OFFICE OF HEAD START KEY INDICATOR PROJECT REPORT

Richard Fiene, Ph.D.

The purpose of this report is to present to the Office of Head Start (OHS) Key Indicators of their Head Start Performance Standards (HSPS) that have the ability to statistically predict substantial compliance with all Compliance Measures and ultimately the majority of HSPS's. The analytical and methodological basis of this approach is based upon a *Differential Monitoring Logic Model and Algorithm (DMLMA©)* (Fiene, 2012) (see Appendix 3). The DMLMA© is the 4th generation of an Early Childhood Program Quality Indicator Model (ECPQIM)(Fiene & Nixon, 1985; Griffin & Fiene, 1995; Fiene & Kroh, 2000). Only a portion of the *DMLMA©* model was utilized in this report which focused on key indicators, risk assessment, and program quality.

Definitions:

Risk Assessment (RA) - a differential monitoring approach that employs using only those rules, standards, or regulations that place children at greatest risk of mortality or morbidity if violations/citations occur with the specific rule, standard, or regulation.

Key Indicators (KI) - a differential monitoring approach that employs using only those rules, standards, or regulations that statistically predict overall compliance with all the rules, standards, or regulations. In other words, if a program is 100% in compliance with the Key Indicators the program will also be in substantial to full compliance with all rules, standards, or regulations. The reverse is also true in that if a program is not 100% in compliance with the Key Indicators the program will also have other areas of non-compliance with all the rules, standards, or regulations.

Differential Monitoring (DM) - this is a relatively new approach to determining the number of visits made to programs and what rules, standards, or regulations are reviewed during these visits. There are two measurement tools that drive differential monitoring, one is Weighted Risk Assessment tools and the other is Key Indicator checklists. Weighted Risk Assessments determine how often a program will be visited while Key Indicator checklists determine what rules, standards, or regulations will be reviewed in the program. Differential monitoring is a very powerful approach when Risk Assessment is combined with Key Indicators because a program is reviewed by the most critical rules, standards, or regulations and the most predictive rules, standards, or regulations. See Appendix 3 which presents a Logic Model & Algorithm for Differential Monitoring *(DMLMA©)*(Fiene, 2012).

Program Quality (PQ) - for the purposes of this study this was measured via the CLASS – Classroom Assessment Scoring System. The CLASS has three sub-scales (ES = Emotional Support, CO = Classroom Organization, and IS = Instructional Support). The CLASS is a tool that is identified in the research literature as measuring classroom quality similar to the ERS tools.

Early Childhood Program Quality Indicator Model (ECPQIM) – these are models that employ a key indicator or dashboard approach to program monitoring. Major program monitoring systems in early care and education are integrated conceptually so that the overall early care and education system can be assessed and validated. With these models, it is possible to compare results obtained from licensing systems, quality rating and improvement systems (QRIS), risk assessment systems, key indicator systems, technical assistance, and child development/early learning outcome systems. The various approaches to validation are interposed within this model and the specific expected correlational thresholds that should be observed amongst the key elements of the model are suggested. **Key Elements** of the model are the following (see Appendix 3 for details): **CI** = state or federal standards, usually rules or regulations that measure health and safety - *Caring for Our Children or Head Start Performance* Standards will be applicable here. **PQ** = Quality Rating and Improvement Systems (QRIS) standards at the state level; *ERS (ECERS, ITERS, FDCRS), CLASS, or CDPES* (Fiene & Nixon, 1985). **RA** = risk assessment tools/systems in which only the most critical rules/standards are measured. *Stepping Stones* is an example of this approach. **KI** = key indicators in which only predictor rules/standards are measured. The *Thirteen Indicators of Quality Child Care* is an example of this approach. **DM** = differential monitoring decision making in which it is determined if a program is in compliance or not and the number of visits/the number of rules/standards are ascertained from a scoring protocol. **PD** = technical assistance/training and/or professional development system which provides targeted assistance to the program based upon the **DM** results. **CO** = child outcomes which assesses how well the children are developing which is the ultimate goal of the system.

The organization of this report is as follows:

1) **The first section** will provide an overall analysis the Head Start (HS), Early Head Start (EHS), and Head Start/Early Head Start (HS/EHS) programs[1,4];

2) **The second section** will provide analyses of the various content areas (CA) within the HSPS[4];

3) **The third section** will provide analyses of the relationship between the HSPS as measured by compliance with the Compliance Measures (CM) and the program quality scores (CLASS scores)[3];

4) **The fourth and final section** will provide the analyses that produced the key indicators (KI) and recommendations in how it could be used.[2]

The source of data for this report is all the Tri-Annual On-Site Monitoring visits for 2012 which consisted of 422 reviews of programs across the country. There were 191 Head Start (HS) only programs, 33 Early Head Start (EHS) only programs, and 198 Head Start/Early Head Start (HS/EHS) programs reviewed. This is a representative sample of Head Start and Early Head Start programs nationally representing approximately 25% of the total number of Head Start programs.

Before proceeding with the results of this study, a few clarifying and definitional terms need to be highlighted. In the *2012 edition of OHS On-Site Review Protocol* and the *2013 OHS Monitoring Protocol*, Compliance Indicators (CI) and Key Indicators (KI) are respectively mentioned. In the licensing literature, when the term "Indicators" is used it refers to standards/rules that are predictive of overall compliance with all rules/standards. However, as defined by OHS, indicators (CI/KI) are used within the context of risk assessment which means that these indicators are the standards which are most important/critical

to the OHS in their monitoring reviews. These indicators therefore are not predictive in essence. That is the focus of this report/study which is to determine which of these indicators are predictive of overall compliance with all the compliance/key indicators. This is a common misconception in the human service regulatory field where risk assessment tools and key indicator tools purposes are confused. As we move forward please keep the definitions in mind related to the distinctions and functionality of risk assessment and key indicators.

For the purposes of this study, 131 Compliance Measures (CM), organized into seven (7) Content Areas (CA), were reviewed and analyzed. The seven content areas are the following: Program Governance; Management Systems; Fiscal Integrity; Eligibility, Recruitment, Selection, Enrollment, and Attendance; Child Health and Safety; Family and Community Engagement; Child Development and Education. Ten CM's were from Program Governance (GOV), 10 were from Management Systems (SYS), 22 were from Fiscal Integrity (FIS), 11 were from Eligibility, Recruitment, Selection, Enrollment, and Attendance (ERSEA), 34 were from Child Health and Safety (CHS), 16 were from Family and Community Engagement (FCE), and 28 were from Child Development and Education (CDE)[4].

Section 1 - Head Start (HS), Early Head Start (EHS), and Head Start/Early Head Start (HS/EHS) programs

In order to determine if analyses needed to be performed separately on Head Start (HS), Early Head Start (EHS), and Head Start/Early Head Start (HS/EHS) combined programs, the first series of analyses were performed to determine if any statistically significant differences existed amongst these three groups. This is a very important first analysis because it will help to determine the stability of the sample selected and of the overall system. In other words, is there a good deal of consistency across all service types: HS, EHS, and HS/EHS.

Based upon Table 1, no statistically significant differences were determined amongst the three groups (HS, EHS, HS/EHS) with Compliance Measures (CM) or CLASS (ES, CO, IS) Scores indicating that using the full 422 sample and not having to do separate analyses for the three groups was the correct analytical framework. However, where it is appropriate, any statistically significant differences amongst the various program types will be highlighted.

Table 1 – Head Start, Early Head Start, & Head Start/Early Head Start With CM and CLASS/ES, CO, IS

Program Type	CM(N)	CLASS/ES(N)	CLASS/CO(N)	CLASS/IS(N)
Head Start (HS)	3.72(191)	5.88(186)	5.43(186)	2.97(186)
Early Head Start (EHS)	2.67(33)	-----*	-----*	-----*
Head Start (HS/EHS)	3.07(198)	5.91(198)	5.47(198)	3.00(198)
Totals	**3.33(422)**	**5.89(384)**	**5.45(384)**	**2.98(384)**
Statistical Significance	**NS**	**NS**	**NS**	**NS**

CM = Compliance Measures (Average Number of Violations)   **CLASS data were not collected in EHS.*
CLASS/ES = CLASS Emotional Support Average Score
CLASS/CO = CLASS Classroom Organization Average Score
CLASS/IS = CLASS Instructional Support Average Score
NS = Not Significant
N = Number of Programs

The average number of violations with the Compliance Measures for Head Start (3.72), Early Head Start (2.67) and Head Start/EHS (3.07) was not significant in utilizing a One-Way ANOVA. There were 191 Head Start (HS) programs, 33 Early Head Start (EHS) programs, and 198 Head Start (HS/EHS) programs.

Comparisons were also made with Head Start and Head Start/EHS on the various CLASS sub-scales (ES = Emotional Support, CO = Classroom Organization, and IS = Instructional Support) and no significant differences were found between these two groups. The EHS (n = 33) was not used because CLASS data were not collected in these programs.

