and showed significant drops in 7 other drug categories.

A further test of the Duplicate Prescription Program would relate to controlled substances not covered by the program. In one instance in the case of Alpharprodine, there was an increase in the distribution of 8.7 percent. It is interesting to note that this is primarily used in the institutional setting and that duplicate prescriptions are not required for in-patient treatment. In addition, a "predicted rebound effect" which should have occurred with an ineffective program in the second year did not occur, and the decline continues.

ARCOS

The Drug Enforcement Administration maintains an automated record system of controlled substances distributed to all registrants through a program called ARCOS. These data were entered into the Division of Drug Control computers and were tabulated by zipcode. See Table 3 and Chart 4. Since all of Rhode Island is covered by the first three digits, 028 and 029, the federal data was transferred to five digit zipcode reporting for this study.

DISCUSSION

The information from complainants was transferred to complaint forms. Drug Control began computerization, and soon found the same events were being described differently, were assigned to several agents rather than as addendum to ongoing investigation, and that there was little opportunity to discuss and review the new information, since it was not properly coded.

Complainants are now urged to identify themselves, and give addresses and phone numbers so that investigators can have access to additional information if needed. Report of success or failure to the complainant would then also be possible. A large number of complainants prefer to remain anonymous, and this is not discouraged, with the information still recorded and investigated.

The federal drug enforcement administration records data in an automated reporting system. Records of manufacturers, wholesalers, and all registrants (practitioners and vendors) is recorded in central record keeping.

Accurate records of controlled substances in schedule II dispensed in Rhode Island, are generated by the Rhode Island Division of Drug Control, but the Health Department must rely on federal records to determine this amount of drugs in all schedules distributed to Rhode Island registrants through legitimate purchases.

A mechanism had to be found to convert federal data into useful form, to be utilized and described in a three-digit zipcode study.

With the assistance of the Division of Data and Methods, a process was developed which permitted the listing of federal ARCOS data by gram weight or tablet count.

RESULTS

Comparison of these tables with the duplicate prescription data, raises questions of potential enforcement problems when huge amounts are reported dispensed, with little or no purchases of any significance.

The reverse situation might be of more interest, since continuing purchases, even when orders are not reported as "suspicious", without legitimate prescribing, dispensing or administering is generally an indicator of massive drug diversion.

Examination of the tables will clearly show to the reader, examples of problem areas which require further investigation.

CONCLUSION

This study provides useful bases upon which to assign enforcement personnel to monitor, respond and prevent substance abuse otherwise not detected.

