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## **Licensing Measurement and Systems**

**Richard Fiene, Ph.D., Professor of Psychology (ret)**  
**Instructor and Developer of the Course**  
**and NARA Senior Research Consultant**

### **Introduction to Licensing Measurement and Systems**

This first class will provide the learner with an introduction and overview to licensing measurement and systems course. The course is sponsored by NARA - National Association for Regulatory Administration. NARA is the prominent international organization dealing with human services licensing. This course is part of the NARA Licensing Curriculum which you can find out more about by visiting NARA's website.

This course will provide the learner with the major tenets of licensing measurement. The learner will discover as they go through the course that measurement in licensing is very different than other measurement systems found in many of the various social and human services. It has some very unique and idiosyncratic aspects which will provide us with increasing challenges in coming up with specific metrics in determining regulatory compliance.

The field of regulatory science is a very young field. Although regulations have been kicking around for well over 100 years, the science behind regulations is probably a quarter of this time. So there is not a great deal of empirical evidence to drawn upon which is discouraging but it is very encouraging and exciting at the same time because so much needs to be accomplished in establishing regulatory science's theory.

This specific class will provide the conceptual framework and overview to licensing measurement and systems of regulatory compliance. It will provide the parameters of the course and what will be covered throughout.

The other classes to be covered in this course are the following:

1. Overview - this class.
2. Conceptual/Theoretical Framework
3. Principles of Instrument Design
4. Measurement: Reliability and Validity
5. Regulatory Compliance and Program Quality
6. QRIS and other Quality Initiatives
7. Statistical Methods and Data Base Development

8. Coordinated Program Monitoring
9. Differential Monitoring, Risk Assessment, Key Indicators
10. What Research Tells Us
11. What Research Doesn't Tell Us: Unanswered Questions
12. National, International, and State Examples
13. Future Directions

The course is organized into the above 13 classes of approximately 45 hours if you take all 13 classes. It is equivalent to a three credit course offered at most institutions of higher education. Each class is organized into the following: an overview to what will be covered in the specific class followed by annotated powerpoint slides, followed by a series of readings to support the specific lecture/powerpoint slides.

The course is self-paced and is geared to the individual learner. It is totally self-contained meaning that all the necessary content is contained with these thirteen classes. However, if a learner does have a specific question and would like to get in touch with Dr Fiene, here is his contact information to reach out:

***Dr Richard Fiene, Research Psychologist & Professor of Psychology (ret)  
Research Institute for Key Indicators (RIKI) & Penn State University  
Senior Research Consultant  
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Also, this course will draw heavily from both the NARA and RIKI websites where many of the publications and research reside. Please feel free to go to <http://RIKInstitute.com> to download any additional publications that may be of interest to you.

The textbooks for this course are listed in the handouts section which you can download in their entirety or do it chapter by chapter. All course materials will be provided in either the lectures section or the handouts section of the class.

Get started by looking over the two texts to become more familiar with the content. Then take a look at the first step of slides. Make a plan for yourself in how you will approach the course. Will you come back to it whenever you have time or set up a specific time each week to spend on the readings and lecture notes.

Also, it might be helpful if you know a bit more about Dr Fiene. So here is a short bio about him.

*Dr Richard Fiene, a research psychologist, has spent his professional career in improving the quality of child care in various states, nationally, and internationally. He has done extensive research and publishing on the key components in improving child care quality through an early childhood program quality indicator model of training, technical assistance, quality rating & improvement systems, professional development, mentoring, licensing, risk assessment, differential program monitoring, key indicators, and accreditation.*

*Dr Fiene is a retired professor of human development & psychology (Penn State University) where he was department head and founding director of the Capital Area*

*Early Childhood Research and Training Institute. He is presently President & Senior Research Psychologist for the Research Institute for Key Indicators.*

*Dr Fiene is regarded as a leading international researcher/scholar on human services licensing measurement and differential monitoring systems. His regulatory compliance law of diminishing returns has altered human services regulatory science and licensing measurement dramatically in thinking about how best to monitor and assess licensing rules and regulations through targeted and abbreviated inspections.*

*His research has led to the following developments: identification of herding behavior of two year olds, national early care and education quality indicators, mathematical model for determining adult child ratio compliance, solution to the trilemma (quality, affordability, and accessibility) in child care delivery services, Stepping Stones to Caring for Our Children, online coaching as a targeted and individualized learning platform, validation framework for early childhood licensing systems and quality rating & improvement systems, an Early Childhood Program Quality Improvement & Indicator Model, Caring for Our Children Basics, and has led to the development of statistical techniques for dealing with highly skewed, non-parametric data distributions in human services licensing systems.*

So, good luck and if you have any questions, please don't hesitate to reach out to Dr Fiene at [RFiene@NARALicensing.org](mailto:RFiene@NARALicensing.org).



