

Lessons Learned from a Pay-for-Performance Implementation

A dissertation submitted

by

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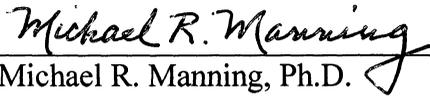
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Abstract

Healthcare providers need a high-performing and motivated workforce to achieve life-improving outcomes for the patients they serve. Healthcare providers that provide therapy to individuals with autism encounter additional challenges related to serving this population that can tax their motivation and lead to burnout (Holbrook, 2018).

Pay-for-performance (PfP) is a promising strategy for motivating employees in many different industries (Gerhart & Fang, 2014). The effectiveness of PfP has not yet been evaluated with autism therapy providers. Also, the research on healthcare applications does not include details about how to implement PfP in a healthcare setting.

Additionally, there is limited research into the staff's perceptions about performance-based pay. While this case study research does not evaluate the effectiveness of PfP, it does provide insights garnered from a seven-year implementation of a PfP system in an autism therapy setting. The results of this study indicated that employees who had been with the organization longer than two years had a more negative perception of the PfP system. Also, there was a difference between the clinical staff and the direct care technicians. The clinical staff had a more negative perspective, which seemed closely tied to not feeling that they had full control of factors that impact their performance. The results indicate that this PfP system required monetary resources, logistical support, management, and leadership. Through surveys, interviews, and archival data, the learnings from this implementation provide insights for others considering utilizing PfP.

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Chapter 1: Introduction

This case research investigates a seven-year implementation of a significant change initiative in a healthcare organization. The study explores the process used to change the performance management structure within a facility providing comprehensive therapy to autism patients. One goal is to gain insights into the catalyst for this change and how the difference developed. The research offers an opportunity to learn from those involved in the implementation and, most notably, the employees impacted by the decision. Data and analysis are also presented from the perspective of the CEOs, the clinical director, the COO (the author), the employees, and the consultants who were engaged to assist with the change initiative. Findings delineate the steps and decisions this healthcare organization used in implementing a performance pay system called Pay for Performance (PfP) (Gerhart & Fang, 2014). One research goal is to provide practitioners with detailed information that identifies steps in implementing an effective performance pay system. Additionally, the question of why a healthcare organization experiencing rapid growth would implement a pay-for-performance system will be discussed.

LittleStar ABA Therapy

The organization that decided to take on this change initiative is a healthcare company providing therapy to individuals with autism. The healthcare organization is called LittleStar ABA Therapy (LSABA). LSABA is the first ABA organization in Indiana. Being the first is significant since Indiana is the first state with meaningful

insurance legislation mandating that insurance companies reimburse providers for providing medically necessary ABA therapy for individuals with autism. In the next chapter, we take a close look at the history of this organization. The organization addresses the symptoms and impairments of autism through an intensive intervention called Applied Behavior Analysis (ABA) (Baer et al., 1968, 1987). ABA therapy requires a specialized team of clinical and operations staff. Before exploring this case study, it is essential to understand the impacts of an autism diagnosis on the individual, family, and society.

Autism

The primary indicators of autism are deficits in communication and engaging in repetitive behavior. The diagnosis of autism has gone through many changes since initially being differentiated from schizophrenia in 1980 (Kulage et al., 2019). The core indicators impact individuals with the diagnosis in different ways. Some individuals with autism may have little to no spoken language even though the vocal apparatus is fully intact. Other individuals may struggle to connect with others due to an overly rigid preoccupation and focus. The difficulty of communicating and connecting with the world can result in aggressive or dangerous behavior. There is significant variability in the symptoms and impairments of autism to the degree that it is an extremely heterogeneous disorder (Rutter, 2014).

Impacts of autism

Try to imagine what it would be like to have autism and not be able to communicate your basic wants and needs. You struggle to understand what people are saying to

you. You have no interest in connecting to even those in your innermost circle. You become obsessed with a topic and compelled to discuss it with others, even if they are not interested. This might be how autism is experienced by the many individuals impacted by an autism diagnosis. Now imagine parents challenged with identifying an effective intervention when they notice the above symptoms impacting their child. Maurice (1994) has provided a detailed account of what the experience is like for a family with a child with autism.

Let me hear your voice

In Maurice's 1994 memoir, Maurice described identifying that her child has autism and the path to effective treatment. Maurice, who has two children diagnosed with autism, told of noticing early that her child was not meeting developmental milestones. When their daughter appeared indifferent to their presence, they began seeking out medical advice. Maurice then portrayed the extensive challenges of gaining a diagnosis and recommendations for effective treatment. The lack of support does not stop with the medical system; Maurice described how, when turning to her immediate family, they would second guess and scrutinize her observations.

Maurice also described conflicting emotions as her daughter received intensive behavior analytic services. She continued the intensive ABA therapy, and both her daughter and son, later diagnosed with autism, achieve extraordinary results. While not necessarily a typical outcome of ABA therapy, both children were subsequently assessed by a professional, and both children no longer meet the criteria for an autism

diagnosis. The effectiveness of the treatment as described in the memoir resulted in significant interest among other parents in behavior analytic interventions.

Autism prevalence

The Center for Disease Control (CDC) has a task force monitoring the prevalence of autism and its manifesting in different individuals (Baio et al., 2018). The CDC currently estimates that 1 out of every 59 children in the U.S. meets the criteria for a diagnosis of autism (Baio et al., 2018). The current prevalence estimate is 1600% greater than that in the 1970s (Treffert, 1970). This increase in prevalence comes with demands for a full complement of essential services and research (Baio et al., 2018).

Applied Behavior Analysis

A well-established intervention for autism is applied behavior analysis (ABA) (Makrygianni et al., 2018; Rogers & Vismara, 2008; Sallows & Graupner, 2005). ABA's effectiveness was beautifully captured by Maurice (1994), which led to a surge in families seeking out this effective approach. The research support and insurance funding availability due to state mandates increased the demand for ABA services (Cernius, 2018).

In a hallmark study, Lovaas (1987) described behavioral intervention implemented in a University setting. The study consisted of an experimental group of 19 pre-school aged individuals with autism receiving intensive ABA therapy. The control group ($n = 19$) received typical treatment and interventions. The nine participants achieving the best outcomes in the experimental group showed progress in many domains. The

therapy resulted in improved outcomes in language, IQ, adaptive behavior, and social skills. In 1993, Lovaas conducted a follow-up study of the participants from the Lovaas (1987) study. Amazingly, the nine individuals that achieved the best outcomes continued to make significant progress (McEachin et al., 1993). Replication studies such as Sallows and Graupner (2005) demonstrated similar results to those found by Lovaas (1987; McEachin et al., 1993). The research provided by these pioneers in behavior analysis continues to support the efficacy of ABA services. Now the university-based interventions are being extended into the community and delivered in healthcare facilities with funding from health insurance.

In the LittleStar ABA Therapy program, a board certified behavior analyst (BCBA) and a team of registered behavior technicians (RBT) are responsible for providing the therapy. The BCBA is the clinical professional creating and overseeing the implementation of a treatment plan. The RBT is responsible for implementing the recommended interventions. The intervention ranges in intensity from around 10 hours per week to as many as 40 hours. The RBT spends most days working with 1–2 patients daily. The BCBA moves around to multiple settings or locations to observe the implementation of therapy and will jump in as necessary to provide necessary recommendations. The population's heterogeneity requires an individualized intervention that places great demands on the technician and the BCBA.

The demand for therapy and the intensity of implementing it creates complexities for the ABA organization. It is challenging to recruit, train, and retain RBTs. The position requirements are often responsible for causing burnout, particularly for behavior technicians (Holbrook, 2018). For example, based upon turnover analysis data provided by LSABA, 44% of the RBTs had resigned in 2019. Losing RBTs and BCBAAs has a detrimental impact on patient outcomes and the financial viability of the organization. The turnover is responsible for causing financial strain and increasing staffing resources in the training and recruiting departments. ABA organizations need strategies for motivating and maintaining their workforce.

Pay for Performance

A propitious strategy for ABA organizations, showing up in various studies, is pay for performance (PfP) (Gerhart & Fang, 2014). PfP consists of different compensation strategies to improve the performance of an individual, team, or organization. The organizations implementing PfP strategies often include merit pay increases, bonuses, advancement, and profit-sharing, to name but a few (Gerhart & Fang, 2014). In the present case study, LSABA followed a balanced scorecard (BSC) model of incentive pay (Kaplan & Norton, 1996). The organization refers to the PfP approach as the “scorecard” system. According to Kaplan and Norton (1996), a BSC model integrates strategic thinking and performance management. In subsequent chapters, we will dive deeper into the research behind BSC and the scorecard implementation.

ABA and healthcare organizations are taking on a critical mission to provide high-quality outcomes for the patient population they serve. To provide these services, they need a motivated and high performing workforce. There are numerous strategies to achieve both performance and motivation. A primary system used to improve performance is training. This case study will focus on improving performance through a motivational approach and compensation.