The practical implication of the above results is that the same monitoring tools and the resulting Head Start Key Indicator (HSKI) to be developed as a result of this study can be used in the three main types of programs: Head Start, Early Head Start, and Head Start/EHS. There is no need to have separate tools.

Section 2 - Content Areas

The second series of analyses was to look more closely at the 7 content areas (CA) to measure demographically any differences amongst the various areas. In order to do this a weighted average had to be determined in order to compare the various areas because of the differences in the number of Compliance Measures (CM) used in each content area. Table 2 provides the results of these analyses. For the total sample of 422 sites, Management Systems (SYS) Content Area (CA) had the highest number of violations with the Compliance Measures (CM) with 359. The SYS/CA also had the highest average number of violations with 35.90 because there were only 10 CM.   For the total sample of 422 sites, the lowest number of violations was in the Family and Community Engagement (FCE) Content Area (CA) with 48 violations with CM. It also had the lowest average number of violations with 3.00.

For the Head Start only sites (n = 191), a similar distribution as with the total sample (n = 422) is depicted in which Management Systems (SYS) Content Area (CA) had the highest number of violations with the Compliance Measures (CM) with 192.   The SYS/CA also had the highest average number of violations with 19.20 because again there were only 10 CM. The lowest number of violations was in the Family and Community Engagement (FCE) Content Area (CA) with 20 violations with CM. It also had the lowest average number of violations with 1.25.

For the Early Head Start only (n = 33) and the Head Start/Early Head Start (n = 198) sites, the ranking of the various Content Areas changed somewhat with the total number of violations and the average number of violations from the Total Sample (n = 422) and the Head Start only (n = 191) sites but not dramatically. For example, the Family and Community Engagement (FCE); Child Development and Education (CDE); and the Eligibility, Recruitment, Selection, Enrollment, and Attendance (ERSEA) Content Areas switched rankings in which it had the fewest total violations and the average number of violations (see Table 2).

Table 2 – Comparing Content Areas and Program Types

Content Areas	Total Violations/(Rank)				Average # of Violations/(Rank)				CM #
	TOT	HS	EHS	HS/EHS	TOT	HS	EHS	HS/EHS	
FCE	48(1)	20(1)	2(1)	26(2)	3.00(1)	1.25(1)	0.125(1)	1.63(2)	16
ERSEA	62(2)	37(2)	6(3)	19(1)	5.64(3)	3.36(3)	0.545(3)	1.73(3)	11
CDE	91(3)	43(3)	5(2)	43(3)	3.25(2)	1.54(2)	0.179(2)	1.54(1)	28
GOV	150(4)	94(4)	6(3)	50(4)	15.00(6)	9.40(6)	0.600(4)	5.00(5)	10
FIS	255(5)	114(5)	23(7)	118(5)	11.59(5)	5.18(5)	1.045(6)	5.36(6)	22
CHS	333(6)	151(6)	22(6)	160(7)	9.79(4)	4.44(4)	0.647(5)	4.71(4)	34
SYS	359(7)	192(7)	20(5)	147(6)	35.90(7)	19.20(7)	2.000(7)	14.70(7)	10

CONTENT AREAS (CA):
FCE = FAMILY and COMMUNITY ENGAGEMENT
ERSEA = ELIGIBILITY, RECRUITMENT, SELECTION, ENROLLMENT, and ATTENDANCE
CDE = CHILD DEVELOPMENT AND EDUCATION
GOV = PROGRAM GOVERNANCE
FIS = FISCAL INTEGRITY
CHS =CHILD HEALTH AND SAFETY
SYS = MANAGEMENT SYSTEMS

TOT = TOTAL NUMBER OF SITES, FULL SAMPLE OF 422 SITES
HS = HEAD START ONLY PROGRAMS
EHS = EARLY HEAD START ONLY PROGRAM
HS/EHS = HEAD START AND EARLY HEAD START COMBINED PROGRAMS
CM = NUMBER OF COMPLIANCE MEASURES

TOTAL VIOLATIONS = ALL THE VIOLATIONS FOR A SPECIFIC CONTENT AREA.
AVERAGE # OF VIOLATIONS = THE TOTAL VIOLATIONS FOR A SPECIFIC CA DIVIDED BY THE NUMBER OF COMPLIANCE MEASURES FOR THAT SPECIFIC CONTENT AREA.
RANK = HOW EACH CONTENT AREA COMPARES TO THE OTHER CONTENT AREAS FOR THE RESPECTIVE PROGRAM TYPE.

For the total sample (n = 422), other CA's had different configurations between the total number of violations and the average number of violations as demonstrated by CHS – Child Health and Safety in which there was a total of 333 violations but the average number of violations was 9.79 because there were 34 Compliance Measures (CM). Program Governance (GOV) had 150 total violations and a weighted-average of 15 violations with 10 CM. Child Development and Education (CDE) had 91 total violations and a weighted-average of 3.25 violations. Fiscal Integrity (FIS) had 255 total violations and a weighted-average of 11.59 violations. And lastly, Eligibility, Recruitment, Selection, Enrollment, and Attendance (ERSEA) had 62 total violations and a weighted-average of 5.64 violations.

The Head Start only (HS = 191), Early Head Start only (EHS = 33), and the Head Start/Early Head Start (HS/EHS = 198) programs followed a similar pattern as with the total sample (n = 422). This indicates a great deal of consistency in the sample drawn. See Appendix 4 for violation data for all 131 Compliance Measures.

The practical implication of the above findings is that certain Content Areas (SYS, GOV, FIS) may need additional exploration by OHS because of their high rates of non-compliance with the Compliance Measures.

Section 3 – Program Quality

This section provides comparisons between the Compliance Measures (CM) data and the CLASS (ES, CO, IS) data. This is a very important section because there is always the concern that compliance with the HSPS has no relationship to program quality as measured by the CLASS.   In Table 3, correlations were run between the CM data and the CLASS scores for Emotional Support (ES), Classroom Organization (CO), and Instruction Support (IS) for the Head Start only and the Head Start/Early Head Start programs. The EHS only programs were not included because CLASS data are not collected on these programs. The results are very positive and statistically significant in most cases. It is also important to note the very positive correlation between the Head Start Key Indicators (HSKI[2]) and CLASS. This result supports using the HSKI in monitoring Head Start.

Table 3 – Relationship Between Compliance Measures (CM), KI, and CLASS (ES, CO, IS) Scores

| CLASS | Compliance Measures Content Areas | | | | | | | | Key Indicators |
	CM	FCE	ERSEA	CDE	GOV	FIS	CHS	SYS	KI
CLASS/ES	.22**	.13*	.15**	.15**	.11*	.05	.23**	.17**	.27**
CLASS/CO	.19**	.13*	.11*	.16**	.04	.06	.21**	.15**	.25**
CLASS/IS	.20**	.10	.12*	.12*	.13*	.06	.18**	.11*	.17**

CM Violations = Total Compliance Measure Violations

CONTENT AREAS (CA):
FCE = FAMILY and COMMUNITY ENGAGEMENT
ERSEA = ELIGIBILITY, RECRUITMENT, SELECTION, ENROLLMENT, and ATTENDANCE
CDE = CHILD DEVELOPMENT AND EDUCATION
GOV = PROGRAM GOVERNANCE
FIS = FISCAL INTEGRITY
CHS =CHILD HEALTH AND SAFETY
SYS = MANAGEMENT SYSTEMS

CLASS/IS = Average CLASS IS (Instructional Support) Score
CLASS/ES = Average CLASS ES (Emotional Support) Score
CLASS/CO = Average CLASS CO (Classroom Organization) Score

KI = Key Indicators Total Score

*** p < .01*
* * p < .05*

See Appendix 6 & 6A for the inter-correlations amongst all the Content Areas, HSKI, and Total Compliance with Compliance Measures.

These results are very important but it is equally important to look more specifically at the distribution of the Compliance Measures (CM) scores and their relationship to the CLASS data (see Appendix 5 for detailed graphic distributions and Appendix 6 & 6A for the inter-correlations amongst all the CA). When this is done a very interesting trend appears (see Table 3a) in which a definite plateau occurs as the scores move from more violations or lower compliance with the Compliance Measures (25-20 to 3-8 CM Violations) to fewer violations or substantial compliance with the Compliance Measures (1-2 CM Violations) and full compliance with the Compliance Measures (Zero (0) CM Violations).

