Evidence-Based Targeting: A New Approach to Juvenile Crime Prevention

Prepared for the Yonkers Juvenile Crime Enforcement Coalition
And the Yonkers Police Department

By Karl Bertrand, LMSW, President, Program Design and Development, LLC, and
Thomas Saunders, Doctoral Candidate, New York University/
Robert F. Wagner Graduate School of Public Service

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Evidence-Based Targeting:
A New Approach to Juvenile Crime Prevention (continued)

Overview: Program Design and Development, LLC has calculated arrest rates for specific juvenile delinquency risk factors and combinations of risk factors. We have compiled the key findings into a Pyramid of Risk that lists the risk factors in descending order of significance. The Pyramid of Risk allows planners and providers to quickly identify the highest-risk groups.

The table shows that arrest rates for specific combinations of risk factors ranged from 1 in 14 (targeting youth aged 10-14 in the poorest neighborhoods) to more specifically high-risk groups with arrest rates as high as 1 in 9 (20+ unexcused absences in grades 4-8), 1 in 4 (with 1 or more suspension of 3+ days), 1 in 3 (special education students with 1 or more suspension of 3+ days), greater than 1 in 3 (youth aged 11-13 with one prior arrest), and even greater than 1 in 2 youth (students in grades 6-8 with 20+ unexcused absences and a suspension hearing).

Significance of Evidence Based Targeting: There were several striking findings.

> **We can use Evidence-Based Targeting to "go upstream" to help kids and prevent crimes *before* kids' first arrest, while still being confident that our limited resources are being targeted effectively to those who need them most.**

- One was that "neighborhood-based targeting" is **not** very effective. While 1 in 29 of all Yonkers youth aged 7-15 had been arrested once, the proportion rose only slightly to 1 in 23 in the poorest neighborhoods (census tracts where 20% or more of all residents live in poverty).
- "Evidence-based targeting" can be dramatically more effective. For example, students in grades 6-8 with 20+ unexcused absences and at least one suspension hearing during the prior year have a **61%** chance of being arrested within the next 3 years. Of those in this group that do get arrested, they will be arrested an average of 2.1 times over the next three years. In fact, the 25 youth arrested in this group had **127** juvenile arrests or serious school incidents over the 5 years studied. This means that we can use Evidence-Based Targeting to "go upstream" to help kids and prevent crimes *before* kids' first arrest, while still being confident that our limited resources are being targeted effectively to those who need them most.
- "Evidence-based targeting" helps providers prove their effectiveness. Most prevention programs can't afford to study control groups as part of their program evaluation so – no matter how positive their results – they can never prove how many arrests would have probably taken place without their prevention program. The data we've distributed gives providers the tools to estimate a baseline arrest rate expected over the next 3 years, based on which risk factors are found at intake. If a provider targets the specific groups that we have identified as particularly high-risk, the providers can then compare their actual results to this estimated baseline, and with reasonable confidence estimate the number of juvenile arrests their program has prevented.
- "Evidence-based targeting" enables funders to measure the effectiveness of the programs they fund. Agencies that fund delinquency prevention programs can also use this data to compute an estimated baseline arrest rate for the youth served by their programs in order to measure their effectiveness. For example, a grant program that targets students in grades 6-8 with 20+ unexcused absences and a suspension hearing can ask funded agencies to collect follow-up arrest data and then compare this to the estimated baseline arrest rate for this target group. The funder can then objectively measure whether their investment in delinquency prevention is paying off.

- Funders and service providers can also use the estimated baseline to calculate their program's cost-effectiveness. For example, if the city or the county funds 4 programs that target the specific high-risk groups we've identified, the funder can take the reported follow-up arrest rates and calculate each program's cost per juvenile arrest prevented. Providers can also do the same type of calculation for their own programs. (When this data is presented, the presentation also should emphasize the long-term benefits of preventing juvenile arrests.)

The YJCEC was able to collect data from the Yonkers Police (juvenile arrests), Yonkers Public Schools (truancy, suspensions, serious incidents, and special education status), the Department of Social Services (foster care), and U.S Census (age and gender cohorts, and high-poverty census tracts). It was able to extract the data without personally identifying information, using a process that creates unique IDs that can be matched with reasonable accuracy across different data sets.