The author served as a leader within this organization, actively making decisions and implementing this research as a participant-observer. This provided a unique advantage for this study. Cole (1991) expressed that as a participant-observer, the others involved in the study were less reactive and quickly disregarded the observer aspect. Through this active participation, the author will share their perspective on the process involved in implementing this type of performance management approach as a researcher and a participant. As the clinical director and eventually COO, the author will also provide suggestions for improving the implementation. The recommendations might be valuable to inform other professionals looking to replicate something similar.

This research will offer healthcare organizations needed information when considering PFP for their companies. All healthcare organizations require strategies to motivate and retain their employees. Recent surveys by WorldatWork (2012) indicate that healthcare and non-profit organizations are increasingly looking to implement

variable pay and incentives. This case study can inform organizations on factors to determine readiness to move to PfP and the necessary components for implementing a balanced scorecard-based system.

The remaining chapters in the dissertation follow this order. In the next chapter, the focus is on specifics about the organization's context and historical events. The next chapter evaluates the relevant literature and theories. The case study methodology is the basis for chapter 4. Chapter 5 consists of a discussion about the results and findings of the study. Chapter 6 concludes with ideas for future research and recommendations for implementing a pay-for-performance system.

Chapter 2: Case Context

The case study is a close look at the PfP system implemented at LSABA. Therefore, it is essential to understand some aspects of the context and the organization. The chapter begins with a discussion about the history of LSABA and then explores leadership within the organization and background on the roles I occupied. The final part of this chapter reviews the implementation phase and ongoing logistics.

Little Star School

LSABA was not always a large, well-established nonprofit healthcare organization. Born out of necessity, LSABA opened its doors in September 2002. Steele and Amy Gudal started Little Star School to ensure their daughter could receive medically necessary services. The initial location was in Indianapolis, Indiana, in a popular and easily accessible area. The Gudals had the idea to open the center and began the process sometime in 2001. The family had a recently diagnosed child with autism and could not find a local therapy provider. In the search for providers, they stumbled upon ABA Therapy. The effectiveness of the intervention was enticing. They searched the country to find the top providers. They toured several of these facilities and contacted recommended providers. With the information gained, they set out to open their therapy center.

LSABA is incorporated

They started the process to get incorporated as a 501(c)(3) nonprofit organization on January 10, 2002. Todd Rokita, then Secretary of State of Indiana, amended the

incorporation document on March 9, 2005. The corporation documents indicate the company's name before the amendment as Little Star School, INC. The amendment changed the name to Little Star Center, INC. The company currently does business as LittleStar ABA Therapy.

Early family experience

I interviewed the current Family Services Director (FSD) for LSABA. She is in charge of helping families through a very challenging time. Families will often reach out to the FSD because their child was just diagnosed with autism. The FSD helps families navigate a reasonably complicated system to get to the services and support their children need.

The FSD is well equipped for the role because she was once one of those parents. The FSD was one of the original families that received services from LSABA. I asked the FSD a few questions about her experience. It was clear that this was a crucial point in her life. She remembered quite a lot of details about almost 20 years ago. The FSD indicated they started receiving services in the fall of 2002. She described the location's internal appearance as bright and warm, and that it had a similar color pattern to what is used in the LSABA buildings today. There were approximately 7 to 10 cubicle spaces for therapy and a small outdoor playground.

Initially, there were five patients, and shortly after opening, two additional patients started. The families had to pay a flat fee monthly. The price covered the therapist

and BCBA. Later, this arrangement changed, and each family had the responsibility to pay the cost of their therapist.

The FSD remembered that the families all shared a BCBA. The BCBA later started an ABA organization in the Indianapolis area. After this, LSABA provided a BCBA through a consulting model. The BCBA traveled from Florida and occasionally brought an additional BCBA to consultation visits. She described that all services occurred in the center and that the operating hours were from 8:30 am to 4:30 pm (V. Blessing, personal communication, August 17, 2020).

Cost of therapy

The reimbursement process changed since LSABA began providing services. When LSABA initially opened, medical insurance did not pay for services, so the families had to pay out of pocket. The families paid roughly \$1000 to \$2000 per month, depending on the number of therapy hours provided. Eventually, this turned into a CO-OP model where families paid the therapist directly. Some families also took on the cost of providing health benefits for the therapist to retain the employee. The families also paid \$500 per month for rent and shared expenses.

Insurance funding

A movement started in 2001 that would have a lasting impact on ABA therapy, Autism Intervention, and LSABA. The campaign began with a group of families in Indiana who actively worked on legislation to require insurance companies to pay for autism therapy. Before this legislation, families had to pay for their child's medical

services due to their autism diagnosis. The insurance company would deny benefits based on the child having an autism diagnosis, even if it did not relate to the diagnosis. Imagine children needing their tonsils removed or surgery for ear infections and having to pay out of pocket because they have a diagnosis of autism. One of the families actively involved in these efforts would begin receiving services at LSABA.

Indiana insurance mandate

The following information is from a resource posted on The Arc of Indiana's website. Trivedi (2020), a board member of LittleStar, a parent of a child with autism, and an advocate, created the document. The document details the advocacy work that went into getting the nation's first insurance mandate passed in Indiana. In Indiana, before 2001, parents of children with autism throughout the state received denials from insurance companies for medical services. In response to this, a group of parents and advocates looked to the government to enact legislation to ensure this would not happen. The voices demanding change included Kim Dodson, The Arc of Indiana, Dr. Cathy Pratt, Indiana Resource Center for Autism, and parents representing scientists at Eli Lilly and schoolteachers. The need to change the insurance company's discriminatory policies came to the forefront when physicians did not want to diagnose autism. The apprehension expressed by the physicians was out of concern that the individual with autism would lose medical coverage. Several insurance companies dropped individuals with autism from the available benefit. Individuals with autism went without medical coverage or had to go on plans funded by

taxpayers. Additionally, schools were called on to provide medically necessary services to help individuals with autism address the impairments related to their diagnosis. The advocacy group was successful in getting an insurance mandate established (Trivedi, 2020).

Clinical model

The service delivery model delivered at the beginning shares similarities with current practices. The founders recruited a psychologist from Chicago to be the initial Senior Behavior Analyst (SBA). The SBA worked a part-time schedule of approximately three days a week. Currently, the title for an SBA is Clinical Director, and they all work full-time. The SBA observed each child and met with the family individually at the center and put programming into place. A Board Certified Behavior Analyst (BCBA) is responsible for treatment planning and conducting relevant observations. The SBA also assists the therapist with instructions and answering questions. LSABA now has a training department, and the assigned BCBA does patient-specific training.

Therapist

The therapist is now referred to as a behavior technician by the organization. The title change is due to registration for this position by the Behavior Analyst Certification Board Inc®. The therapist implements the therapy created by a BCBA. During a typical eight-hour shift, a therapist presents the patient with frequent learning trials.

During the early phase of LSABA, it was not uncommon for a therapist to work several hours during the day on various therapy targets and then go home with the

patient. Once at the patient's home, they would assist with ongoing care until the individual was asleep. They would hurry home and start the next day again. A typical workweek for a therapist was Monday–Friday, but they would often help provide care over the weekends. It took a dedicated and caring person to provide this level of service. Although services today may not include working in the home after a therapy session, they require that the technician is committed to providing high quality and intensive treatment.

Discrete trial instruction

The technician provides a large portion of therapy via learning trials. The presentation of trials follows a process identified in Lovaas (1987). Lovaas (1987) identified this process as Discrete Trial Instruction (DTI). In a discrete trial, a therapist carefully presents the instruction. If the patient does not respond or makes an error, the therapist follows a prompting strategy. Most importantly, if the patient is correct, even with assistance, the therapist provides a reward (Lovaas, 1987). A typical prize may include a praise statement, 15 seconds of access to a preferred item, or a small piece of candy.

Data collection

Once the trial is complete, the technician records data on the patient's responses. The technician also records the level of assistance they had to provide. For certain types of programs, they may have to provide information about the number and type of objects presented. The data is critical to the BCBA so they can make decisions about future programming. The BCBA also uses this data to determine barriers to progress and if

any interventions need modification. Additionally, the BCBA often observes the technician providing these trials.

Growth

One other area relevant to this organization's history as it applies to this case study is the rapid growth. During January of 2015, there were 64 clinical staff receiving incentives. By December of 2019, this grew by over 500% to 313 clinical employees. The organization grew from two locations in Carmel and Lafayette, Indiana, to three additional locations, still within the state. The organization now provides services in Carmel, Lafayette, Newburgh, Clarksville, and Bloomington, Indiana. They currently provide therapy to 230 individuals with autism, equating to approximately 6000 intervention hours per week.

Need for Leadership

The author interviewed the current Executive Director about the recent rapid growth of the organization. During the end of 2004 and the beginning of 2005, the Clinical Director of LSABA left to form another ABA organization, taking 75% of the existing staff and families to the new organization. LSABA then hired a new Executive Director to address the fact that they lost so many families and staff. The first hire only lasted a brief time. LSABA then selected Mary Rosswurm, the current CEO. When she started with the company, only five clients remained. Mary had to navigate these lean times to make sure the organization could remain viable.