Table 3a – Aggregate Scores Comparing CM Violations with CLASS Scores

CM Violations		IS	ES	CO	Number/Percent
0	(Full Compliance)	3.03	5.99	5.59	75/19%
1-2	(Substantial Compliance)	3.15	5.93	5.50	135/35%
3-8	(Mid-Compliance)	2.87	5.85	5.37	143/40%
9-19	(Lower Compliance)	2.65	5.71	5.32	28/6%
20-25	(Lowest Compliance)	2.56	5.52	4.93	3/1%
Significance		**F = 4.92; p < .001**	**F = 4.918; p < .001**	**F = 4.174; p < .003**	

CM Violations = Compliance Measure Violations (lower score = higher compliance)(higher score = lower compliance)
IS = Average CLASS IS (Instructional Support) Score
ES = Average CLASS ES (Emotional Support) Score
CO = Average CLASS CO (Classroom Organization) Score
#/% = Number of programs and Percent of programs at each level of compliance

When comparing these groupings in Table 3a the results from a One Way ANOVA were significant (F = 4.92; p < .001) for the CLASS/IS Scores. The average CLASS/IS Score when there were no CM Violations was 3.03. The average CLASS/IS Score when there were 1-2 CM Violations was 3.15. The average CLASS/IS Score when there were 3-8 CM Violations was 2.87. The average CLASS/IS Score when there were 9-19 CM Violations was 2.65. And finally, the average CLASS/IS Score when there were 20-25 violations was 2.56. The results were very similar with the CLASS/ES and CLASS/CO scores as well in which the results from a One Way ANOVA were statistically significant for the CLASS/ES (F = 4.918; p < .001) and for the CLASS/CO (F = 4.174; p < .003). These results clearly demonstrate that being in full or substantial compliance with the Compliance Measures correlates with more positive scores on the CLASS. Approximately 55% of the Head Start programs are at the full or substantial compliance level.

The practical implication of the above findings is that placing equal emphasis on full as well as substantial compliance with the Compliance Measures could be an acceptable public policy decision.

Section 4 – Head Start Key Indicators (HSKI)

The fourth and final section of this report is in some ways the most important since this is the focus of the study: developing statistically predictive Key Indicator (KI) Compliance Measures (CM) – the Head Start Key Indicators (HSKI).

These are the statistically predictive Key Indicators based upon the KI methodology, correlations with the CLASS/ES, CO, IS, and correlations with the CM Total Violation scores. Table 4 lists the results while Appendix 1 has the specific KI's content specified.   Appendix 2 depicts the KI Formula Matrix. Only those Compliance Measures (CM) that had significant results on three of the five correlations were selected to be Head Start Key Indicator Compliance Measures (HSKI).

The methodology used to generate the Compliance Measure Key Indicators sorted the top 20% of programs in compliance and compared this group to the bottom 27% of programs in compliance. The middle 53% of programs were not used in order to determine the Key Indicators. These cut off points

were determined by the compliance distribution in which 20% of the programs were in 100% compliance while 27% of the programs had compliance scores of 95% or less.

Table 4 – Head Start Key Indicator (HSKI) Compliance Measures (CM) and CLASS and Total Violations

HSKI/CM (2013)	Phi	CLASS/ES	CLASS/CO	CLASS/IS	Total Violations
CDE4.1	.28***	.10*	ns	ns	.30***
CHS1.1	.39***	.15**	.16**	ns	.39***
CHS1.2	.33***	.18**	.15**	.10*	.36***
CHS2.1	.49***	.18**	.15**	ns	.54***
CHS3.10	.39***	.11*	.11*	ns	.24***
GOV2.1	.31***	.11*	ns	ns	.46***
SYS2.1	.47***	.15**	.16**	.14**	.55***
SYS3.4	.58***	.13*	.10*	ns	.36***

Phi = the phi coefficient which statistically predicts compliance with the full set of CM's.

CLASS/ES = correlations between the specific CM and this specific scale of the CLASS.
CLASS/CO = correlations between the specific CM and this specific scale of the CLASS.
CLASS/IS = correlations between the specific CM and this specific scale of the CLASS.

Total Violations = correlations between the specific CM and the total number of CM violations for each program.

*   p < .05
**   p < .01
****   p < .001*
ns = not significant

Separate Key Indicators were run for just Head Start only and Head Start/Early Head Start programs but the key indicators were only a subset of the above list, albeit a shorter list in each case. Based upon those phi coefficients, it was determined that using the above list for all Head Start only, Early Head Start, and Head Start/Early Head Start was a more efficient and effective way to monitor all the programs with one list of indicators rather than having separate key indicators for program types. The separate phi coefficients run for Head Start only and Head Start/Early Head Start programs did not show any significant differences because they were sub-samples of the overall sample drawn.

Section 4A – Suggested Use of the HSKI for Head Start Program Monitoring

Now that Key Indicators have been generated, the next question is how to use HSKI in the program monitoring of Head Start. A possible way in which the HSKI could be used would be the following (see Figure 1) in which a differential monitoring approach could be used:

All programs would be administered the HSKI. If there is full (100%) compliance with the Head Start Key Indicators (HSKI) then the next scheduled review of the program would be an Abbreviated Monitoring Visit (AMV). If there is not 100% compliance with the Head Start Key Indicators (HSKI) then the next scheduled review of the program would be a Full Monitoring Visit (FMV) in which all Compliance Measures are reviewed. Based upon the results of the FMV a determination could be made regarding a compliance or non-compliance decision (see Figure 1) and how often the program will be visited.

Figure 1 – Head Start Key Indicator (HSKI) Compliance Measures Differential Monitoring Model
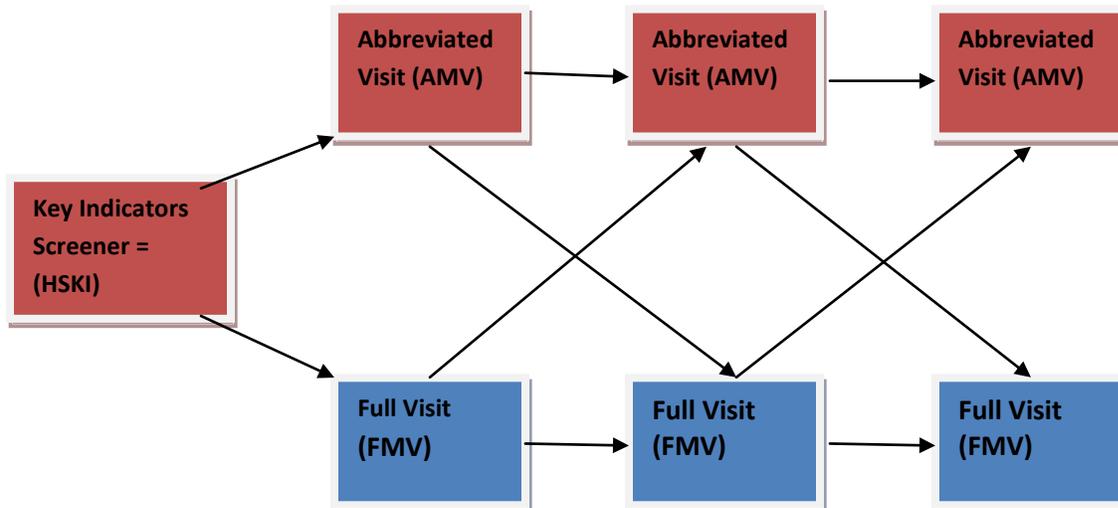
Compliance Decisions:

Head Start Key Indicators (HSKI) – this becomes a screening tool to determine if a program receives an AMV OR FMV visit.

HSKI (100%) = *For the next visit, an Abbreviated Monitoring Visit (AMV) is conducted. Every 3-4 yrs a full Monitoring is conducted.*

HSKI (not 100%) = *For the next visit, a Full Monitoring Visit (FMV) is conducted and all CMs are reviewed.*

Compliance = *98%+ with all CMs which indicates substantial to full compliance and 100% with HSKI. For the next visit, an Abbreviated Monitoring Visit (AMV) is conducted.*

Non-compliance = *less than 98% with all CMs which indicates low compliance. For the next visit a Full Monitoring Visit (FMV) is conducted.*

Moving to a differential monitoring system could provide a cost effective and efficient model for Head Start program monitoring. This revision to the Head Start program monitoring system would combine a risk assessment and key indicator approach (see Appendix 3) in determining what compliance measures to review, how often, and how comprehensive a review should be utilized. It would continue to focus on the most critical compliance measures that statistically predict overall compliance with the full complement of compliance measures.

See Appendix 7 – Figure 2 for how the above differential monitoring system could impact the present Head Start Tri-Annual Review Monitoring System. In this appendix, a cost neutral monitoring system is proposed based upon the above DMLMA/Key Indicator Model.

References

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Footnotes

1) PIR Dashboard Key Indicators could not be generated because the PIR data demonstrated little statistical predictive ability to be useful for discriminating between high and low compliant programs or program quality with the exception of staff having CDA's.

2) The correlation between Compliance Measures (CM) and the statistically predictive Key Indicators (HSKI) was .77 which exceeds the expected correlation threshold.