COMPLAINT SECTION

TOTAL COMPLAINTS BY ZIPCODE

7/84 - 8/86

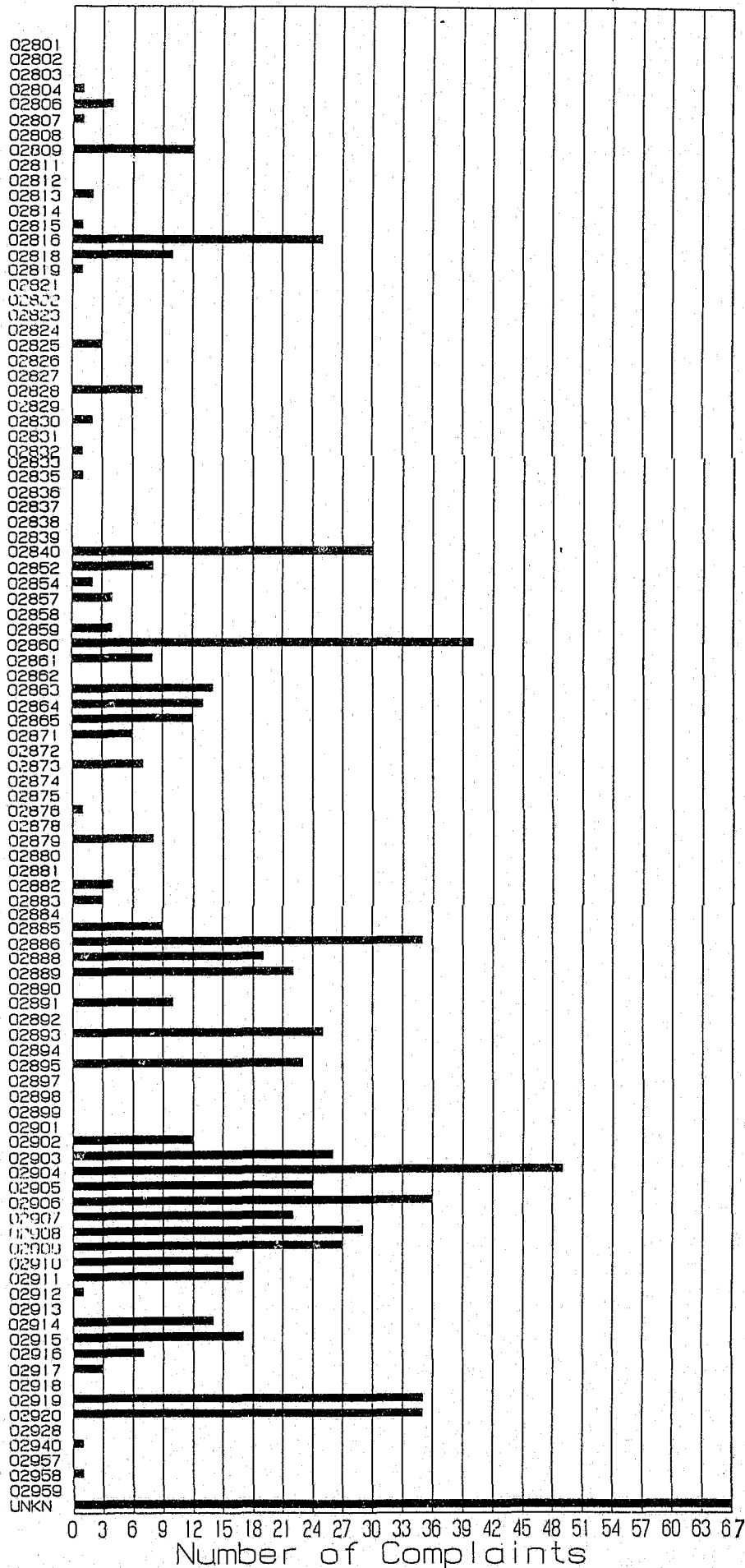
Table 1

UNKNOWN	67
02804	1
02806	4
02807	1
02809	12
02813	2
02815	1
02816	25
02818	10
02819	1
02825	3
02828	7
02830	2
02832	1
02835	1
02840	30
02852	8
02854	2
02857	4
02859	4
02860	40
02861	8
02863	14
02864	18
02865	12
02871	6
02873	7
02876	1
02879	8
02882	4
02883	3
02885	9
02886	35
02888	19
02889	22
02891	10
02893	25
02895	23
02902	12
02903	26
02904	49
02905	24
02906	36
02907	22
02908	29
02909	27
02910	16
02911	17
02912	1
02914	14
02915	17
02916	7
02917	3
02919	35
02920	35
02940	1
02958	1