Mary had a lot of responsibilities at this time. One duty, which is an area of great strength, was to negotiate with vendors. For example, she convinced phone companies to provide services free of charge. She was also responsible for recruiting staff.

She provided tours of the facility and described the services to interested families. Her husband, Pat Rosswurm, did all of the building maintenance. Another core area that Mary focused on is making service delivery efficient. She took on scheduling staff by matching their availability and interest with relevant patients. She also handled all of the invoicing of families. The families paid a flat fee for the cubicle space monthly and had to pay their staff directly.

In late 2007, Mary decided to explore an opportunity to run an established organization in Massachusetts. The new opportunity required that Mary lead an organization with several employees and a well-established funding stream. The funding stream was unique because it was primarily school funding. Mary remained there until 2010, when she returned to her role as CEO of LSABA.

The author's roles at LSABA

Just before Mary returned to LSABA in 2010, I began as Clinical Director. The organization provided services only in Carmel, Indiana. The company was in the process of increasing the square footage they rented in the building. It was only a few months after I started that Mary returned as the leader of the organization. Mary and I

meshed well and had a shared appreciation for the effectiveness of ABA therapy. I was a new Behavior Analyst a few years out of graduate school. I was excited to lead center-based ABA services and create a clinical system. My role was to oversee BCBA's and ABA therapists. The organization needed clinical systems. The prior clinical leader would communicate recommendations and suggestions for intervention based upon observations or interviews with staff. The clinical team did not document recommendations, which often caused staff to implement procedures with a high degree of fidelity. I modified this approach by requiring written documentation of treatment recommendations and interventions. For the first couple of years (2010–2012), I was primarily responsible for creating and monitoring a system for delivering clinical services. During this time, there were minimal requirements for getting insurance companies to authorize treatment. Health insurance was the primary funding source for most of the families receiving services.

Around 2012, the direction of my career made a significant change. The insurance company that funded most services suddenly started denying all treatment requests. I was responsible for figuring out the insurance company's requirements and how LSABA could get treatment authorized. After several iterations of a treatment plan document, we saw an increase in insurance company approvals. As part of getting a treatment plan approved, I would often have to discuss the treatment plan and advocate for clients on a call with medical reviewers. The entire process is something that we conduct presentations and workshops on throughout the country. I am now

considered a thought leader in this space. We share with other clinicians and companies the treatment planning document and resources. The sharing of information that some companies may see as proprietary, or even a competitive advantage, is another way the company shares its value for supporting the industry. Ultimately, we see that this helps ensure that individuals with autism are getting effective services and that the ABA industry will endure.

Scorecard Implementation

Implementing the scorecard system at LSABA was facilitated by consultation from Dr. Bill Abernathy and Lorri Brody of Aubrey Daniels International (ADI). The consultation consisted of exploration meetings and then designing the scorecard system. The initial meetings occurred via conference call. In addition to the group responsible for developing and implementing the scorecard system, LSABA included staff related to design meetings' relevant positions.

LSABA measures

ADI advised the organization that the scorecard system started with measures relating to the entire organization's performance. In June of 2014, the team created the measures for the entire organization (see Table 1). The data was collected monthly and submitted to an administrative staff that forwarded the information to the consulting firm. The consulting firm would then update the scorecard data. The organization measures were solely used for developing the other scorecards. The PfP scorecard system was not used for leadership performance. The organization measures were not evaluated.

Table 1. Organization Measures

Measure
Total billable hours
Total revenue (Three month moving average)
Total labor cost / Total revenue
Total costs / Total revenue
Receivables > 90 days
Total treatment plan denials
Average parent survey
Project milestones

The measures of the organization were created initially with the idea that they would cascade to all other positions in the company. Therefore, if the administrative staff performed highly on their measures, it would impact the overall organization. The initial staff with scorecards included the Senior Clinical Director, Clinical Director, and Assistant Clinical Director.

The design phase continued in varying iterations from June of 2014 until February of 2017, when the organization attached incentives to the performance areas. Prior to February, the organization continued to tweak measures and develop scorecards for additional positions. The organization designed scorecards for technicians, at the time called therapists (see Table 2). The therapy review score is based upon a form used to

evaluate the proficiency with implementing clinical interventions. The absences score is based upon taking time off without appropriate notification or approval. A tardy score is if the technician was late for the start of their shift. The technician is required to complete billing paperwork on the same day as their shift. The technician is also evaluated based upon their professionalism with co-workers, families, and patients.

Table 2. Technician Scorecard Measures

Measure	Weight
Therapy Review Score	50%
Absences	5%
Tardies	5%
Billing Submitted (timely)	25%
Professionalism	15%

Summary

In this chapter, we reviewed the details about the organization and the basis for the implementation of a scorecard system. The information provides the background for why this organization and the implementation of the pay-for-performance system are relevant to this study. The implementation would be fairly complex and require multiple steps. Organizations providing this type of therapy need to understand what is required for implementing PfP. The work done by the clinical staff is medically necessary and evidence-based. There is great demand for the services, and this results in positive outcomes for the patients. The demands of the work require a motivated and dedicated workforce. An organization needs strategies to keep the staff motivated

to perform at the highest level. The next chapter is a review of literature that informs these types of incentives, the theories that are relevant to pay-for-performance, and literature that informs the factors necessary for a successful implementation.

Chapter 3: Review of Literature

This case study focuses on PfP to improve the performance of an individual. In particular, this case study looks into the use of incentives for non-executive employees. Performance occupies a couple of dimensions, such as quality and frequency. A high performing staff implements therapy as frequently as required and as specified by the treatment plan. The use of compensation and benefits to motivate employees is the focus of different streams of literature (Johnson et al., 2008). This chapter will review research in behavior economics, economics, psychology, leadership, and management research that/to explore(s) the use of Pfp in other industries. Some of the sectors include manufacturing, sales, and healthcare. Healthcare researchers primarily focus on how insurance companies use various reimbursement strategies with physicians. There are fewer studies on the use of Pfp to improve the performance of healthcare workers to the extent necessary for ABA organizations and healthcare providers to meet their patients' and workforce demands.

There are also several theories that I will explore in this chapter. The theories include agency, reinforcement, and expectancy. It is essential to understand these theories' components as it provides insight into Pfp and the potential causal mechanism. A combination of multiple theories is relevant to this research. I will also seek to understand the proponents and critics of Pfp. I expect that a primary source of contention is motivation—in particular, the debate around intrinsic and extrinsic motivation. Motivation is at the heart of this discussion.

Economics

Healthcare systems present unique challenges to get everyone motivated to accomplish a task. Adam Smith (1776) documented the challenges for business leaders in *An Inquiry into the Nature and Causes of the Wealth of Nations*. Smith (1776) highlighted the challenge of getting employees to engage in the business line's work. Smith (1776) also identified the Invisible Hand idea and that the market will regulate the industry and have a massive influence on the owner and leaders' motivations.

Economists have a knack for eloquently describing incentives and compensation. A prime example is a principal-agent problem where the principal is the employer and the agent is the employee (Milgrom & Roberts, 1988). In this problem, the employer and the employee have access to different kinds of information, some of which may be incomplete. The decisions may include the amount of effort by the agent or incentive strategy by the principal. The agent has an idea of the profit margin and may determine that the compensation is not fair. Based on this, the agent may put less effort into work and may purposely make errors. The agent may also share information with other agents about the inequity and may cause significant ramifications for the principal (Milgrom & Roberts, 1988).

A similar situation can arise in healthcare services. In healthcare, services are often billed to insurance companies (Cernius, 2018). The insurance companies will send the

patient an explanation of benefits that may include information about the cost of services. The healthcare workers may access these documents and see the amount the company received for the services. The worker is often unaware of all the additional costs that go into providing service and may determine a much larger profit margin than the service's actual profitability. The issue is often compounded because of the demands of the services. Milgrom and Roberts (1988) determined that a critical application of agency theory is to align an organization's strategic areas with compensation and incentive policies.

Literature Review

Smith (1776) described the precarious balance between the business owner's motivation and the employee's needs. This struggle between the employer and employee has endured the test of time as it continues to be a source of friction in most industries. Taylor (1911) identified the impact of incentives on performance. In particular, he found that employers engaged in strategies that disincentivized high performance. Employers would not want to overpay employees because they produced too many products. Instead, Taylor (1911) suggested that employers should pay more money for pieces made by high-performing employees. The employer trains employees until they demonstrate the proficiency necessary to achieve the requirements for higher pay.

Taylor's (1911) work is based upon economic theory and expanding on the work of Adam Smith (Turan, 2015). Turan (2015) indicated that Taylor's scientific

management principles also noted the need to manage workloads and ensure all staff had what they needed to be successful. It is a given as we explore high-performance strategies that training, workflow, and equipment needs are optimal (Wilder et al., 2020). Taylor and Smith's research is an early foray into the intricate web of performance, motivation, and perspective.