Relationship of common risk factors vs. uncommon criminal behavior:

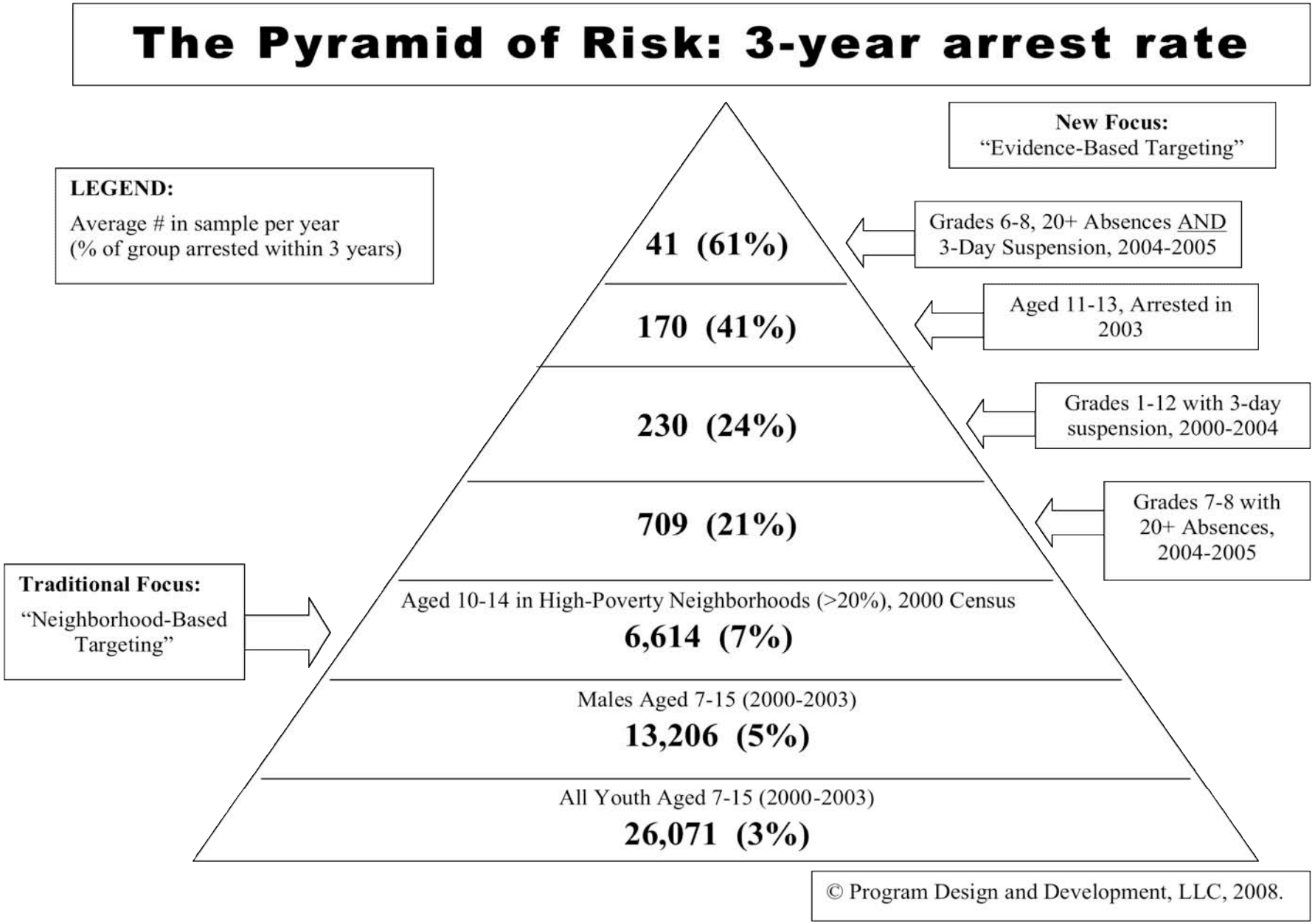
> **Traditionally, communities assume that the most common risk factors are the ones they should address if they want to reduce juvenile crime. In fact though, since most youth don't commit crimes, the most common risk factors are the ones that are *least* closely statistically associated with juvenile crime. What we need to look for are the uncommon combinations of risk factors that are *most* closely statistically linked to juvenile crime.**

Most youth don't get arrested. On average, only 1 in 29 Yonkers youth aged 7-15 will be arrested within the next 3 years. Even in the poorest census tracts where 20% or more of all residents live in poverty, only 1 in 23 youth are likely to be arrested.