Complaints by Zipcode

7/84 - 8/86

Chart 1



RHODE ISLAND DEPARTMENT OF HEALTH
DIVISION OF DRUG CONTROL

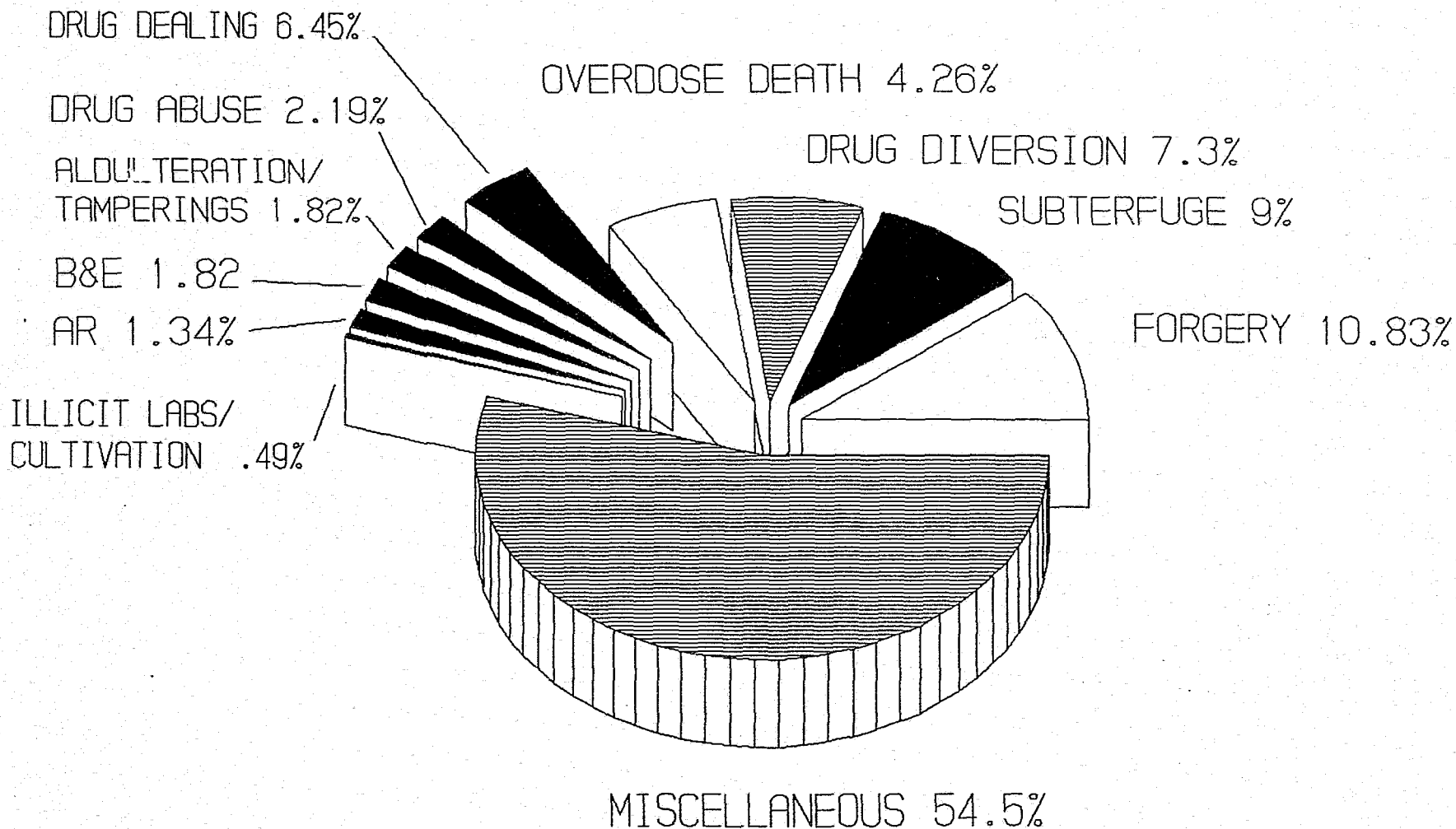
Table 2

COMPLAINTS BY CHARACTER OF CASE

7/84 - 8/86

<u>CHARACTER OF COMPLAINT</u>	<u>NUMBER OF COMPLAINTS</u>	<u>PERCENTAGE</u>
Forgeries	89	10.83
Subterfuge to Obtain	74	09.00
Drug Diversion	60	07.30
Drug Dealing	53	06.45
Overdose Deaths	35	04.26
Drug Abuse	18	02.19
Breaking & Entering	15	01.82
Adulterations/Tamperings	15	01.82
Armed Robberies	11	01.34
Illicit Labs/Cultivation	4	00.49
Miscellaneous Complaints	448	54.50
	<hr/>	
TOTAL NUMBER OF COMPLAINTS	822	