Companies continue to struggle with aligning the business and employee motivations. They use cash compensation, benefits, and bonuses, to name but a few (Lazear, 2000). As part of recruiting talent, recruiting experts will research the demand for a position and the expected pay. The recruiting expert determines the pay level based on competition for the job candidate's skill set and the employee's potential value based upon their experience (Turan, 2015). Contrarily to the pay scale set by the market, companies determine the parameters for incentives. The incentives' goal is improved performance of an employee, team, department, or the entire company (Gerhart & Milkovick, 1992; Haire et al., 1967). The focus of this study is on incentive strategies to positively impact the performance of an individual.

Incentive Effect

Agency theory applies to the strategic use of incentives (Milgrom & Roberts, 1988). The study into incentives evaluated the distinction between fixed and variable compensation schemes. An example of this type of research is Paarsch and Shearer (1996), who used non-experimental, firm-level data on tree planters to compare fixed and piece-rate work. Another example is the case study research by Hall et al. (2000)

that focused on automobile glass installation workers' performance. In these case studies, the improvement ranged from 23% (Paarsch & Shearer, 1996) to 40% (Hall et al., 2000). These studies' general notion is that connecting pay to individual performance results in a more productive employee. The improvement in individual performance by the compensation schemes evaluated in these studies has also shown positive changes at the firm level, but not to the same degree (Cahuc & Dormont, 1992; Origo, 2009; Piekkola, 2005).

Sorting Effect

During the consultation to implement the LSABA scorecard system, consultant Abernathy indicated that some companies would provide candidates with the choice to opt into incentive-based pay. During the interview, the interviewer provides the candidate with an explanation of both options. The decision offers insights into how confident the candidate is that they will perform highly in the role. High performers should select the incentive-based pay because they will receive higher reimbursement. The problem is that some high performers are risk-averse and are not comfortable with variable pay because of the uncertainty (Gerhart & Fang, 2014). It may be that performance pay improves performance, but it may also attract and sort employees (Hall et al., 2000; Lazear, 2000). The compensation strategies implemented impact the work by the current workforce through incentive effects. Still, it also impacts the organization through the types of employees that stay and join (Gerhart & Fang, 2014). Companies should carefully consider if they stand behind the incentive policies' components with an awareness of the sorting effect.

Based upon this sorting effect, you would expect to attract high performers with a Pfp incentive and sort out low performers.

Pay for Performance

Economics, psychology, and Human Resource researchers conducted queries into various approaches to leverage financial resources to motivate employees to improve performance (Hall et al., 2000). Researchers, business leaders, and the general public often use the term “pay for performance” (Pfp) to describe strategies that use compensation to improve performance (Rynes et al., 2005).

Gerhart (2017) identified any manipulation to compensation focused on improving performance as the essential defining characteristic of Pfp. The description offered by Gerhart includes merit pay, bonuses, promotions, and performance reviews. The definition put forth by Gerhart (2017) is broader than the typical perspective on Pfp. Most research still takes a narrow and potentially outdated view, similar to Taylor's (1911) description of incentives used to motivate steelworkers in 1911.

The performance part of Pfp requires its own review. Researchers have defined performance based upon both quantity and quality (Shaw & Gupta, 2015). The use of incentives to increase both parameters is of critical interest to organizations' leaders but does come with some risk. The more intense the incentive, the more likely it is to motivate high performance and the risk of undesired behavior change (Gerhart & Fang, 2014).

Incentives

The pay part of PfP is the incentive. The primary measure of an incentive is that there is an improvement in the employees' work performance (Gerhart, 2017). The employer creates a contingency by providing the employee with an incentive to work in a specific way. Kerr (1975) described the risks associated with incentives in his poignant and often-cited article “On the Folly of Rewarding A, While Hoping for B.” Kerr (1975) identified incentives misaligned with the intended results cause just the opposite of what the incentive is supposed to produce. He used examples from various fields (e.g., sports, medicine, and business). He revealed how a contingency such as fear of a lawsuit influences a false diagnosis by a physician.

Daniels and Lattal (2017) provided direction for navigating the risks suggested by Kerr (1975). Daniels and Lattal (2017) identified multiple different variables that act on incentives. The other variables include positive, negative, immediate, future, certain, and uncertain. When evaluating the different variables, a leader can recognize the contingencies that control the behavior and work against an incentive. In further exploration of the Kerr (1975) physician example, the immediate contingency is to alleviate the patient's perceived pain. It is also reasonable that if the physician identifies the ailment, he will receive a positive response from the patient.

It can also be noted that the physician avoids a possible lawsuit in the future for missing a potential illness. It is uncertain if this particular patient would sue the

physician. The incentive to falsely diagnose a patient is related to a positive, immediate, and certain consequence, which Daniels and Lattal (2017) identified as one of the most potent variables mediating the effect of incentive. Additionally, a less powerful but present variable is the avoidance of the future uncertain lawsuit.

Context

Healthcare

The focus of this study is on healthcare implementations of PfP. Kondo et al. (2015) looked at the evidence of PfP in healthcare settings. Kondo et al.'s (2015) work highlights a key area of distinction in PfP research: the difference between compensation for staff and remuneration for services. Kondo et al. (2015) focused on what they called *alternative payment methods*, which uses performance-based models to create reimbursement strategies for medical providers. The implementation of PfP by insurance companies to pay for a more efficient and higher quality of care is an alternative to flat reimbursement, capitation, or other traditional payment models, like fee for service. While Kondo et al. (2015) are not related to a PfP compensation or incentive strategy for individual staff, the recommendations are particularly relevant to this implementation. Kondo et al. (2015) provided the following suggestions:

- Limited evidence from which to draw firm conclusions related to PfP implementation.
- Regular evaluation should target areas of poor performance.
- Measures and incentives should align with organizational priorities.

- Programs should allow for changes over time in response to data and provider input.

Theory

Theorists have explanations for incentives and the effect on human behavior.

Economists theorized about the impact of incentives for well over a hundred years (Taylor, 1911). The economic theory dominated the understanding of pay and incentives with the primary assertion that employees act rationally by making choices consistent with their best interest (Baiman, 1990; Milgrom & Roberts, 1990; Ross, 1973). Economic theory has also looked at consumerism and non-work activities on labor production (Becker, 1965). Milgrom and Roberts (1992) identified a positive relationship between incentive intensity and performance output.

Behavioral Economics (BE) merges the ideas of economics and psychology. BE studies why humans may make decisions that are not inherently in their best interest. It explores how we make decisions under limited information. BE also provides powerful insights into subtle areas that may influence or “nudge” a choice (Thaler & Sunstein, 2009). How we present an incentive is a compelling and relevant example. The manager offers an opportunity to earn variable pay or describes how much is lost by not meeting the requirement. Deciding how to frame this situation can impact the outcome. The effect is not intuitive and warrants inclusion in a pay-for-performance discussion. In BE, this is described as *prospect theory* (Kahneman & Tversky, 1979).

Surprisingly, framing incentives as a loss is a stronger motivator than explaining how much one can obtain.

Expectancy theory

Vroom's expectancy theory contains additional variables likely related to PfP. The employee's perspective is at the heart of expectancy theory and adds a somewhat problematic aspect since it is not directly observable. The theory suggests that the perceived value of the incentive and knowledge about the ability to achieve the work requirement impact incentives. It seems reasonable that an employee is more likely to work harder if they know how to do their work and the incentive is worth the effort.

Vroom's theory introduces the terms *expectancy*, *instrumentality*, and *valance* discussed in the PfP literature. Expectancy defines the certainty in which an employee thinks he can meet the demands of an incentive proposition. Instrumentality describes the relationship between increased effort and probability of determining the ability to meet the incentive requirements. And lastly, valance is how much the employee likes the reward.

Behaviorism

The behavioral researcher takes a natural science approach to study behavior. One of the more prominent researchers in behavior analysis is B. F. Skinner (1956). The history of behaviorism explains critical concepts relevant to a study of incentives and rewards.

Thorndike law of effect

The early researchers used animals to study the effects of rewards. In his 1898 monograph, Thorndike recognized that an animal continued to engage in a behavior or do something more frequently if something positive followed. The observation gave rise to the notion of stimulus-response (S-R) psychology (Thorndike, 1898). This work is likely the beginning of behaviorism, but that is not without debate (Malone, 2014). As described in the discussion around the origin of behaviorism, Watson is often identified as the founder because he set the stage for using a natural science approach instead of a psychological approach (Malone, 2014).

B. F. Skinner contingencies of reinforcement

Skinner (1969) expanded on the work of Thorndike (1898) by adding details and terminology. A few significant concepts include the ideas around reinforcement, punishment, and extinction. Skinner also did not just focus on what happens after the behavior, but he looked at the antecedent. In a behaviorist approach, the focus is typically on an observable phenomenon within seconds of action. The concept of positive reinforcement is particularly relevant to this research and areas of incentives and compensation.