3) The correlations between the CLASS/ES, CO, IS and Key Indicators were the following: .27, .25, .17 respectively. The correlations between KI and ES and CO were higher than the correlations between CM and ES, CO as reported earlier in this report. The correlation between IS and CM was higher .20 than KI and IS (.17).

4) Because this study spans the 2012 Review Protocol and 2013 Monitoring Protocol, Compliance Indicators and Compliance Measures are used interchangeably with a preference given to using Compliance Measures (CM) in this report. There are 139 Compliance Indicators; 115 Compliance Measures, but for the purposes of this study 131 Compliance Measures were available in the 2012 Head Start data base drawn for this study.

For additional information regarding this report, please contact:
Richard Fiene, Ph.D., Director
Research Institute for Key Indicators
41 Grandview Drive
Middletown, PA. 17057
DrFiene@gmail.com
RIKI.Institute@gmail.com
717-944-5868 Phone and Fax
http://RIKInstitute.wikispaces.com
http://pennstate.academia.edu/RickFiene

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Appendix 1 – Head Start Key Indicators (HSKI) Compliance Measures Content

CM	Content	Regulations/Law
CDE4.1*	The program hires teachers who have the required qualifications, training, and experience.	1304.52(f), 645A(h)(1), 648A(a)(3)(B)(i), 648A(a)(3)(B)(ii), 648A(a)(3)(B)(iii)
CHS1.1	The program engages parents in obtaining from a health care professional a determination of whether each child is up to date on a schedule of primary and preventive health care (including dental) and assists parents in bringing their children up to date when necessary and keeping their children up to date as required.	1304.20(a)(1)(ii), 1304.20(a)(1)(ii)(A), 1304.20(a)(1)(ii)(B)
CHS1.2	The program ensures that each child with a known, observable, or suspected health, oral health, or developmental problem receives follow-up and further testing, examination, and treatment from a licensed or certified health care professional.	1304.20(a)(1)(iii), 1304.20(a)(1)(iv), 1304.20(c)(3)(ii)
CHS2.1	The program, in collaboration with each child's parent, performs or obtains the required linguistically and age-appropriate screenings to identify concerns regarding children within 45 calendar days of entry into the program, obtains guidance on how to use the screening results, and uses multiple sources of information to make appropriate referrals.	1304.20(a)(2), 1304.20(b)(1), 1304.20(b)(2), 1304.20(b)(3)
CHS3.10	Maintenance, repair, safety of facility and equipment	1304.53(a)(7)
GOV2.1*	Members of the governing body and the Policy Council receive appropriate training and technical assistance to ensure that members understand information they receive and can provide effective oversight of, make appropriate decisions for, and participate in programs of the Head Start agency.	642(d)(3)
SYS2.1	The program established and regularly implements a process of ongoing monitoring of its operations and services, including delegate agencies, in order to ensure compliance with Federal regulations, adherence to its own program procedures, and progress towards the goals developed through its Self-Assessment process.	1304.51(i)(2), 641A(g)(3)
SYS3.4	Prior to employing an individual, the program obtains a: Federal, State, or Tribal criminal record check covering all jurisdictions where the program provides Head Start services to children; Federal, State, or Tribal criminal record check as required by the law of the jurisdiction where the program provides Head Start services; Criminal record check as otherwise required by Federal law	648A(g)(3)(A), 648A(g)(3)(B), 648A(g)(3)(C)

*** FY 2013 Office of Head Start Monitoring Protocol (October 26, 2013) Compliance Measures**

Appendix 2: Key Indicator Formula Matrix for HSKI – Head Start Key Indicators

	Providers In Compliance	Programs Out Of Compliance	Row Total
High Group	A	B	Y
Low Group	C	D	Z
Column Total	W	X	Grand Total

Key Indicator Statistical Methodology (Calculating the Phi Coefficient):

$$\phi \; = \; (A)(D) - (B)(C) \; \div \; \sqrt{(W)(X)(Y)(Z)}$$

_____

A = High Group + Programs in Compliance on Specific Compliance Measure.
B = High Group + Programs out of Compliance on Specific Compliance Measure.
C = Low Group + Programs in Compliance on Specific Compliance Measure.
D = Low Group + Programs out of Compliance on Specific Compliance Measure.

W = Total Number of Programs in Compliance on Specific Compliance Measure.
X = Total Number of Programs out of Compliance on Specific Compliance Measure.
Y = Total Number of Programs in High Group.
Z = Total Number of Programs in Low Group.

_____

High Group = Top 20% of Programs in Compliance with all Compliance Measures.
Low Group = Bottom 27% of Programs in Compliance with all Compliance Measures.

Phi Coefficient Range	Characteristic of Indicator	Decision
(+1.00) – (+.26)	Good Predictor	Include on HSKI
(+.25) – (0)	Too Easy	Do not Include
(0) – (-.25)	Too Difficult	Do not Include
(-.26) – (-1.00)	Terrible Predictor	Do not Include

Appendix 3

DIFFERENTIAL MONITORING LOGIC MODEL AND ALGORITHM (Fiene, 2012) *DMLMA©* Applied to the Office of Head Start Program Monitoring Compliance System

**CI + PQ => RA + KI => DM**

Head Start Examples:

CI = Head Start Performance Standards (HSPS)
PQ = CLASS ES, IS, CO (CLASS)
RA = Compliance Measures (CM)
KI = Key Indicators (generated from this study = Head Start Key Indicators (HSKI))
DM = Not Applicable at this time (NA) but see Figure 1 for a proposed model

DMLMA© Thresholds:
High Correlations (.70+) = CI x KI.
Moderate Correlations (.50+) = CI x RA; RA x DM; RA x KI; KI x DM.
Lower Correlations (.30+) = PQ x CI; PQ x RA; PQ x KI.
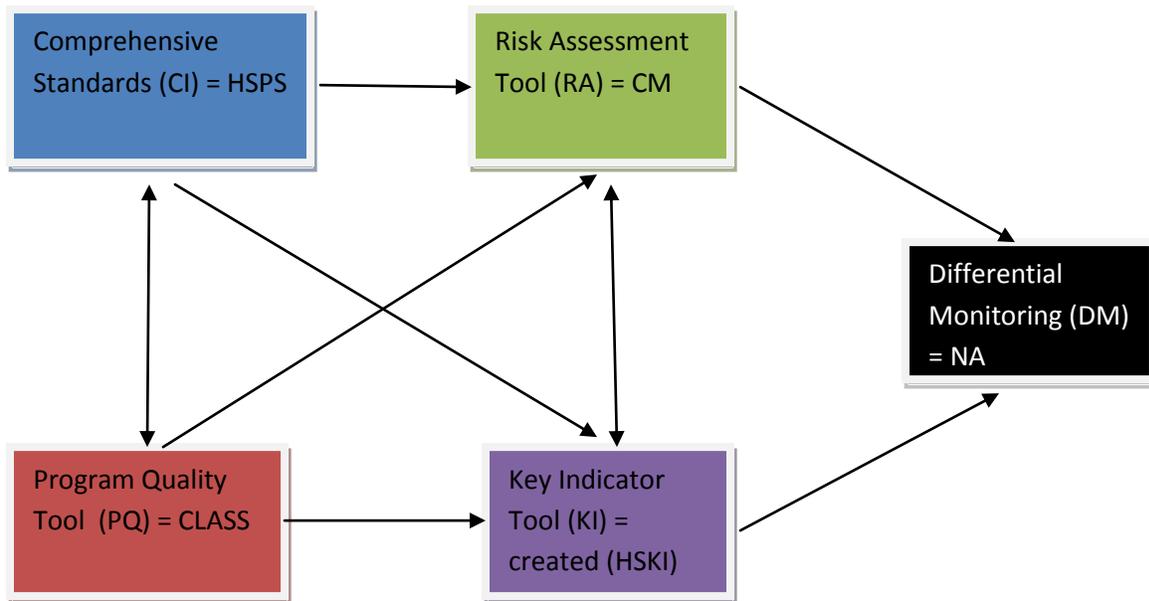
Appendix 4: Content Areas and Compliance Measures