The fact that most youth don't get arrested, even in the poorest neighborhoods, means that traditional thinking about risk factors needs to be stood on its head. Traditionally, communities assume that the most common risk factors are the ones they should address in order to reduce juvenile crime. In fact though, since most youth don't commit crimes, the most common risk factors are the ones that are *least* closely statistically associated with juvenile crime. What we need to look for are the uncommon combinations of risk factors *most* closely statistically linked to juvenile crime.

Here's an analogy illustrating the inefficiency of the traditional approach that tries to prevent crime by addressing the most common risk factors. Picture a room with 100 youth aged 7-15. On average, only 3 or 4 of those youth are likely to be arrested over the next 3 years. Imagine that those 3 or 4 kids are committing a crime right now and you want to stop them. The traditional approach to risk factors is like trying to knock down those 3 or 4 kids by trying to push down everyone in the room and hoping that the few you want to affect will also fall. Clearly you would have a better chance of succeeding if you focus your efforts more narrowly on those youth that you actually want to affect.

The Pyramid of Risk: The following table shows 3-year arrest rates for various risk factors and combinations of risk factors. The table puts the risk factors in descending order of statistical significance, thus displaying a "Pyramid of Risk" with the highest-risk groups displayed at the top of the page, with others displayed in descending order of significance. The second table uses a similar format to present the toal number of arrests per one hundred youth arrested. These numbers are higher because some youth, particularly in the highest-risk groups, get arrested more than once.