Positive reinforcement

In positive reinforcement, a preferred or desired consequence follows a behavior, which results in more of that behavior in the future (Skinner, 1969). The delivery can occur naturally without being provided by someone else, like consuming chocolate.

However, the positive reinforcer is often delivered strategically as part of a plan to increase behavior.

Schedules of reinforcement

Skinner (1969) identified one area of distinction in which consequences do not need to follow every occurrence to modify behavior. Skinner defined the schedule of reinforcement in which a positive reinforcer follows every response as a fixed schedule. The variable schedule is more common and more relevant to this discussion around incentives. Most employers pay on a weekly or bi-weekly basis. Therefore, the employee engages in lots of behavior that is not immediately followed by a paycheck. Skinner (1969) identified that providing instructions is a remedy to the significant delay between engaging in behavior and accessing the reinforcer. Skinner (1969) indicated the explanations as rules and the action as rule-governed behavior. It is vital that knowing an employee may engage in lots of responding and behavior to make sure you are focused on the rules. Feedback is another option. The positive reinforcer does not have to be money but could also come in the form of praise. Completing the task can also be positive reinforcement, often described as intrinsic reinforcement (Deci & Ryan, 1985).

Reinforcement theory

Another theory relevant to providing incentives to impact employee performance is the notion of money as a positive reinforcer. The primary source for reinforcement theory is B. F. Skinner's work. Skinner wrote numerous articles and books on reinforcement theory and human behavior. Skinner's (1953) book *Science and Human*

Behavior provides a thorough explanation of Skinner's theory of reinforcement. The basic tenants of reinforcement theory are that human behavior increases in the future if a reinforcing consequence follows it. In reinforcement theory, the fact that rewarding behavior increases the occurrence in the future is positive reinforcement. Positive reinforcement is relevant to this discussion because improving performance is about increasing some action. Another variable relevant to incentives and often misunderstood is that behavior also increases in the future if the removal of something unpleasant follows it. The physician falsely diagnoses a patient because, in the past, he avoided the unpleasantness of not knowing the cause of the malady. The physician encounters positive reinforcement in the form of payment when making the diagnosis. The complexities around contingencies are directly applicable to performance incentives.

Generalized conditioned reinforcement

A lot of work has expanded on reinforcement theory and relevant applications (Defulio et al., 2014). One area is particularly relevant to this study and a conceptual understanding of money. Prior research into reinforcement has described monetary rewards or incentives as generalized conditioned reinforcers (GCR) (Russell et al., 2018). They are generalized because you can exchange them for multiple other types of rewards. It is the exchange that determines the relative value of a GCR. In reality, incentive systems based around the delivery of a GCR like money are then subject to inflation and other factors that can weaken its value.

Attraction-selection-attrition theory

The attraction-selection-attrition theory suggests that people are more likely to stay in an organization when it matches their attributes and needs. According to Schneider et al. (2000), insiders in the organization tend to behave consistently with the organizational climate. The incentives created by the organization will have an impact on the environment. The effect could be either positive or negative and a deciding factor in the employee staying with the company. According to the attraction-selection-attrition theory (Schneider et al., 2000), the pay and compensation system will attract a particular type of employee and impact their performance. The employee's perception is influenced by the compensation policies and how the organization implements these policies.

Tournament theory

The PfP system often interacts with other compensation strategies, and therefore, the related views will impact this system. One such example is tournament theory (Rosen, 1986), which suggests that having higher pay within an organization is motivation in its own right. Employees are motivated to improve their performance to access higher income. Rosen (1986) indicated that employees should improve performance to unlock access to more significant incentive opportunities. Shaw et al. (2002) suggested that pay dispersion should accompany individualized incentives. In particular, Shaw et al. (2002) identified that a tournament structure based upon Rosen (1986) is likely effective if the process to move up in pay is based upon performance.

Agency theory

Larkin et al. (2012) reviewed the literature on compensation and incentives and identified that 80% of the studies they found ($n = 152$) approached the research question with agency theory as their theoretical perspective. They also noted that most of the studies focused on executive compensation. Gerhart and Fang (2014) found that the theories around PfP operate in two distinct ways. The two methods are incentive and sorting effects. The incentive effect is what most research into PfP looks to understand. However, the sorting result described by Lazear (2000) is also relevant to a discussion about PfP. Lazear (2000) evaluated the implementation of a PfP system by Safelite Autoglass. He identified that the PfP system incentivized high performance but also weeded out low performers. The low performers would seek out employment elsewhere. The PfP compensation process also attracted top performers.

Therefore, the theories related to psychology, economics, or, more directly, behavioral economics are relevant to this case study on an organization with an incentive program. As identified, reinforcement theory is the most directly applicable, but Vroom's expectancy theory explains areas not fully articulated in the reinforcement theory.

The Effectiveness of Financial Incentives

Organizations are more inclined now than in the past to use financial incentives to drive their employees. WorldatWork (2014) identified that 97% of survey respondents ($N=190$) in for-profit companies employ short-term incentives (STI).

The survey indicates an increase in the use of STI and a decrease in long-term incentives. The increase in the use of motivational strategies included the non-profit, healthcare, and government sectors. An additional survey conducted by WorlDatWork (2014) identified that 78% of non-profit and government organizations that responded ($N=178$) use STI to motivate and retain employees. Of the non-profit organizations represented in the WorlDatWork (2014) survey, 48% were in the healthcare and social services industries. It appears that these industries are finding benefit from incentive strategies predominately used in the for-profit sector. Is the increase in use due to STI's effectiveness to motivate, recruit, and retain employees? Is the rise due to the observed improvement in performance? In particular, two meta-analyses focused on using monetary incentives to improve performance (Jenkins et al., 1998; Shaw and Gupta, 2015). Jenkins et al. (1998) looked into 40 years of research up to 1998. They identified that financial incentives had a positive effect on performance. Shaw and Gupta (2015) had similar findings that should determine the use of financial incentives as evidence-based. However, at the root of this is a debate about intrinsic and extrinsic motivation.

Researchers often cite Deci and Ryan (1985) and their cognitive evaluation theory (CET), which suggests financial rewards diminish intrinsic motivation. However, Jenkins et al. (1998) identified studies, particularly Cameron and Pierce (1994), that countered the idea that financial rewards are detrimental to intrinsic motivation. Even though such studies dispel this notion, the concern is thought provoking and generates

considerable interest among those unaware of the research. Pink (2009) reinvigorated the intrinsic vs. extrinsic debate with his eloquent words and a TED Talks presentation that reached millions of viewers. Pink's (2009) work is compelling but salacious and contrary to the research evidence (Shaw and Gupta, 2015).

Pinpointing

In implementing a PfP program, an early step is to identify precisely the performance requirements and needs of a position. Daniels and Daniels (2004) identified this step as “pinpointing.” Pinpointing is described by Daniels and Daniels (2004) as a critical skill of managers and necessary for the effective implementation of a PfP program.

Feedback

Lawler (1973), in his pivotal work on motivation and performance, described feedback as a critical component. Ilgen et al. (1979) conducted a detailed review of the early literature on feedback. In this review, Ilgen et al. (1979) identified three sources of feedback on performance. The sources consisted of others directly observing responding, the task, and also the individual. The feedback sources described by Ilgen et al. (1979) are evident when learning a new work task. A behavior technician is frequently learning new interventions. The technician receives feedback from their supervisor in the form of praise or corrective comments. The outcomes of the intervention are also a form of feedback for the technician. If the patient is improving from the intervention, this notifies the technician that they are doing the procedure correctly. The technician may also give themselves feedback by saying to themselves that they did the treatment step correctly. .

Researchers looked at feedback to determine if there is a “magic” ratio between positive feedback and negative or even neutral feedback (Flora, 2000). The research into a balance primarily occurred in classrooms and identified rates from 3:1 (Shores et al., 1993) to 4:1 (Trussell, 2008), to 5:1 (Flora, 2000). While such research into this ratio suggests the value of a positive ratio, it has not effectively identified a magic ratio (Sabey et al., 2019). It does seem essential to maintain a balance of positive to negative interactions. While case managers and leaders often have to present their staff with demands and negative information, managers should seek out opportunities to provide lots of positive feedback in order to maintain the optimal ratio.

Feedback and monetary Incentives

Johnson et al. (2008) explored the relationship between feedback and financial incentives. They found that most studies support that feedback is enhanced through the use of monetary incentives. However, there were no studies demonstrating the inverse relationship that feedback is a moderating variable for monetary incentives. The relationship is complicated as indicated by the relationship between the availability of monetary rewards in the presence of feedback. In the PfP system at LSABA, the technicians are provided feedback specifically related to the pinpointed areas of performance. It is likely that they would not receive feedback on these areas if the monetary incentives were not present. Johnson et al. (2008) were not able to prove that effectiveness of monetary incentives was not contingent upon feedback. While not a core focus of the research, Johnson et al. (2008) did provide additional

support for variable pay instead of a fixed pay system. In all conditions, with or without feedback, the respondents performed better when paid an incentive instead of a fixed amount.