Content Areas and Compliance Measures *FY 2012 OHS On-Site Review Protocol (FY 2013 OHS Monitoring Protocol)*	Percent (%) Compliance
CDE - CHILD DEVELOPMENT AND EDUCATION	**99%**
1.1(2.2) The program implements a curriculum that is aligned with the Head Start Child Development and Early Learning Framework…	99%
1.2 The program implements a curriculum that is evidence-based…	99%
1.3(2.1) The curriculum is comprehensive….	99%
2.1 The program implements an infant toddler curriculum….	99%
2.2 The program develops secure relationships in out of home care settings for infants and toddlers…	100%
2.3 The program implements an infant/toddler curriculum that encourages trust….	100%
2.4 The program encourages the development of self-awareness, autonomy…..	100%
2.5 The program fosters independence.	100%
2.6 The program enhances each child's strengths by encouraging self control….	99%
2.7 The program plans for routines and transitions…..	99%
2.9 The program encourages respect for others feelings and rights.	99%
2.10 The program provides opportunities for children to engage in child-initiated…..	100%
2.11 Nutrition services contribute to children's development and socialization…..	100%
3.1 The program uses information from screenings, ongoing observations…..	99%
3.3 The programs' nutrition program is designed and implemented to meet the nutritional needs….	98%
3.4(CHS4.5) Meal and snack periods are appropriately scheduled….	99%
3.5(3.2) Services provided to children with identified disabilities are designed to support…..	100%
3.6(3.3) The program designates a staff member or consultant to coordinate services for children w/disabilities…	100%
3.7(3.4) The program has secured the services of a mental health professional…..	97%
3.8(3.5) The program's approach to CDE is developmentally and linguistically appropriate….	99%
4.1 The program establishes goals for improving school readiness…..	98%
4.2 The program uses self assessment information on school readiness goals…..	99%
4.3 The program demonstrates that children who are dual language learners…..	100%
5.1(4.1) The program hires teachers who have the required qualifications, training, & experience.	92%
5.2 The program ensures that family child care providers have the required qualifications….	100%
5.3 The program ensures that all full time Head Start employees who provide direct education….	96%
5.4 The program ensures that home visitors have the required qualifications, training….	99%
5.5 When the majority of children speak the same language…..	99%
CHS - CHILD HEALTH AND SAFETY	**97%**
1.1 The program engages parents in obtaining from a health care professional a determination of whether each child….	89%
1.2 The program ensures that each child with a known, observable, or suspected health, oral health…..	92%
1.3 The program involves parents, consulting with them immediately when child health or developmental problems…..	100%
1.4 The program informs parents and obtains authorization prior to all health procedures….	98%
1.5 The program has established procedures for tracking the provision of health services.	97%
1.6 The EHS program helps pregnant women, immediately after enrollment in the program, access through referrals…..	100%
1.7 Program health staff conduct a home visit or ensure that a health staff member visits each newborn within 2 weeks of birth….	97%
2.1 The program, in collaboration with each child's parent, performs or obtains the required screenings….	84%
2.2 A coordinated screening, assessment, and referral process for all children….	98%
2.3 The program, in partnership with the LEA or Part C Agency, works to inform and engage parents in all plans for screenings….	99%
3.1 Facilities used for center based program options comply with state and local licensing….	100%
3.2 The program ensures that sufficient equipment, toys, materials, and furniture are provided….	97%
3.3 Precautions are taken to ensure the safety of children.	99%
3.4 The program ensures that medication is properly stored and is not accessible to children.	98%
3.5 The program ensures that no hazards are present around children.	89%
3.6 The program ensures that sleeping arrangements for infants do not use soft bedding materials.	99%
3.7 All infant and toddler toys are made of non-toxic materials and sanitized regularly.	99%
3.8 The program has adequate usable indoor and outdoor space.	99%
3.9 Outdoor play areas are arranged to prevent children from getting into unsafe or unsupervised areas…..	100%
3.10 The program provides for maintenance, repair, safety, and security of all Head Start facilities and equipment.	85%
3.11 The program's facilities provide adequately for children with disabilities…..	100%
4.1 Staff, volunteers, and children wash their hands with soap and running water.	98%
4.2 Spilled bodily fluids are cleaned up and disinfected immediately….	100%
4.3 The program adopts sanitation and hygiene practices for diapering……	99%

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4.4(4.7) The program ensures that facilities are available for proper refrigerated storage and handling of breast milk and formula.	100%
4.5(4.8) Effective oral hygiene is promoted among children in conjunction with meals.	99%
5.1 The program ensures appropriate class and group sizes based on the predominant age of the children.	99%
5.2 The program ensures that no more than eight children are placed in an infant and toddler space…..	99%
6.1 The program's vehicles are properly equipped.	99%
6.2 At least one bus monitor is aboard the vehicle at all times.	99%
6.3 Children are released only to a parent……	99%
6.4 Each bus monitor, before duty, has been trained on child boarding and exiting procedures……	99%
6.5 The program ensures that persons employed to drive vehicles receive the required behind the wheel training….	99%
6.6 Specific types of transportation assistance offered are made clear to all prospective families…	100%
ERSEA – ELIGIBILITY, RECRUITMENT, SLECTION, ENROLLMENT, AND ATTENDANCE	**98%**
1.1 The program developed and implemented a process that is designed to actively recruit families…..	99%
1.2 The program has a systematic process for establishing selection criteria……	99%
1.3 The program has established and implemented outreach and enrollment policies and procedures….	99%
2.1 Program staff verified each child's eligibility……	94%
2.2 The program enrolls children who are categorically eligible…..	99%
2.3 The American Indian or Alaskan Native programs ensure that the children who meet the following requirements….	100%
3.1 Actual program enrollment is composed of at least 10 percent children with disabilities.	96%
3.2 The program enrolled 100% of its funded enrollment…..	98%
3.3 The program has documentation to support monthly enrollment data …..	98%
4.1 When monthly average daily attendance in center based programs falls below 85%, the causes of absenteeism….	99%
4.2 The program ensures that no child's enrollment or participation in the Head Start program is contingent on payment of a fee.	99%
FCE – FAMILY AND COMMUNITY ENGAGEMENT	**99%**
1.1(1.2) Program staff are familiar with the backgrounds of families and children…..	100%
1.2(1.3) A strength based and family driven collaborative partnership building process is in place…..	100%
1.3(1.4) The program provides resources and services for families' needs, goals, and interests…..	99%
2.1 The program provides opportunities for parents to enhance their parenting skills…..	99%
2.2 Parents and staff share their respective concerns and observations about their individual children…..	99%
2.3 On site mental health consultation assists the program in providing education to parents……	97%
3.1 Program staff plan, schedule, and facilitate no fewer than two staff parent conferences……	98%
3.2(1.1) The program is open to parents during all program hours….	99%
3.3(3.2) In home based settings, programs encourage parents to be integrally involved in their children's development.	99%
3.4(3.3) Programs provide opportunities for children and families to participate in literacy services……	99%
3.5(3.4) The program builds parents' confidence to advocate for their children by informing parents of their rights…..	99%
4.1 The program has procedures to support successful transitions for enrolled children…..	99%
4.2 The program initiates transition planning for each EHS enrolled child at least 6 months prior to the child's 3rd birthday….	99%
5.1 The program has established and maintains a health services advisory committee.	97%
5.2 The program has taken steps to establish ongoing collaborative relationships with community organizations….	100%
5.3 The program coordinates with and has current interagency agreements in place with LEA's…..	98%
FIS – FISCAL INTEGRITY	**97%**
1.1 The program's financial management systems provide for effective control…..	94%
1.2 The program sought and received prior approval in writing for budget changes….	99%
1.3 The program minimized the time elapsing between the advancement of funds from the Payment Management System….	100%
1.4 The program used Head Start funds to pay the cost of expenses….	99%
1.5 The program has obtained and maintained required insurance coverage for risks and liabilities.	99%
2.1 Financial reports and accounting records are current, accurate, complete….	98%
2.2 Monthly financial statements, are provided to program governing bodies and policy groups….	97%
3.1(3.1) The program has procurement procedures that provide all requirements specified in the applicable statutes…..	95%
3.2(3.1) Contracts and delegate agency agreements are current, available, signed, and dated…..	96%
4.1 Original time records are prepared and properly signed by the individual employee & approved…..	97%
4.2 Head Start or EHS grant funds are not used as any part of the monetary compensation….	99%
4.3 Total compensation for personal services charged to the grant are allowable and reasonable….	98%
5.1 The grantee has implemented procedures to determine allowability, allocability, and reasonableness of costs…..	95%
5.2 Indirect cost charges are supported by a negotiated and approved indirect cost rate.	100%
5.3 If the grantee is required to allocate costs between funding sources, the program utilizes a method for allocating costs….	97%
5.4 The financial records of the grantee are sufficient to allow verification that non-Federal participation is necessary…..	90%
5.5(5.3) The grantee can demonstrate that all contributions of non-Federal share are necessary and reasonable…..	98%
5.6(5.4) During each funding period reviewed the grantee charged to the award only costs resulting from obligations….	98%
6.1(6.1;6.2) For grantees that own facilities purchased or constructed using Head Start grant funds, documentation is available….	97%
6.2(6.1;6.2) The grantee meets property management standards for equipment purchased using HS funds…..	94%
6.3(6.1;6.2) Grantees that entered into a mortgage or other loan agreement using collateral property complied with Federal regs….	97%
6.4(6.1;6.2) The amount which the grantee may claim a cost or non-Federal share contribution……	96%
GOV – PROGRAM GOVERNANCE	**96%**