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### **Conceptual and Theoretical Underpinnings**

This second class will provide the learner with the key conceptual and theoretical foundations related to licensing measurement. As you have seen from the first class, licensing measurement does have some idiosyncrasies which are not present in other data distributions. Well the same thing can be said when it comes to the conceptual and theoretical underpinnings.

One of the first limitations that will be noted is the regulatory compliance theory of diminishing returns which has tremendous implications when implementing and enforcing rules. It had always been assumed that full 100% regulatory compliance with rules was what made a high quality program. However, in the late 1970's and into the early 1980's, it became clear that this was not the case. When this hypothesis was tested it became clear that moving from low regulatory compliance to substantial regulatory compliance did demonstrate that program quality differed significantly in the substantial regulatory compliant programs being of a higher quality than those of lower regulatory compliance. However, when one moved from the substantial regulatory compliance level to the full 100% regulatory compliance level, there was a definite plateauing effect in which the programs were not increasing in quality as previously and in some cases actually decreased in quality.

This above result was surprising and very controversial when it was first published in the mid 1980's. Many, if not most, regulatory compliance specialists did not agree with the finding. However, this relationship has held up in many other studies conducted since then and in other human service areas. It became the new rule in clearly demonstrating if not a decline, always a plateauing effect in moving from substantial to full compliance. Today because of all these supporting studies, the result is generally accepted and has influenced public regulatory compliance policy formulation throughout the world.

This regulatory compliance theory of diminishing returns has had tremendous impacts in how we have come to measure regulatory compliance in the licensing field. Rather than viewing it in a linear modality, it suggested that a more targeted, non-linear modality or metric might be more effective and efficient. Rather than focusing on full regulatory compliance it suggested that a key indicator, abbreviated, or targeted monitoring of rules was a better approach.

Without the regulatory compliance theory of diminishing returns, the focus on what has become differential monitoring or targeted monitoring would never have occurred. There would have been no need to move from always requiring full 100% regulatory compliance with all rules. This is a very important distinction and you, the learner, will see many applications and implications as you move through the classes in this course.

Let's move from the theory to the conceptual.

Conceptually, licensing measurement is built around obviously licensing but there are other systems which impact on licensing which were demonstrated in the first class when one compares the various regulatory and non-regulatory systems in the Morgan Model - Methods for Achieving Quality Child Care. There are contractual systems, such as QRIS (Quality Rating and Improvement System) or other types of quality initiatives. There are non-contractual systems, such as professional development or training or technical assistance systems; or accreditation systems.

These above systems can be integrated into a unified model called the Early Childhood Program Quality Improvement/Indicator Model or Differential Monitoring Logic Model and Algorithm (ECPQI2M/DMLMA) which is depicted in the lecture slides and is detailed in several of the handouts. Since this will become the unifying framework when discussing licensing measurement, I would suggest that you as the learner spend a good deal of time reviewing those slides and handouts. I would think that you will want to return to them as you move through the upcoming classes to make certain you continue to understand how all the disparate pieces fit together into a uniformed whole.

By using the ECPQI2M/DMLMA it offers all the key elements to building an effective and efficient program monitoring system by integrating regulatory compliance and program quality and professional development systems along with differential monitoring's risk assessment and key indicator methodologies.

There are readings related to professional development that are important components to making sure that the ECPQI2M is working as it should. One of the consistent key indicators deals with professional development/training. There are examples of creative and innovative ways the training can be delivered over the internet. Pay particular attention to the iLookOut program, especially to its delivery system.



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### **Instrument Design**

This third class will provide the learner with the key principles of instrument design. As you have seen there are idiosyncrasies conceptually and theoretically, well there are limitations as will when it comes to instrument design. A major limitation with licensing data is that it is basically nominal in nature. It fits the format of Yes or No responses. It is not ordinal in any fashion, or at least it hasn't been for the past 50 years. In fact, it is only in the past 30 or so years that licensing data moved from being predominantly qualitative to quantitative. This change started in the 1980's with the publication of Instrument based program monitoring. Prior to that most licensing studies were written as social work case studies with a great deal of narrative detail but short on data utilization that could be used at the macro level.

Instrument based program monitoring has its critics who are not overly excited about its checklist type approach. However, if a state is going to track where there are specific issues related to regulatory compliance it will be difficult unless an instrument/tool/checklist is not used in data collection. If there is continued reliance on narrative reports solely it will be difficult if not impossible to find any real patterns in the data. It is possible with the latest developments in qualitative analyses but it is not recommended as the sole means for tracking regulatory compliance. I prefer a mixed methods approach which focuses on the strengths from both the quantitative and qualitative and combines both together.

Without an instrument based program monitoring approach it would be impossible to utilize the risk assessment and especially the licensing key indicator predictor methodologies. In fact, it is really a pre-requisite for designing and implementing a targeted monitoring or differential monitoring approach.