Appraisal

Brown et al. (2019) identified factors related to the performance appraisal process that leads to what they defined as cynicism. Brown et al. (2019) indicated that employees believe the appraisal process is not productive or helpful. Brown et al. (2019) identified studies in which 13–59% of respondents to survey questions about appraisals' effectiveness describe them as providing no benefit. The performance appraisal process can appear like a task that the manager is required to complete (Shields et al., 2015), or much worse, that it is random and you never know what you are going to get (Deming, 1986). Daniels (2013) summarized the concerns referenced above about appraisal systems and strongly encouraged leaders to move from this type of system.

Feedback is a component of Leader-Member Exchange (LMX) in particular (Graen & Uhl-Bien, 1995). Fortunately, managers have control over the quality of the relationship they have with their staff, which directly impacts the appraisal process. The variables described in high-quality relationships in the LMX literature give a blueprint for providing feedback. The LMX literature suggests that the manager should display an obligation to helping the staff and always being respectful. In

general, the relationship should look more like career mentoring than managing tasks (Brown et al., 2019).

Brown et al. (2019) indicated that work demands function as a moderating variable for performance feedback. The more complicated the demands, the more employees will need to use their available resources to complete the task. One of the resources is the feedback bank. If the manager is not reliably depositing into the bank, or there are not high-quality feedback resources, the task becomes less favorable. In ABA centers, the technician position is frequently demanding. Based on Brown et al.'s (2019) suggestions, the managers should fully leverage the feedback mechanism to build up their staff to be ready for the demands. In addition to seeing the task as less favorable if they do not have the necessary feedback to rely on, the staff is also more likely to quit (Brown et al., 2019).

Summary

In this section, we looked at the literature around performance pay and the related theories. We now understand some of the behavior and economic ideas that are at work when implementing performance pay. The next couple of chapters switch the focus to research methodology, results, and discussion.

Chapter 4: Methodology

This chapter summarizes the case study methodology and how it was applied to explore this research. The chapter includes the primary steps implemented to approach why the organization implemented a PfP system. Additionally, the chapter summarizes the steps to identify the logistical and financial requirements of a PfP system. The primary methods implemented consisted of interviewing staff in a decision-making capacity. Another key source for how to implement a PfP system is the staff being responsible for the day-to-day operations. The consultants that helped implement the PfP system will also provide details about PfP and how this system started at LSABA. The research also included a survey to assess the perspective of employees at LSABA. Lastly, this chapter will review the non-experimental data collected by the company to explore the impact of the PfP approach.

Interviews

One of the main steps in gaining the perspective of staff was to engage with them in a conversation. The process of selecting the staff to interview was primarily determined by their relationship with the PfP system. Some of the interviewees made the decision to move to the PfP system, while others either implement the PfP system or are participants. The staff also represents employees that only had a PfP incentive, as well as staff that moved from an annual raise. The interviews include staff occupying various positions with the organization (see Table 3). The interviews were recorded using a Zoom H1-N handheld recorder. The raw audio files of the interviews were

transferred to a laptop. A Google cloud-based service was used to transcribe the interviews.

Table 3. Interviewees by Role

Role	N
Clinical	6
Technician	4
Consultant	1
HR	2
Executive	4

Scheduling and conducting interviews

All interviews followed a semi-formal structure. Prior to the interview, an administrative staff member set up a time based upon the availability of the interviewee. The interviewee was advised at this time that the purpose of the meeting was to gather info about the scorecard process. Depending on the location of the interviewee, the interview occurred either via telephone call or in-person interview. The first part of the interview revisited the reason for the discussion. After the employee seemed comfortable with the purpose of the meeting, we explored questions about the different aspects of the PfP system. The questions varied based upon the employee's role and relationship with the system. For example, technicians that are new to the company have experience only with the PfP system, so we discussed the process and their perspective. Other technicians interviewed were with the company prior to the PfP system, so they were helpful in explaining the

perspective of an employee going through this type of change. The interviews ranged in duration from 15 to 45 minutes.

Survey

Sample

In addition to the individual interviews with a select group of employees, a survey was administered to gather data on the overall perspective of current employees.

Anyone employed with the company at the time of the survey was asked to participate via email. The email reached employees in the Clinical Director (CD), Program Manager (PM), Program Manager Apprentice (PMA), Technician, and Administrative roles. The email included a link to Survey Monkey™, a web service specializing in remote surveys. The email gave respondents two weeks to complete the survey. Several staff (185) responded to the request for the survey, for a response rate of 69%. The administrative staff (5) do not currently have a short-term incentive system, so they were removed from the dataset. Four of the respondents did not complete all questions, so their surveys were dropped from the analysis, resulting in 176 surveys. Through Survey Monkey™, the survey data was exported to a spreadsheet.

Survey instrument

The survey consisting of 22 questions (see Table 4) was administered to all respondents. A section of the questions (16) used a five-point Likert scale to indicate their feelings about the question or statement. The survey also has open-ended questions (4) encouraging the respondent to provide more detail about a question they

just answered. The free form text is useful for mining the sentiment and themes occurring amongst the various groups.

Table 4. Survey Questions

Question
How long have you worked at LittleStar?
How would you rate the scorecard process?
Let us know how we can improve or what you really like about the scorecard?
The scorecard incentive impacted my decision to work at LittleStar.
I would prefer to have a monthly incentive payout (current process).
Why or why do you not prefer the monthly incentive?
I would prefer an annual raise.
Why or why do you not prefer an annual raise?
I meet with someone monthly to discuss how I am doing at my job.
During the meeting we discuss my career goals.
I get ideas for how I can improve.
These meetings help me understand my role at LittleStar.
The meetings are beneficial.
I look forward to the meetings.
Is there anything you would like to add about the feedback process?
I trust the scorecard process.
The scorecard motivates me to do my best.
The scorecard measures capture what is required to do my job well.
I understand why LittleStar has a scorecard for my job.
The expectations of my scorecard are reasonable.
My coworkers like the scorecard system.
How long have you worked at LittleStar?

Roles

One of the questions on the survey asked about the employees' role in the company. Based upon the responses to this question and my knowledge of the organization, I sought the best way of splitting the roles into various groups. It quickly became evident that there is a clear delineation between the technician and clinical groups. The clinical group is inclusive of the CD, PM, and PMA roles. These roles have different challenges than technicians to meet the scorecard requirements. Splitting in this way allows for an analysis of the perspectives held by the sample representing each group.

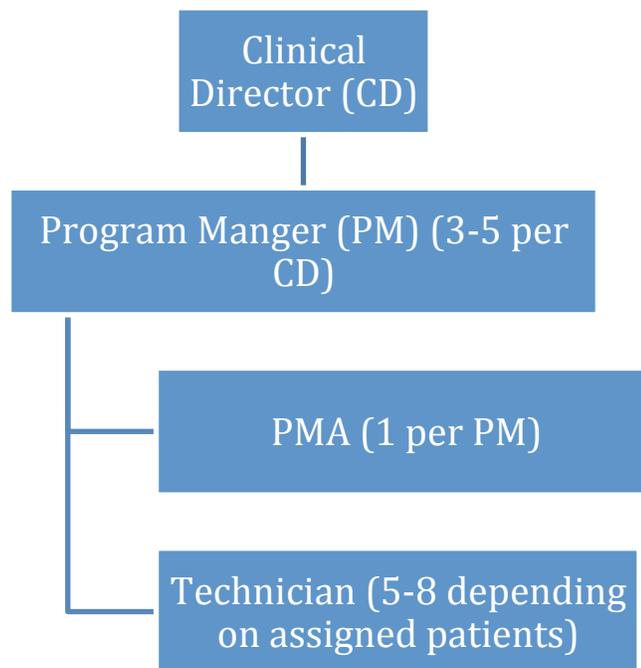


Figure 1. Organization Structure and Caseload (example)

Tenure

In addition to splitting the respondents based upon their role, they were also split based upon how long they were employed with the company. The different tenure levels were divided into four different groups. One of the groups is the zero- to six-month employee. The next group went from six months to a year. Then the next group is those employees with the company longer than a year, but prior to two years. The last group was any employee with the company longer than two years. See Table 5 for a breakdown of the number of employees by role and tenure level that responded to the survey.

Table 5. Survey Respondents by Role and Tenure

	0–6 months	6–12 months	1–2 years	2 years	Total
Technician	25	31	33	28	117
Clinical	3	1	13	42	59
Total	28	32	46	70	76

Multiple choice questions

In order to conduct a statistical analysis of the multiple-choice questions, the answer needed to be numerical. The following process converts the answer to a numerical representation. The first step was to determine the ranking level—all questions had scores from 0 to 4. For example, one of the questions was, “How would you rate the scorecard process?” The respondents answered using one of these options:

- Not at all valuable

- Not so valuable
- Somewhat valuable
- Very valuable
- Extremely valuable

The answers were coded in the following way: “Not at all valuable” scored as zero, and “Not so valuable” scored as one, and so on. This process resulted in a numerical score, which remained ordinal in the same way as the categorical variable. The open-ended questions were analyzed for sentiment and topic using word clouds and text analysis algorithms.