1.1 The program has a governing body….	98%
1.2 The program has established a policy council….	98%
2.1 Policy council and plicy committee members are supported by the program….	99%
2.2 The program has policies and procedures in place to ensure that member of the governing body & PAC are free…..	97%
3.1(2.1) Members of the governing body and the PAC receive appropriate training and TA……	94%
3.2(2.2) The governing body performs required activities and makes decisions pertaining to program administration….	95%
3.3 The governing body approves financial management, accounting, and reporting policies…..	99%
3.4 The governing body reviews and approves all of the program's major policies……	95%
3.5(2.4) The PAC approves and submits decisions about identified program activities to the governing body.	98%
4.1(3.1) Governing body and PAC members r3egulatly receive and use information about program planning…..	88%
SYS – MANAGEMENT SYSTEMS	**91%**
1.1 The program routinely engages in a process of systematic planning that utilizes the results of the community assessment….	97%
1.2(5.1) At least annually, the program conducts a self assessment of program effectiveness….	97%
2.1(5.2) The program established and regularly implements a process of ongoing monitoring of its operations and services….	86%
2.2 The program established and maintains a record keeping system regarding children, families, and staff…..	92%
2.3 The program publishes and makes available to the public an annual report…..	88%
3.1 The program has established an organizational structure that provides for adequate supervision…..	97%
3.2 The program develops and implements written standards of conduct…..	97%
3.3 The program ensures that each staff member completes an initial health examination…..	90%
3.4 Prior to employing an individual, the program obtains: criminal record check….	66%
4.1 The program has mechanisms for regular communication among all program staff….	98%

Appendix 5 – Histograms of Total Compliance Measure Violations, CLASS (IS, ES, CO) Scores and Head Start Key Indicator (HSKI) Scores
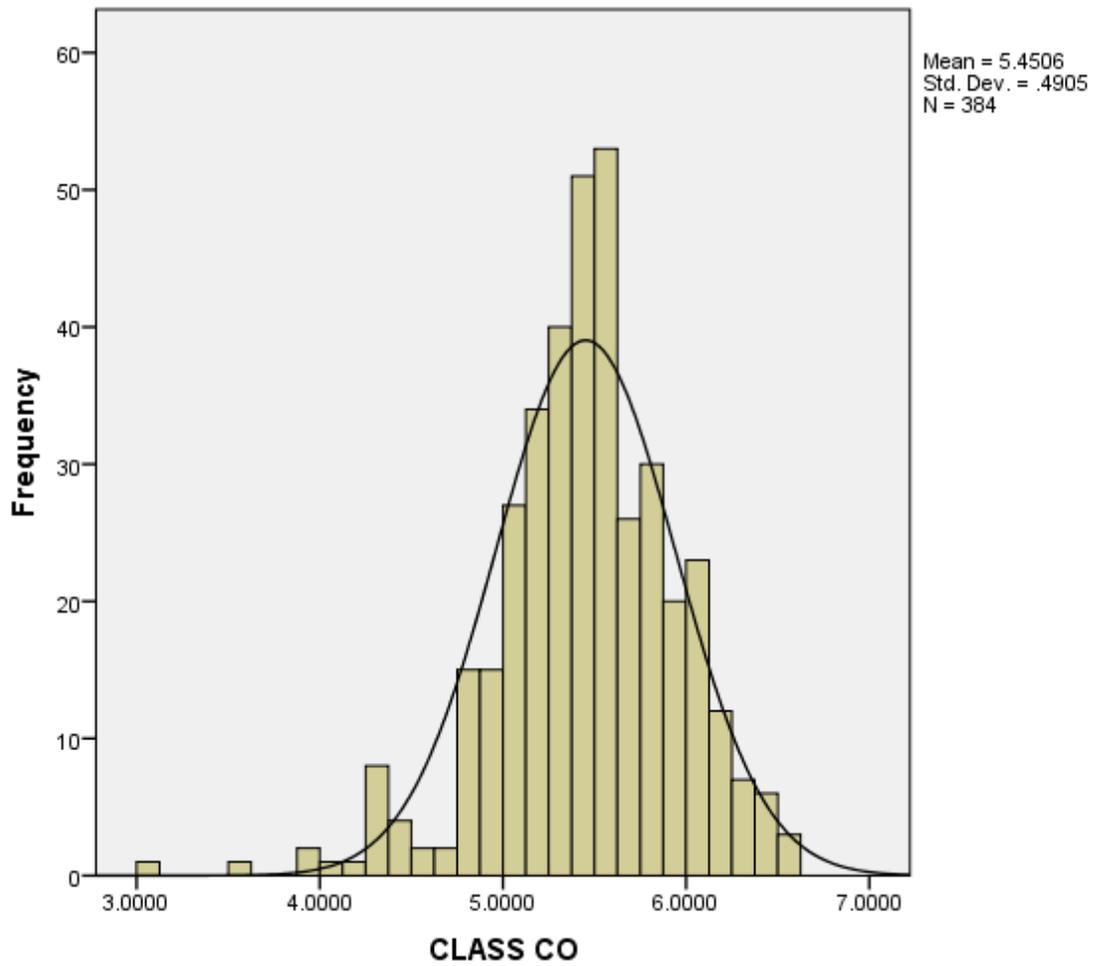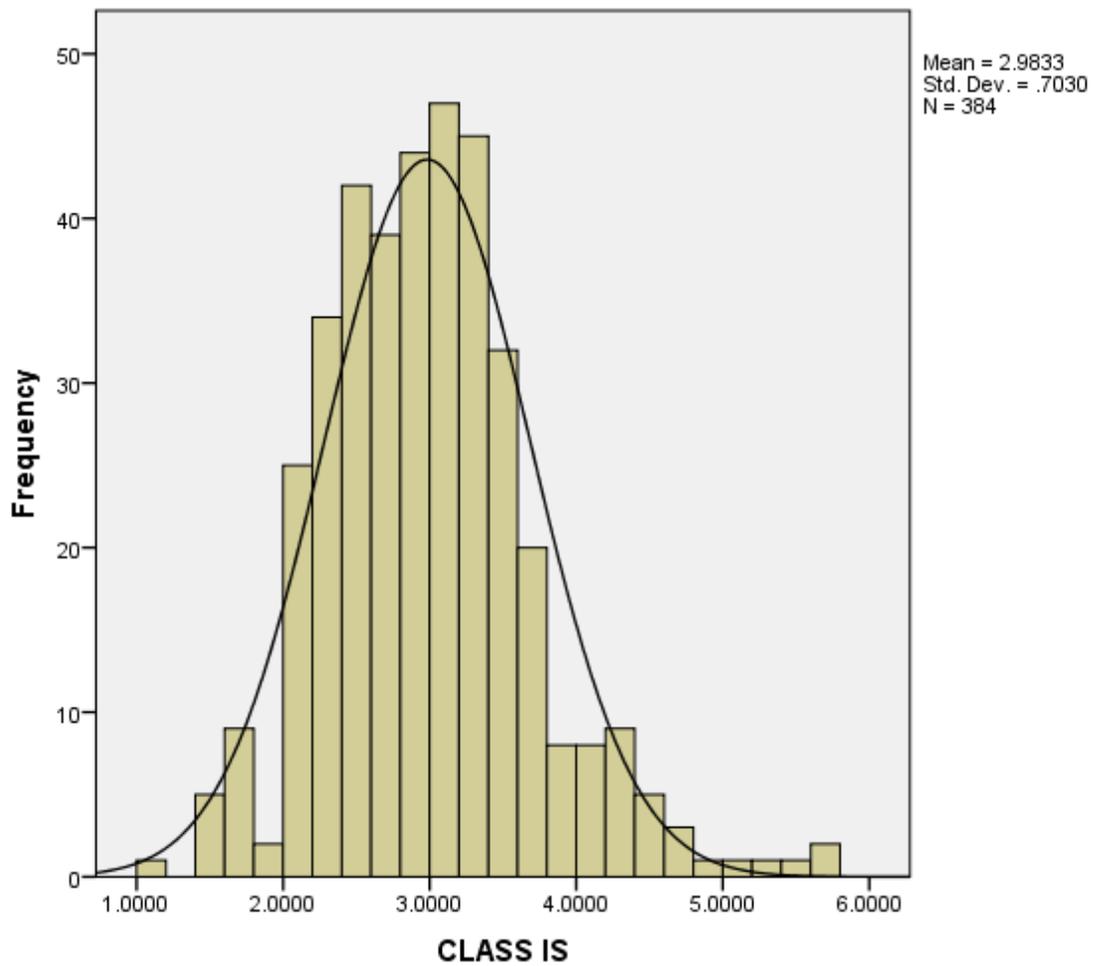
Total Compliance Measure Violations