The Pyramid of Risk: 3-year arrest rate
New Focus:
"Evidence-Based Targeting"
LEGEND:
Average # in sample per year
(% of group arrested within 3 years)
41 (61%)
Grades 6-8, 20+ Absences AND 3-Day Suspension, 2004-2005
170 (41%)
Aged 11-13, Arrested in 2003
230 (24%)
Grades 1-12 with 3-day suspension, 2000-2004
709 (21%)
Grades 7-8 with 20+ Absences, 2004-2005
Traditional Focus:
"Neighborhood-Based Targeting"
Aged 10-14 in High-Poverty Neighborhoods (>20%), 2000 Census
6,614 (7%)
Males Aged 7-15 (2000-2003)
13,206 (5%)
All Youth Aged 7-15 (2000-2003)
26,071 (3%)
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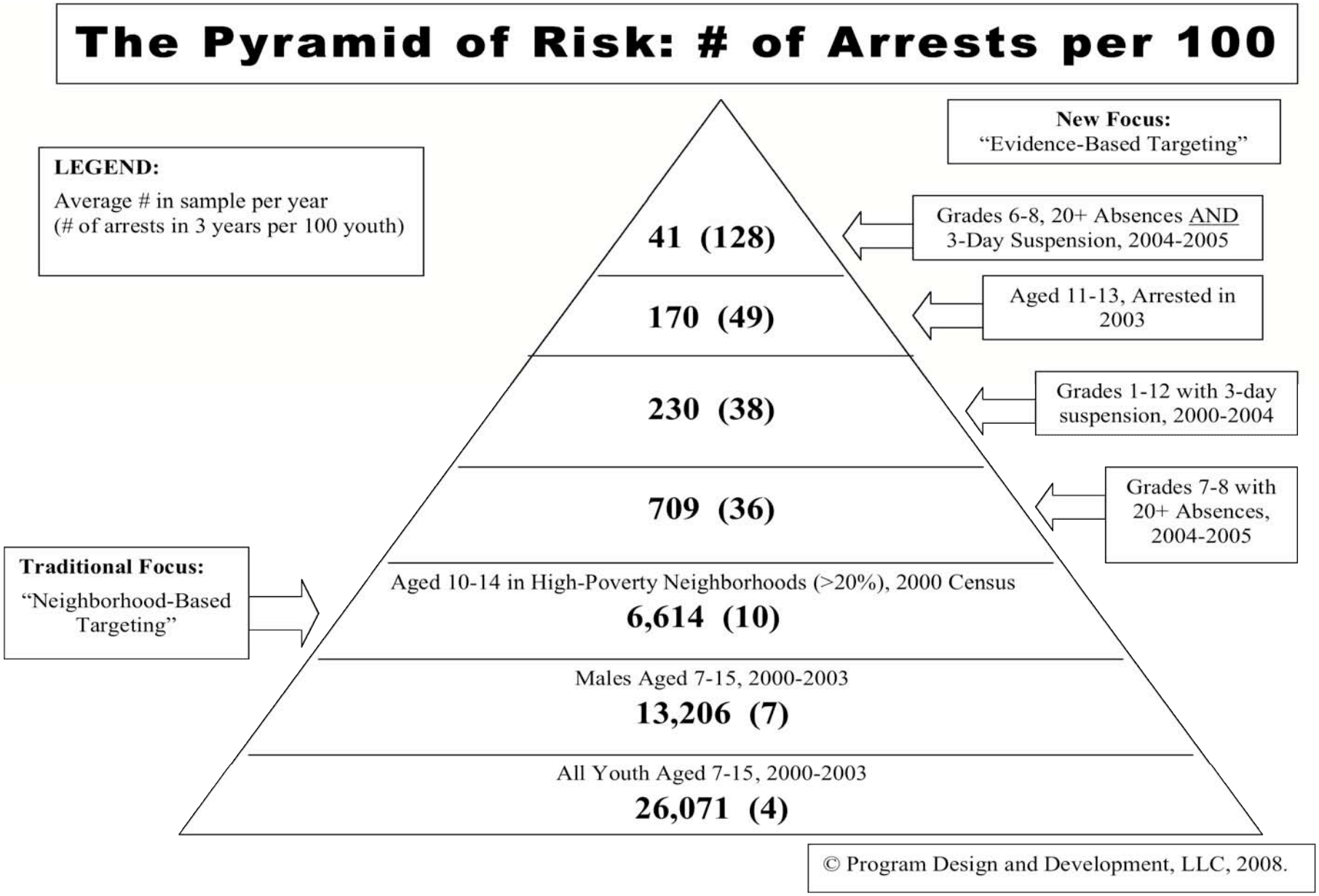
The Pyramid of Risk: # of Arrests per 100
LEGEND:
Average # in sample per year
(# of arrests in 3 years per 100 youth)
New Focus:
"Evidence-Based Targeting"
41 (128)
Grades 6-8, 20+ Absences AND 3-Day Suspension, 2004-2005
170 (49)
Aged 11-13, Arrested in 2003
230 (38)
Grades 1-12 with 3-day suspension, 2000-2004
709 (36)
Grades 7-8 with 20+ Absences, 2004-2005
Traditional Focus:
"Neighborhood-Based Targeting"
Aged 10-14 in High-Poverty Neighborhoods (>20%), 2000 Census
6,614 (10)
Males Aged 7-15, 2000-2003
13,206 (7)
All Youth Aged 7-15, 2000-2003
26,071 (4)
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Yonkers Juvenile Crime Enforcement Coalition

THE PYRAMID OF RISK*

PRIORITIZED RISK FACTORS BY 3-YEAR ARREST RATE**

Revised 1/30/08

Risk Factor	Total Individuals in Group	Arrest rate (3 yrs)* Per 100	Average # of Arrests Per Individual Arrested (3 yrs)**	Total Arrests Per 100 Youth
Students grades 6-8 with 20+ unexcused absences and at least one suspension hearing, 2004-05**	41	**61**	2.1	**128**
Students grades 6-8 with at least 20+ unexcused absences and one arrest in prior year, 2004-05**	46	**52**	1.7	**88**
Individuals aged 11 to 13 who were arrested in 2003	170	**41**	1.2	**49**
Special education students suspended for a serious/violent incident, 2000-04	168	**30**	1.5	**45**
Grades 1-12, Students suspended from school for serious/violent incident, 2000-04	690	**24**	1.6	**38**
Students in grades 7-8 with 20+ unexcused absences, 2004-05 school year**	709	**21**	1.7	**36**
Students in grades 4-8 with 20+ unexcused absences, 2004-05 school year**	1,777	**12**	1.6	**19**
Individuals at least 10 years old admitted or discharged from County care, 2000-04	236	**7**	1.4	**10**
Individuals age 10-14 living in Census tracts with poverty rates >20%, 2000 Census	6,614	**7**	1.4	**10**
Gender (Male), Age 7-15, 2000-03	17,168	**5**	1.4	**7**
All individuals age 7-15, 2000-03	33,893	**3**	1.4	**4**
Gender (Female), Age 7-15, 2000-03	16,725	**2**	1.4	**3**

*Excerpt from Yonkers Juvenile Justice Strategy and Action Plan, prepared by Program Design and Development, LLC for the Yonkers Juvenile Crime Enforcement Coalition, 4/4/08.