Wordclouds

The responses to the open-ended questions were further analyzed through a visualization that placed all the words on a single page and the size of the word represented the frequency of its use. The process required taking all of the responses and breaking them up into individual words. The words were then further filtered based upon the following criteria. The software searched the text for the occurrence of common words and removed them from the analysis. The remaining words were then represented visually based upon relative frequency of occurrence. The process required the use of a python library called Wordcloud. The word clouds were used to analyze the groups divided by role as well as tenure.

Sentiment

The words selected by respondents are suggestive of their perspective of the scorecard system. TextBlob is a popular python software that assists in identifying the sentiment of a message. The message is evaluated based upon the types of words and compared against an algorithm identifying the overall sentiment. The TextBlob software will identify the sentiment of all statements and then look for any patterns in positive or negative responding amongst the different groups. The software takes a column of comments and generates sentiment polarity from -1 to 1. An example of a comment from the survey with a negative polarity score is, “It can be punishing in areas that we don’t have control over such as parents cancelling meetings, etc.” The comment had a sentiment polarity score of -0.4. As an example of a positive statement when answering the question about additional feedback, one respondent stated, “No, it is going great.” The sentiment polarity score for this response was 1.0. A statement that expresses multiple emotions, like “The delay makes it difficult to provide immediate reinforcement. I like that it holds people accountable,” is difficult for the algorithm to score. I would guess that this would also be challenging for a human to score with high degrees of agreement. The example has a sentiment polarity score of -0.5. The sentiment analysis is a method to filter for comments that are clearly positive or negative. Also, since this converts sentiment into a numeric representation, there are additional descriptive statistics to further garner insights into the employee perception of a scorecard incentive.

Scorecard archival data

Another source of data for this research is the employee performance data spanning from January 2015 through December 2019. The consultant working with LSABA provided the data. The dataset consisted of 68,513 rows of data.

Number of employees

The initial dataset provided included reference to 917 employees. One of the columns in the data included an identifier for the employee. The employee ID column included 17 instances of employee titles referenced in lieu of an employee identifier.

Therefore, these employees' data were removed.

The data required additional organization and structure for further analysis. One modification involved removing all the data on administrative positions due to the fact that the scorecard system had not been applied to their positions. After removing the administrative data, this left 64,696 rows. Another step consisted of removing 6,342 rows for missing a name for the performance measure. The initial data included 73 distinct measures. A couple of modifications were applied to the names of measures. The labels for measures changed within the dataset (see Table 6). The reason for the change was not immediately evident.

Table 6. Measure Labels

Measure
Treatment Objectives
Therapy Observation Score
Attendance
Clinical Staff (rollup)
Reports Timely
Treatment Plan Quality
Parent Meeting
Billing Paperwork (Therapist)
Professionalism
Parent Survey
Treatment Plan Quality (PMA)
BCBA Services (PMA)
Project Milestones

The different names may indicate an administrative error. For example, one of the measures is “Treatment Plan Quality,” which has 1177 data points; there is another measure, “Treatment Plans Quality,” with 76 data points. A similar typo occurred with “Completed Supervision,” misspelled as “Completed Supervsn.” The different labels for this measure also included errors relating to the title of the employee. Three of the measures labeled “Treatment Plans Quality” were assigned to a therapist. Of the three examples, one had the incorrect title for the employee, and the other two were dropped from the dataset. The measures were grouped together if they targeted a similar area of performance. The typos were corrected and administrative measures

were removed. This took the initial 73 to 14 measures for analysis (see Table 7). The measures targeting attendance were listed as “Tardies” and “Absences,” and the data was combined into a single measure called “Attendance.” The analysis of the change in measures did identify some potential issues. One example is a PMA measure called “Billing Assistance”—in the dataset, there was only one employee that had this measure. The data was also missing names for 615 rows of employee data. After removing all of the missing data, this left 59,066 rows of data. See Table 8 for the total number of employees by role.

Table 7. Total Rows by Role

Role	N
Clinical	14563
Technician	44503

Table 8. Total Employees by Role

Role	N
Clinical	151
Technician	812

Summary

In this section, we discussed the specifics of how I applied the case study methodology. We looked at the types of data and how it was collected. In the next

chapter, we begin the exploration of what I found in the data. The results chapter will describe the key insights that I took away from the data.

Chapter 5: Results

Why Implement a PfP System

In this study, emphasis was placed on why the company changed to a PfP system. Prior to implementing the scorecard, the company had an annual appraisal process for all employees. Based upon interviews and my personal recollection, there were a couple of primary issues with the annual appraisal the company sought to resolve with a PfP implementation. A primary concern was that the annual appraisal did not change employee performance. The review occurred at the end of every year. The review process was prone to focus on recent problematic performance or a significant concern during the year. Instead of feeling motivated and supported, employees often left annual reviews surprised by the feedback. The surprise was often not related to positive feedback, but due to learning about concerning performance. It was not uncommon for staff to question why they did not receive the feedback sooner, and why the manager allowed them to continue engaging in this behavior. Another problem with annual reviews was the amount of effort the manager had to engage in to complete the review (Daniels, 2013).

Also, the company needed a system to monitor reviews to make sure they were completed. It was all too common that the reviews would pile up on the manager's desk. Their supervisor would then prompt them to complete the reviews. The manager would then try to quickly complete this summary of the entire year. The end result was an annual review meeting that did not capture the employee's true

performance. All employees received a cost of living increase every year, regardless of how they performed on the evaluation. This further weakened the effect an annual review could have on performance.

The fact that a high performer could see that other employees that were not working as hard as they were compensated the same would also lead to a decrease in their discretionary effort. Healthcare companies like LSABA require highly motivated, high performing employees to ensure patients can reach objectives of treatment. The company ultimately wanted to make sure that high performers were recognized and rewarded, because this leads to the best outcomes for patients. While this research is not experimental, the performance data provided did show high mean performance scores (see Table 9), suggesting the scorecard system had a positive impact on employee performance. Table 9 provides the overall mean scores for the prospective measures in the submitted performance data. In all areas except for professionalism, the employee could get a zero to a hundred percent on each measure. Professionalism had a minimum score of zero and a max of 4.

Table 9. Mean Performance by Role

Role	Measure	Mean
Clinical		
CD	Avg Parent Survey	63.85
	Clinical Staff Perf	67.73
	BCBA Services	94.59

Role	Measure	Mean
	Reports	95.63
	Parent Survey	73.93
PM	Professionalism	3.97
	BCBA Services Provided	89.48
	Parent Meetings Held	88.29
	Treatment objectives	81.49
	Treatment plan (quality)	56.95
PMA	Professionalism	3.87
	BCBA Services	86.64
	Milestone	95.58
	Parent Meetings	96.67
	Reports (Timely)	100.00
	Treatment Objectives	80.37
Technician		
Technician	Professionalism	3.79
	Therapy Review Score	94.15
	Billing	96.20
	Attendance	46.26

What is Needed to Implement a PfP System

The various components of this implementation were another area of analysis, as well as what is needed for the daily operations of a PfP system. Based upon the interviews, archival records, and my personal recollection, to implement a scorecard system, you need the following. A scorecard implementation requires leadership, expertise,

operations, training, and management. One other major consideration includes the financial resources to support a scorecard implementation.

Payout data

A PfP system like this requires financial resources. The organization paid out \$857,654.87 in incentive compensation for the months of May 2017 through December 2019 (see Table 10). The amount paid is 81% of the total amount the organization budgeted (\$1,122,614.38) for this period. The amount paid to each employee is a factor of their overall performance during the review period. The data did not include the number of employees paid during each month.

Table 10. Mean Payout by Month

	2017	2018	2019
Months	8	12	12
Mean	27421.26	28877.60	28989.28
% of budget (20 million)	1.3%	1.7%	1.7%
Total	219370.14	346531.29	347871.36

Expertise

The interview with the consultant, the records provided, and personal observations all identified the following areas. The consultants were essential to the implementation of the system. The consulting firm shared details of the implementation roadmap. They facilitated meetings with various staff. They encouraged leadership to see the

system through to implementation. The consulting firm also led the design of the scorecard measures for each position. Creating scorecards was an involved process. While creating a scorecard for a position, the consultant met with and interviewed different levels throughout the organization. The consultant wanted to hear from employees in the position, the managers, and other departments impacted by the performance of the position. With the information gained from interviews, they assisted the team to determine measures and to identify a system for collecting performance data. The consultant encouraged the team to select performance areas and then work through the process of creating a measurement system. The consultation firm provided PowerPoint slides for the initial role out presentation. The presentation slides provided a general overview of a scorecard and explained key concepts. The slides discussed the minimum and maximum scores for each measure. The presentation described how each measure is weighted and that they will receive a performance index score. The performance index is the overall score and represents their performance.