Mean = 3.33
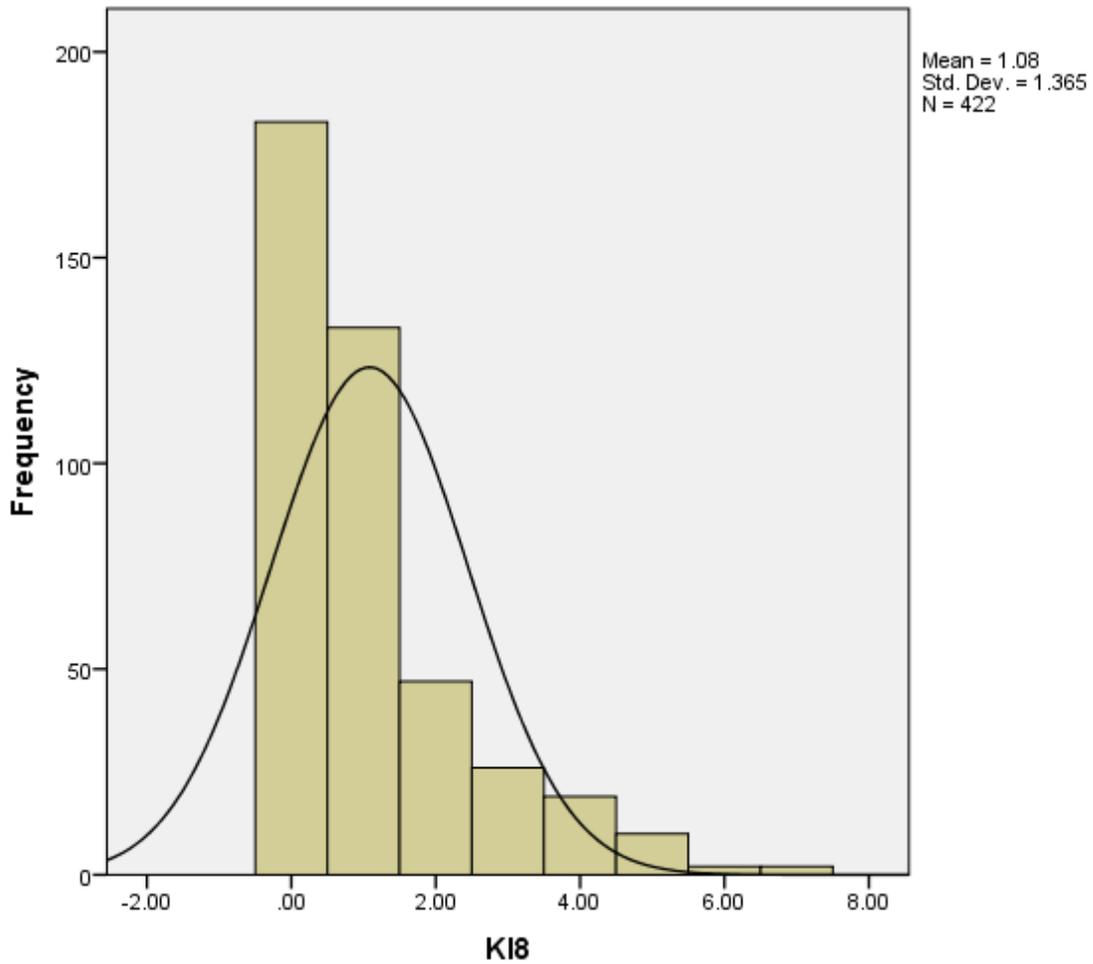Std. Dev. = 3.769
N = 422
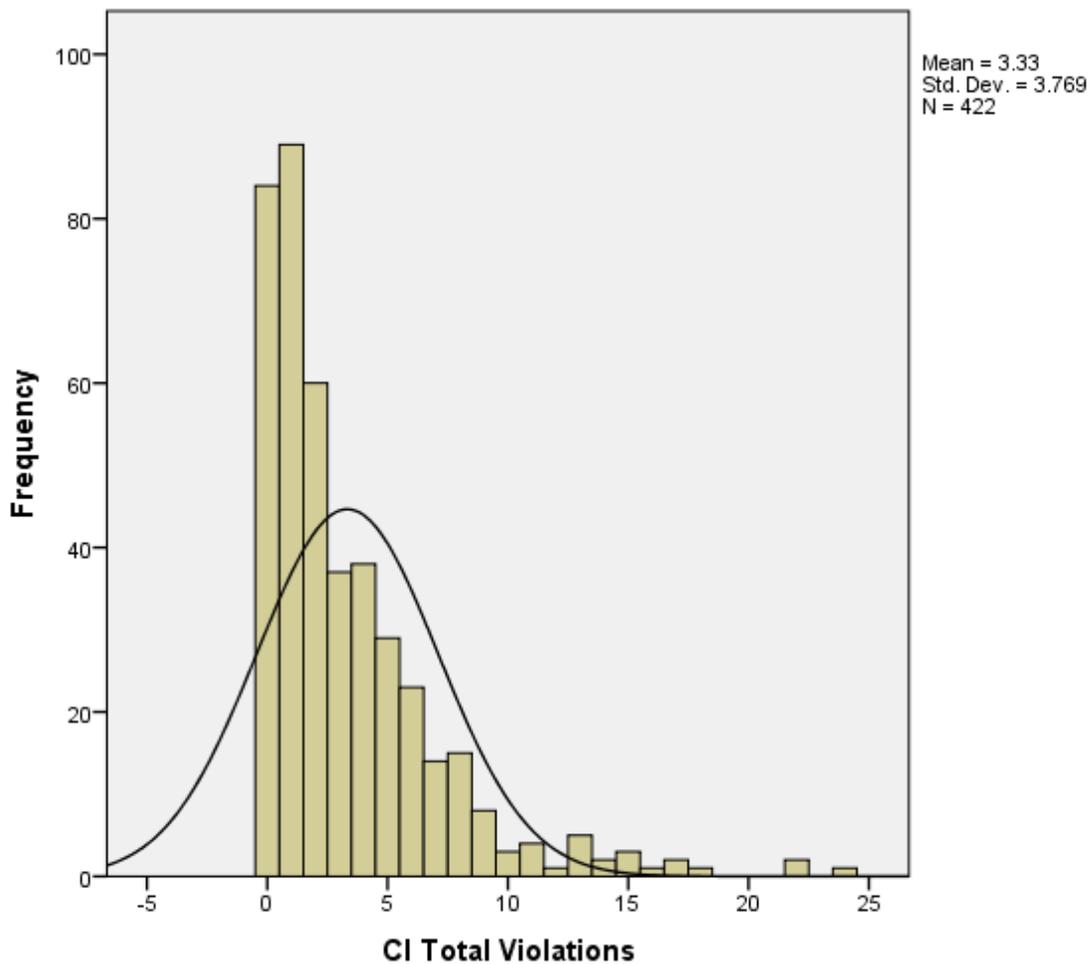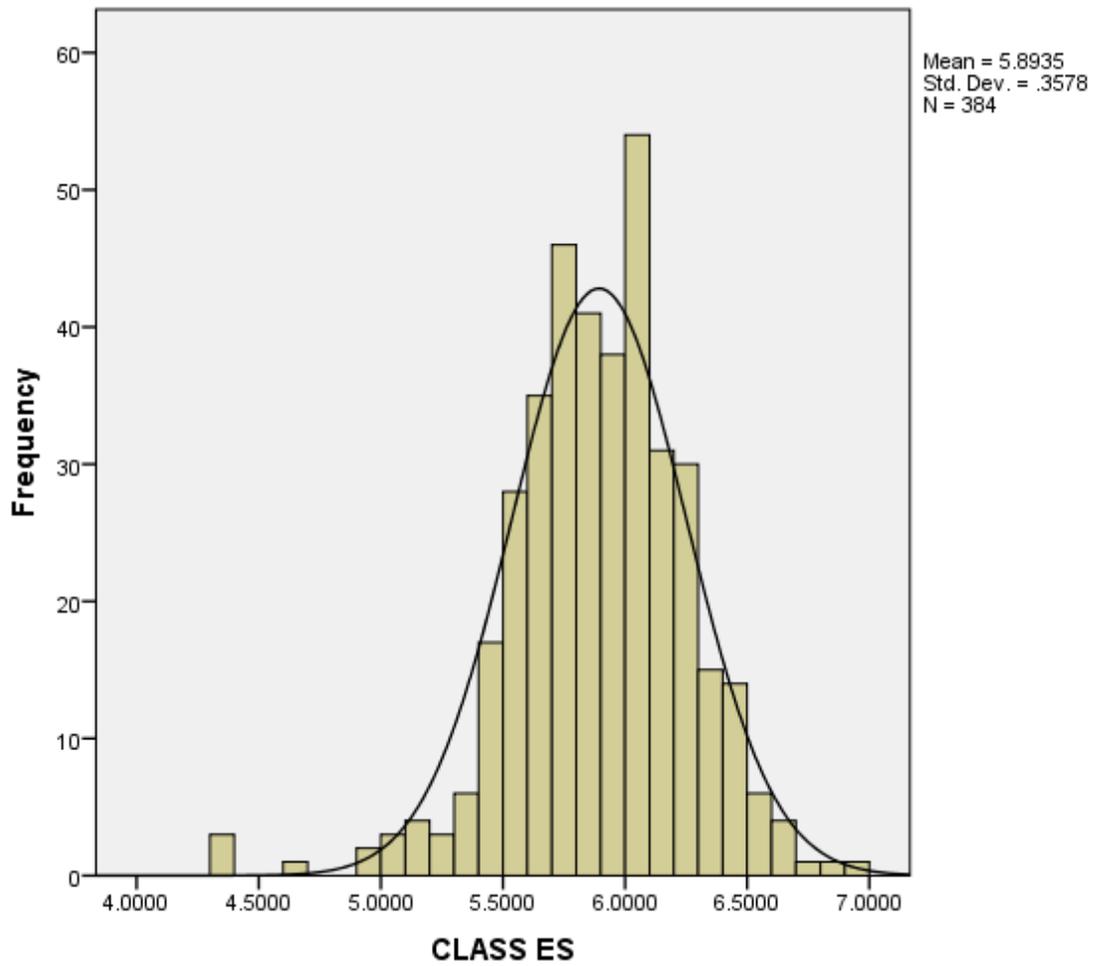
CLASS ES Scores