**NOTE: The figures that include truancy as part of the risk factor calculations are arrest rates for 2.5 years rather than 3 years, due to more limited data availability.

SAMPLE PROGRAM OUTCOMES FORM

	Baseline Calculations					Outcomes	
Target Group	Number Served	Baseline Arrest Rate, 1 Year	Predicted Individuals Arrested (Number Served x Baseline Arrest Rate)	Baseline Arrests per Individual	Predicted Total Arrests (Predicted Individuals Arrested x Baseline Arrests Per Individual)	Actual Individuals Arrested, 1 Year	Actual Total Arrests, 1 Year
Students grades 6-8 with at least 20+ unexcused absences and one arrest in prior year, 2004-05		.35		1.5			

The Baseline Arrest Rate and Baseline Arrests per Individual are drawn from the YJCEC data analysis. By filling in the proposed number of participants to be served from the target group (in the second column) and multiplying where indicated, a baseline number of predicted arrests can be calculated. These numbers would be compared to the actual number of individuals arrested and the total number of arrests (in the last two columns, to be completed at the end of the project) to determine the effectiveness of the program. An effective program should have fewer individuals actually arrested and fewer total arrests than would be expected without the program's intervention, as shown by the Predicted Individuals Arrested and Predicted Total Arrests columns.

SAMPLE PROGRAM OUTCOMES FORM (COMPLETED)

	Baseline Calculations					Outcomes	
Target Group	Number Served	Baseline Arrest Rate, 1 Year	Predicted Individuals Arrested (Number Served x Baseline Arrest Rate)	Baseline Arrests per Individual	Predicted Total Arrests (Predicted Individuals Arrested x Baseline Arrests Per Individual)	Actual Individuals Arrested, 1 Year	Actual Total Arrests, 1 Year
Students grades 6-8 with at least 20+ unexcused absences and one arrest in prior year, 2004-05	**25**	.35	**9**	1.5	**14**		

SAMPLE PROGRAM OUTCOMES FORM WITH MULTIPLE TARGET GROUPS

PLEASE NOTE: This document is meant as a sample to illustrate the process by which local prevention program outcomes can be compared to baseline arrest data for youth in different risk groups. In practice, the form should be adapted to reflect historical arrest data for the specific types of participants (in terms of age ranges and risk factors) most likely to be served by local programs.

Target Group	Baseline Calculations					Outcomes	
	Number Served	*Baseline Arrest Rate, 1 Year*	*Predicted # Individuals Arrested (Number Served x Baseline Arrest Rate)*	*Baseline # Arrests per Individual*	*Predicted # Total Arrests (Predicted Individuals Arrested x Baseline Arrests Per Individual)*	*Actual # Individuals Arrested, 1 Year*	*Actual # Total Arrests, 1 Year*
Students grades 6-8 with at least 20+ unexcused absences and one arrest in prior year		.35		1.5			
Special education students suspended from school for a serious/violent incident, grades 1-12		.20		1.5			
Students suspended from school for serious/violent incident, grades 1-12		.14		1.4			
Students in grades 7-8 with 20+ unexcused absences		.12		1.4			
Individuals age 5-17 living in Census tracts with poverty rates >20%		.02		1.3			
TOTAL							

The Baseline Arrest Rate and Baseline Arrests per Individual are based on the YJCEC data analysis. By filling in the proposed number of participants to be served from the target group (in the second column) and multiplying where indicated, a baseline number of predicted arrests can be calculated. These numbers would be compared to the actual number of individuals arrested and the total number of arrests (in the last two columns, to be completed at the end of the project) to determine the effectiveness of the program. An effective program should have fewer individuals actually arrested and fewer total arrests than would be expected without the program's intervention, as shown by the Predicted Individuals Arrested and Predicted Total Arrests columns.

PROGRAM DESIGN AND DEVELOPMENT LLC

47 Wayside Drive
White Plains, NY 10607

Phone: (914) 592-1272
Fax: (914) 592-1070
kbertrand@programdesign.com