In instrument design it is important to utilize the triangulation measurement strategy that looks for observation first, followed by record/document review, and then lastly by doing interviews of staff or parents. The majority of data collection should be through observations made in the classroom or facility. When observations cannot be made look for policies, files, documents that contain the necessary data and then lastly do interviews.



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### **Reliability and Validity**

This fourth class will provide the learner with the key principles of reliability and validity which are the mainstay of any measurement system. Without these two key principles we do not have a measurement system we can rely on.

The readings and handouts provide many examples of validation studies conducted in the past decade demonstrating the validity and reliability of the licensing key indicator predictor and risk assessment methodologies. Since the large influx in the use of these methodologies over the past couple of decades it was incumbent upon us to determine if these methodologies were both reliable and valid. Based upon these validation studies, it can now be said with a great deal of certainty that the methodologies do what they were intended to do. They statistically predict overall regulatory compliance and they focus on those rules that place children in greatest risk of morbidity or mortality keeping them safe. So the tenet, which will be emphasized throughout this course "Do No Harm" is upheld!

The lecture slides provide an overview and the key elements to doing validation studies while the readings and handouts provide more of the details and the results from these studies.



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### **Regulatory Compliance and Program Quality**

This fifth class will provide the learner with the similarities and differences between regulatory compliance and program quality. In the second class the regulatory compliance theory of diminishing returns was presented which demonstrated a non-linear relationship between regulatory compliance and program quality. In this class, additional concepts will be presented to deal with this dynamic tension between regulatory compliance and program quality and how we can build one upon the other.



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### **QRIS and other Quality Initiatives**

This sixth class provides the learner with key examples from the program quality arena, such as QRIS and professional development. The ECPQI2M model presented in the introductory classes has these two systems prominently displayed along with the regulatory compliance or licensing system. Together they form the solid foundation for providing a very effective delivery system of services. When these are combined with risk assessment and the key indicator methodologies one can add efficiency to the effectiveness side of the equation. As you saw in the previous class, there is a delicate balance between regulatory compliance and program quality. At all times, the ECPQI2M is to keep both regulatory compliance and program quality in balance, to keep health & safety and quality on an even keel; but as we have seen and will see later in this course, this balancing act can get out of kilter at times.

One of the publications produced for OPRE about QRIS Validation is directly applicable to licensing measurement and has been used within this context in the validation studies that will be described in this course. This is an important application of this new framework when it comes to validation. It is not just for QRIS but can be applied to licensing as well. The state of Washington has probably some of the best examples. Please check out these resources and readings later in this class and also on the RIKI website for additional examples.



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### **Statistical Methods and Data Bases**

This 7th class will deal with the statistical methods used and the construction of the databases in licensing. As I have said repeatedly in this course there are many limitations related to licensing measurement. The statistical methods that can be used with licensing data are limited also because we are dealing with nominal data that are severely skewed. Non-parametric statistics is warranted and to deal with the severely skewed data, dichotomization of the data base is warranted.

Dealing with data that are not normally distributed poses some real challenges in analyzing licensing data sets. It is paramount that one runs basic descriptive statistics in assessing the mean, standard deviation, variance, skewness, and kurtosis. It will help in identifying how badly the data has outliers in a very quantitative manner. It will also help in determining where the cut scores or thresholds should be for defining the high regulatory compliance and the low regulatory compliance groups. The Fiene Licensing Predictor Rules and their respective Fiene Coefficients are determined by using the phi coefficient in determining correlations between each rule and the high/low groups for regulatory compliance. This is a statistic used with nominal data and is used a great deal in the tests and measurement research literature in validating testing procedures.

The databases should be saved in .csv formatting from an Excel file. It is easier to import a .csv file into SPSS or PSPP which is the preferred statistical package for conducting these analyses. Outside of generating Fiene Coefficients, there are no other statistical techniques that are needed in analyzing the database.

The readings list provides most, if not all, of the technical research notes generated by the Research Institute for Key Indicators. These tech research notes provide the latest and most up to date information about any changes in the methodologies for generating licensing key indicator predictor rules and risk assessment rules.



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### **Coordinated Program Monitoring**

This class will demonstrate the national/federal initiatives addressing coordinated program monitoring. There are several excellent reports produced by ACF, OCC, USDA, OPRE, and HHS which go a long way in addressing this key issue. In any system where there is limited resources, we need to be as cost effective and efficient as possible. The handouts will provide you with many examples of how best to do this.

With a closed system and limited resources, a coordinated program monitoring system is critical to make certain that we have the necessary resources to effectively and efficiently protect the clients in the facilities we are mandated to license. The key term is "Do No Harm". The federal agency reports in this class will provide you with the parameters for building a program monitoring system that accomplishes this goal.