Complaints By Character of Case 7/84 - 8/86



DUPLICATE PRESCRIPTION DATA

Table 3

AVERAGE NUMBER OF
DUPLICATE PRESCRIPTIONS

BY ZIPCODE

1/85 - 12/85

ZIPCODE

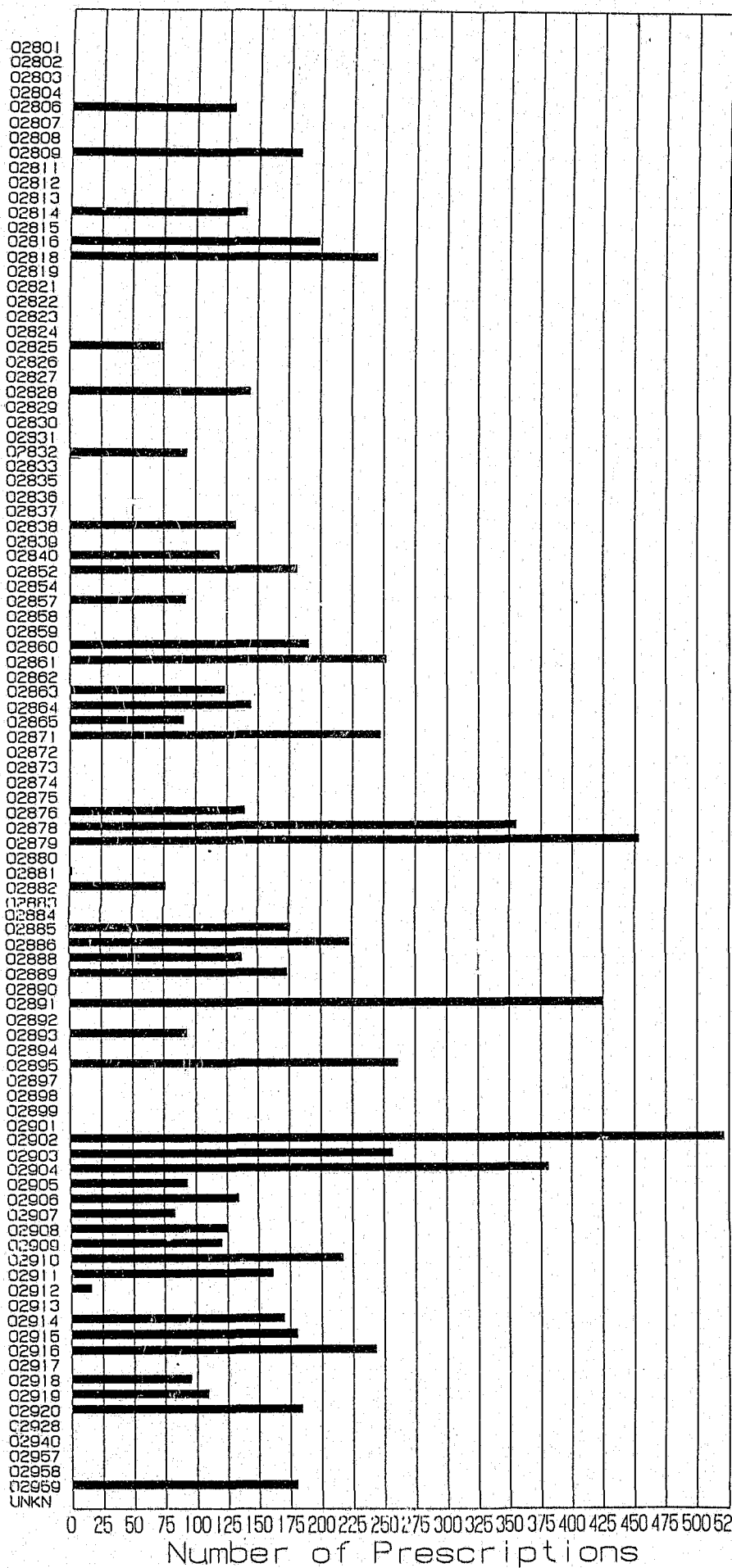
ZIPCODE

02806	130	02886	223
02809	183	02888	137
02814	140	02889	173
02816	198	02891	425
02818	244	02893	93
02825	74	02895	261
02828	144	02897	1
02832	93	02902	521
02838	132	02903	257
02840	119	02904	381
02852	181	02905	93
02857	92	02906	134
02860	190	02907	83
02861	252	02908	124
02863	123	02909	120
02864	144	02910	217
02865	90	02911	161
02871	247	02912	16
02876	139	02914	170
02878	355	02915	180
02879	453	02916	243
02881	2	02918	95
02882	76	02919	109
02884	1	02920	184
02885	176	02959	180