CLASS CO Scores

CLASS IS Scores

Head Start Key Indicators (HSKI) Scores

Appendix 6 -

CONTENT AREA (CA) CORRELATIONS

	CHS	ERSEA	FCE	FIS	GOV	SYS
CDE	.33**	.26**	.06	.14**	.13*	.33**
CHS		.29**	.18**	.09	.25**	.51**
ERSEA			.15**	.10*	.27**	.38**
FCE				.01	.17**	.23**
FIS					.13*	.23**
GOV						.38**

*P < .05

**P < .01

CONTENT AREAS (CA):
FCE = FAMILY and COMMUNITY ENGAGEMENT
ERSEA = ELIGIBILITY, RECRUITMENT, SELECTION, ENROLLMENT, and ATTENDANCE
CDE = CHILD DEVELOPMENT AND EDUCATION
GOV = PROGRAM GOVERNANCE
FIS = FISCAL INTEGRITY
CHS = CHILD HEALTH AND SAFETY
SYS = MANAGEMENT SYSTEMS

Appendix 6A – Total Compliance with Compliance Measures, HSKI, and Content Area Correlations

|	TOT	HSKI
CDE	.51**	.42**
CHS	.70**	.81**
ERSEA	.49**	.33**
FCE	.30**	.22**
FIS	.50**	.14**
GOV	.57**	.37**
SYS	.78**	.72**

TOT = Total Compliance with all Compliance Measures.
HSKI = Total Compliance with the Head Start Key Indicators.

Appendix 7 – Figure 2 – DMLMA Potential Impact on Tri-Annual Head Start Program Reviews
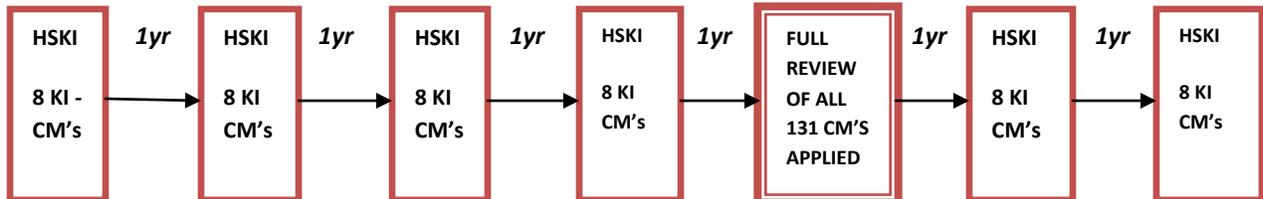
Present Head Start Monitoring System:

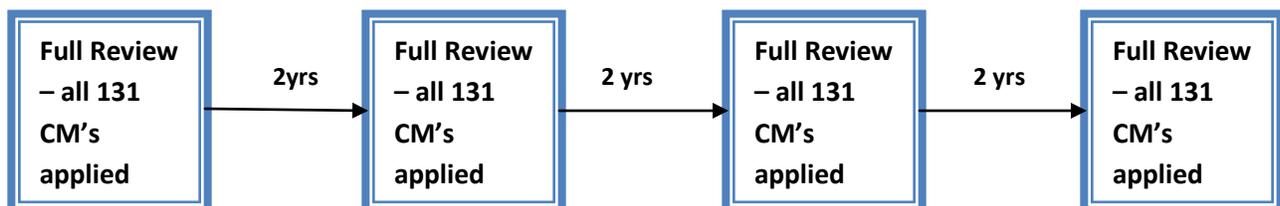All programs receive the same Tri-Annual Reviews regardless of Compliance History:

Tri-Annual Review – all 131 CM's	→ *3 yrs* →	Tri-Annual Review – all 131 CM's	→ *3 yrs* →	Tri-Annual Review – all 131 CM's
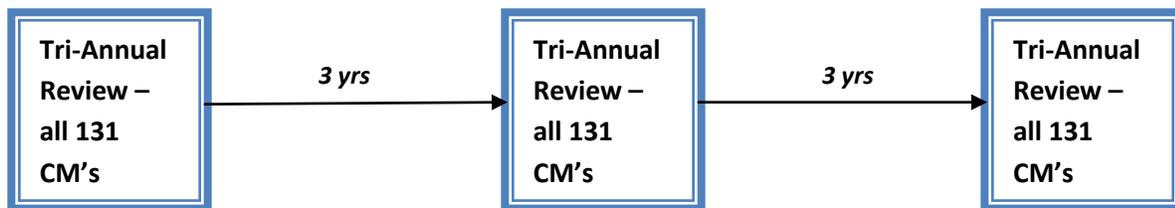
Proposed DMLMA System with Key Indicators (KI):

100% Compliance with the Head Start Key Indicators (HSKI):

HSKI 8 KI - CM's	*1yr*	HSKI 8 KI CM's	*1yr*	HSKI 8 KI CM's	*1yr*	HSKI 8 KI CM's	*1yr*	FULL REVIEW OF ALL 131 CM'S APPLIED	*1yr*	HSKI 8 KI CM's	*1yr*	HSKI 8 KI CM's

If less than 100% with the Head Start Key Indicators (HSKI):

Full Review – all 131 CM's applied	2yrs	Full Review – all 131 CM's applied	2 yrs	Full Review – all 131 CM's applied	2 yrs	Full Review – all 131 CM's applied

The above proposed change is cost neutral by re-allocating monitoring staff from doing only Tri-Annual Reviews on every program to doing abbreviated monitoring via the HSKI on the highly compliant programs with periodic comprehensive full monitoring less frequently (this would change if a program did not continue to be 100% in-compliance with the HSKI), and only doing more comprehensive full monitoring on those programs with low compliance with the Compliance Measures and/or less than 100% compliance with the HSKI. Once a program was in the high compliance group they would be eligible for the HSKI abbreviated monitoring.

However, the real advantage in this proposed change is the increased frequency of targeted or differential monitoring of all programs.

DMLMA Algorithm with Key Indicators applied to Head Start Tri-Annual Reviews:

Six (6) Years example:

Present Head Start Monitoring System:

(Tri-Annual Visits)(Compliance Measures)(Percent of Programs(%)) = Total Effort
(3)(131)(100) = 39300
*Total Effort = **39300***

Revised Head Start Monitoring DMLMA with Key Indicators System:

100% Compliance with HSKI:
(Number of Monitoring Visits)(Compliance Measures)(Percent of Programs*(%)) = Total Effort
Abbreviated Monitoring Visits using Key Indicators: (6)(8)(43*) = 2064
Full, Comprehensive Monitoring Visit using all Compliance Measures: (1)(131)(43*) = 5633

Less than 100% Compliance with HSKI:
(Number of Monitoring Visits)(Compliance Measures)(Percent of Programs**(%)) = Total Effort
Full, Comprehensive Monitoring Visits using all Compliance Measures: (4)(131)(57**) = 29868

100% Compliance with HSKI + Less than 100% Compliance with HSKI = Total Effort:
*Total Effort = 2064 + 5633 + 29868 = **37565***

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*This was the actual percent of Head Start Programs that met the criteria of 100% compliance with HSKI in this study.
**This was the actual percent of Head Start Programs that did not meet the criteria of 100% compliance with HSKI in this study.

It would be expected that the total population of Head Start programs would have a similar percent as was found in this representative sample (43% = 100% compliance with HSKI and 57% = less than 100% compliance with HSKI).   This representative sample for this study constituted approximately 25% of all Head Start programs nationally.