The lecture for this class consists of only one slide which is a major change which I am sure you are welcoming; but one that builds upon *Caring for Our Children Basics (CFOCB)* and how that publication came into existence. Personally, I think it is one of the most significant publications related to early care and education (ECE) standards development that has ever been produced. CFOCB provides voluntary standards for all ECE to follow. It is the very essence of what coordinated program monitoring is all about.



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### **Differential Monitoring, Risk Assessment, and Key Indicators**

This class will get into the details of differential monitoring, risk assessment, and the key indicator methodologies. We have tangentially addressed these methodologies throughout the course, but this class will provide the step by step process of their development and implementation.

In the readings/handouts, the learner will find several report examples which provide the details of the various methodologies. There are more than enough examples, so pick the ones you are most interested in seeing. For those of you who would like to see more, please go to the RIKI website and look under the reports webpage or the national webpage for additional examples



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### **What Research Tells Us**

This class will summarize what we know from the research literature about licensing measurement. There have been several advances in licensing measurement over the past couple of decades. Clearly the Regulatory Compliance Theory of Diminishing Returns has taken hold of policy development in licensing and regulatory administration. We have seen statutes change from requiring full 100% compliance in order to receive a license to operate to statutes that are requiring substantial regulatory compliance with all rules rather than full 100% compliance.

Licensing key indicators and risk assessment rules are being used on a much larger scale as the differential monitoring/targeted monitoring has expanded. The latest Licensing Study conducted by NARA and the National Center for Early Childhood Program Quality has demonstrated that the majority of states are using one of these approaches.

The differential monitoring approach and their respective methodologies have gone through many enhancements in dealing with measurement and statistical nuances related to licensing data distributions, such as severe skewness, kurtosis, dichotomization of data groups, eliminating false negatives, limitations of nominal data analysis, moving from a nominal measure to an ordinal measure, identifying generic licensing key indicators, and the relationship between regulatory compliance & program quality.

All these above enhancements are basically dealt with and addressed in the RIKI Technical Research Notes found in the ECPQIM/DMLMA text as well as on the RIKI website Blog/Notes page. The interested reader will find all these technical research notes in one of those venues.



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### **What Research Doesn't Tell Us**

So what are the gaps in the research related to licensing measurement? This class will provide some of the key gaps that have been identified to date. One area for further research is the relationship between regulatory compliance and outcomes for clients. Are clients healthier and safer in highly compliant programs? Are we seeing fewer injuries in this programs of high regulatory compliance? This is a critical question that still definitive research and empirical evidence to confirm.

There still needs to be additional research that continues to validate the standards selected, the measures themselves, and the relationship between regulatory compliance and QRIS systems. There has been considerable movement in the past decade with validation studies being completed in many states and provinces and this trend needs to continue. The results to date definitely appear to validate all these respective components in that they are working as expected.



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### **International, National, and State Examples**

Our second to last class will provide us with many examples mainly through the specific tools that have been designed by different jurisdictions for the differential monitoring, key indicator and risk assessment methodologies described in this course. The readings and handouts provide many such examples. The methodologies have really taken off in the last decade as demonstrated by the number of contracts NARA has entered into with states and provinces throughout the United States and Canada.

All of these jurisdictions have demonstrated a certain consistency when it comes to licensing key indicator predictor rules and risk assessment rules. There are common themes that have emerged over the past 4 decades. You have witnessed this consistency in the readings you have done as part of this course.

The plan is to continue validating the methodologies to make certain that they are keeping children healthy and safe and are doing no harm. That is the key element of licensing measurement with a focus on health and safety similar to the approach taken by the Nuclear Regulatory Commission (NRC) in keeping surrounding communities safe from where nuclear power plants are located.

As has been repeatedly demonstrated in this course, there is a delicate balance between regulatory compliance and program quality. Some industries are more geared towards the health and safety side of the equation while others seek a more balanced approach of regulatory compliance and program quality. I have attempted to address both in this course and hopefully have done an equally balanced approach in addressing both sides of the equation.



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### **Future Directions**

This last class will deal with where do we go from here. What are the next steps for licensing measurement. How do we combine the quantitative and the qualitative? How do we have a mixed methods approach? How do we combine the best aspects of regulatory compliance with program quality elements? All these are critical questions for the field of regulatory science and its accompanying licensing measurement. If we are truly going to build a science, we need to spend the requisite time on developing and implementing a solid scientific measurement strategy that is both reliable and valid.

This course is a first step in providing that scientific base for building a sound regulatory science, but I am hopeful that other researchers build upon what has been presented and suggested in this course.

If you have suggestions for either making this course more effective or would like access to the international ECPQI2M Database, please don't hesitate to contact me at:

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Also please do not hesitate to go to the following websites where many more examples of licensing measurement are present:

<http://RIKInstitute.com>  
<https://www.naralicensing.org/key-indicators>

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