Duplicate Prescriptions By Zipcode

1/85 - 12/85

Chart 3



RHODE ISLAND DEPARTMENT OF HEALTH
DIVISION OF DRUG CONTROL

ARCOS

Table 4

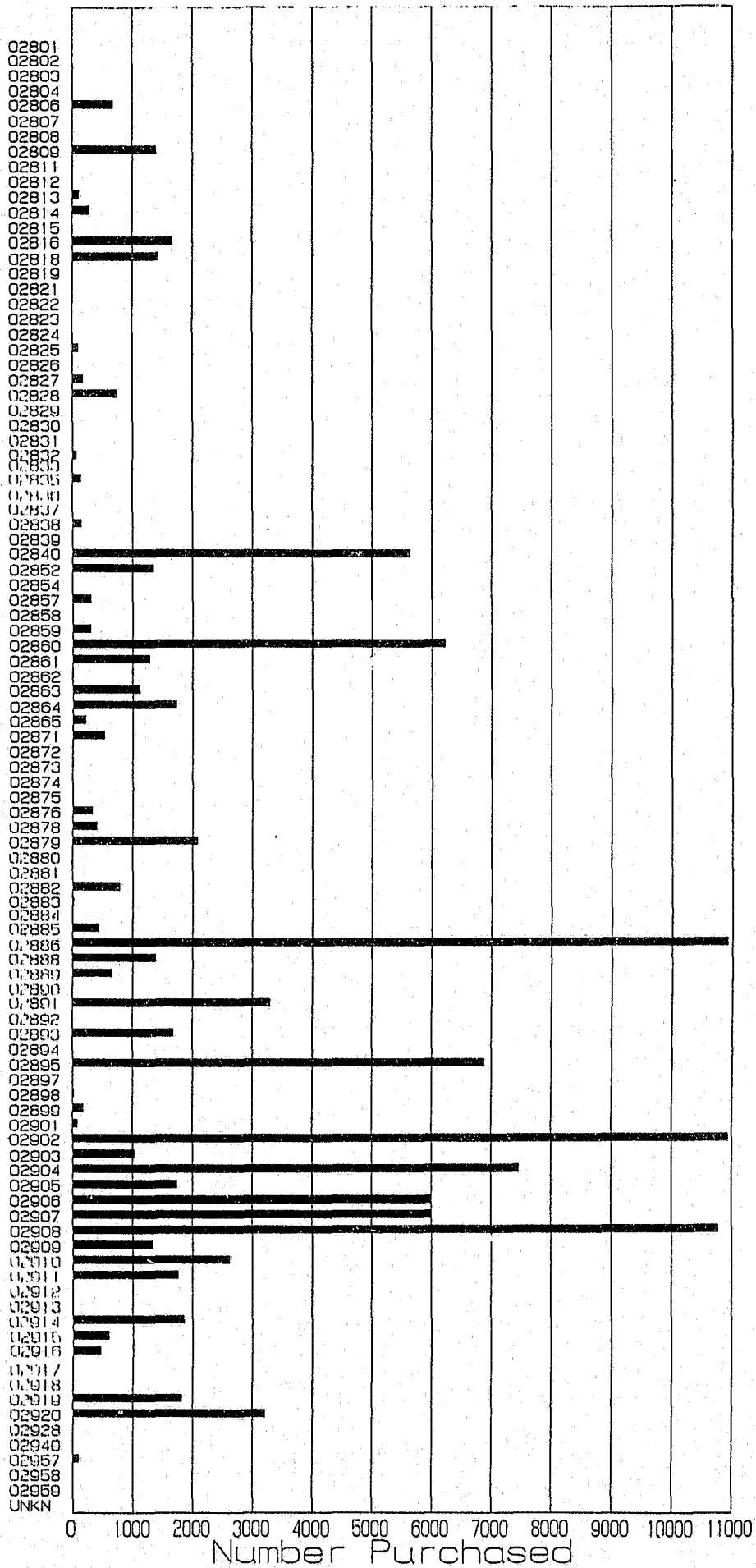
TOTAL OF QUANTITY OR WEIGHT
BY ZIPCODE

ZIPCODE	QUANTITY OR WEIGHT	PERCENT	ZIPCODE	QUANTITY OR WEIGHT	PERCENT
02806	677	.602	02885	441	.392
02807	8	.007	02886	10,926	9.709
02809	1,395	1.240	02888	1,390	1.235
02813	106	.094	02889	660	.586
02814	285	.253	02891	3,298	2.931
02816	1,664	1.479	02893	1,677	1.490
02818	1,424	1.265	02895	6,878	6.112
02824	2	.002	02898	19	.017
02825	104	.092	02899	182	.162
02827	175	.156	02901	86	.076
02828	774	.688	02902	10,940	9.721
02829	4	.004	02903	1,027	.913
02830	1	.001	02904	7,462	6.631
02831	2	.002	02905	1,741	1.547
02832	66	.059	02906	6,000	5.332
02835	147	.131	02907	5,981	5.315
02838	143	.127	02908	10,781	9.580
02840	5,637	5.009	02909	1,338	1.189
02852	1,353	1.202	02910	2,620	2.328
02857	311	.276	02911	1,762	1.566
02859	303	.269	02912	2	.002
02860	6,219	5.526	02914	1,859	1.652
02861	1,282	1.139	02915	594	.528
02863	1,115	.991	02916	458	.407
02864	1,721	1.529	02917	3	.003
02865	214	.190	02918	3	.003
02871	524	.466	02919	1,819	1.616
02876	328	.291	02920	3,204	2.847
02878	405	.360	02928	2	.002
02879	2,084	1.852	02957	103	.092
02880	2	.002			
02882	784	.697	TOTAL	112,536	100.000
02883	21	.019			

RHODE ISLAND DEPARTMENT OF HEALTH
DIVISION OF DRUG CONTROL

Quantity of Drugs Purchased By Zipcode

Chart 4



RHODE ISLAND DEPARTMENT OF HEALTH
DIVISION OF DRUG CONTROL