Training

A part of the orientation for all employees included an overview of the scorecard system. The training was provided to employees with and without a scorecard. The organization also created a training for supervisors. In the supervisor training, a portion of it covered strategies for providing formal and informal feedback. The organization also created additional individual trainings for specific scorecards. One example is a detailed training for the Program Manager Apprentice role and their

scorecard measures. Also, there were training materials for the therapy review score. Some of the trainings were created by programs within the company.

Operations and logistics

Implementing a scorecard system also requires staffing resources and workflow development and monitoring. The company had an employee that spent 20 hours every week implementing the scorecard. The staff interviewed who provides this function for the company indicated that the primary function is coordinating between the clinical department, consulting firm, and payroll. The position would assemble the data into the format required by the consulting firm to create the scorecard. The data collected for this spreadsheet was in many different locations throughout the company.

All of this had to be completed in a timely manner, so the staff would receive their feedback and could review the scorecard for errors. In order to have the data ready to send off to the consultant timely, this position would have to reach out to various departments and staff. They were often having to send out numerous reminders and occasionally have to send information to the consultant missing data. This would result in a delay in processing the scorecard and getting feedback to the employee. The timelines were necessary so that the company could find errors before submitting to payroll. They also now need to monitor to make sure the data eventually is received and submitted to the scorecard. Another duty carried out by this position was to explain scores.

The company did require employees to review their scorecard for errors prior to meeting with their supervisor. Often, the supervisor could explain the score and why it was not an error. Sometimes the supervisor and the employee would identify an error. The error was forwarded to the staff implementing the scorecard system. Depending on the error, the HR staff would reach out to LSABA leadership or contact the consulting firm. Upon occasion, the error was the result of a payroll error. Occasionally, the staff implementing the system would have to field grievances from an employee. The staff would encourage the employee to contact their supervisor or human resources. They would then explain the complaints to leadership. It is clear that a PFP system needs someone responsible for orchestrating the multiple departments and responsibilities related to creating and disseminating a scorecard.

Survey Analysis

Monthly incentive or annual

A group of questions, both ordinal and open-ended, looked at the relationship between having a monthly incentive or an annual raise. The questions sought the preference of the respondent by asking which they would prefer. Immediately following each question about preference, the respondent had the opportunity to explain their preference. Table 11 shows the number of respondents by group that responded to the open-ended questions.

Table 11. Open-Ended Responses by Role

	Technician	Clinical
Additional	59	48
Monthly	64	47
Improve	65	47
Annual	30	28

See Table 12 for the number of respondents providing responses to the open-ended questions by tenure.

Table 12. Open-Ended Responses by Tenure

	0–6 Months	6–12 Months	1 Year	Over 2 Years
Additional	11	5	14	28
Monthly	18	15	29	50
Improve	18	14	27	48
Annual	17	14	30	50

Statistical Analysis

The IBM SPSS version 27 was used for statistical analysis. The statistical analysis consisted of ANOVA F-tests to test the hypothesis whether or not the means of different groups are equal, under the assumption that the populations are normally distributed (Wilcox, 2003). The F-tests below show the differences between the groups teased apart by role (see Table 13) by tenure (see Table 14).

Differences by role and tenure

Splitting the roles in the dataset resulted in a clinical group and technician group. The clinical group ($n = 54$) includes Program Managers ($n = 27$), Program Manager Apprentices ($n = 23$), and Clinical Directors ($n = 4$). The technician group contains 117 employees' survey responses. The survey areas where there was a difference among the two role groups were primarily due to lower mean scores in the clinical group. One area that the clinical group differed from the technicians but had a higher mean (1.98, 1.36) was a question that asked if the monthly meetings include questions about career goals. A possible reason for the higher score is that the clinical staff led these sessions. We will cover this again in the interview section, but the clinical staff think the frequency of meetings makes it hard to discuss career goals. It also may be something more likely covered in feedback sessions between clinical staff and their supervisor, while it is something that technicians are not seeing during their sessions.

Table 13. Differences in Mean by Role

Means, Standard Deviations, and Analysis of Variance Results

Variables	Title						F _e	Sig.
	Technician		Clinical		Total			
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation		
Overall Rating	2.410 ^a	.811	1.500 ^b	.966	2.123	.959	41.124	.000
Trust	2.410 ^a	.930	1.667 ^b	1.116	2.175	1.048	20.760	.000
Prefer Monthly	2.795 ^a	1.030	1.944 ^b	1.220	2.526	1.160	22.366	.000
Prefer Annual	3.197 ^a	.921	3.315 ^a	.865	3.234	.903	.632	.428
Recruiting	.906 ^a	1.182	.741 ^a	1.136	.854	1.167	.740	.391
Meet monthly	2.530 ^a	1.257	2.500 ^a	1.411	2.520	1.303	.019	.890
Discuss career goals	1.368 ^a	1.055	1.981 ^b	1.394	1.561	1.203	10.137	.002
Coworkers like	2.154 ^a	.877	1.426 ^b	1.159	1.924	1.029	20.622	.000
Ideas to improve	2.650 ^a	1.162	2.389 ^a	1.366	2.567	1.232	1.661	.199
Help understand role	2.444 ^a	1.199	2.259 ^a	1.348	2.386	1.247	.813	.368
Reasonable expectations	2.957 ^a	.923	1.944 ^b	1.106	2.637	1.089	39.147	.000
Understand why	2.906 ^a	.965	2.741 ^a	.828	2.854	.925	1.181	.279
Measures are fair	2.556 ^a	.978	1.296 ^b	1.021	2.158	1.150	59.594	.000
Scorecard motivates	2.709 ^a	1.018	1.704 ^b	1.238	2.392	1.185	31.361	.000
Look forward to meeting	2.376 ^a	.989	1.981 ^b	1.221	2.251	1.080	5.052	.026
Meetings are beneficial	2.615 ^a	1.065	2.130 ^b	1.275	2.462	1.154	6.765	.010

$p =$

a. Values in the same row not sharing the same subscript are significantly different at $p < .05$ in the two-sided test of equality for column means.
 c. This F statistic tests the difference between the Technician and Clinician groups

Table 14. Differences in Mean by Tenure

Means, Standard Deviations, and Analysis of Variance

	Total (n=171)		0-6 Months (n=28)		6-12 Months(n=32)		1 Year (n=45)		> 2 Years (n=66)		F	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation		
Trust	2.18	1.048	2.43	.742	2.47	.915	2.33	1.044	1.82	1.136	4.544	.004
Overall_Rating Recruiting	2.12	.959	2.25	.752	2.38	.976	2.36	.883	1.79	1.000	4.763	.003
Prefer Monthly	.85	1.167	.89	1.197	1.16	1.298	1.04	1.043	.56	1.125	2.588	.055
Prefer_Annual	2.53	1.160	2.71	.937	2.75	1.136	2.89	.832	2.09	1.321	5.636	.001
Meet monthly	3.23	.903	2.93	1.052	3.28	.851	3.04	.852	3.47	.845	3.394	.019
Discuss career goals	2.52	1.303	2.46	1.261	2.78	1.289	2.40	1.268	2.50	1.362	.574	.633
Ideas to improve	1.56	1.203	1.82	1.124	1.50	.984	1.47	1.236	1.55	1.315	.556	.645
Help understand role	2.57	1.232	2.64	1.129	2.91	1.174	2.40	1.286	2.48	1.256	1.223	.303
Meetings are beneficial	2.39	1.247	2.43	1.136	2.53	1.295	2.33	1.187	2.33	1.328	.218	.884
Look forward to meeting	2.46	1.154	2.57	.959	2.72	1.250	2.47	1.140	2.29	1.187	1.115	.345
Scorecard motivates me	2.25	1.080	2.43	.959	2.22	1.128	2.24	.981	2.20	1.180	.314	.815
Measures are fair	2.39	1.185	2.64	.826	2.63	1.129	2.73	1.009	1.94	1.323	5.724	.001
Understand why	2.16	1.150	2.71	.810	2.59	.946	2.33	1.087	1.59	1.176	11.095	.000
Reasonable expectations	2.85	.925	2.89	.629	2.94	1.105	3.00	.929	2.70	.928	1.114	.345
Coworkers like	2.64	1.089	3.07	.604	2.97	.999	2.91	.949	2.11	1.178	10.040	.000
	1.92	1.029	2.29	.854	2.25	.950	2.07	.889	1.52	1.099	6.574	.000

Wordcloud Results

Comments about a monthly incentive

The following figures represent the statements about having a monthly incentive based upon different tenure levels.

One thing that is obvious by the number of words represented in each image is the number of respondents. As identified in Figure 3, there were many more responses (29, 50) by groups with the organization greater than a year. It is noticeable that incentive became a greater focus across the different tenure levels. The word “incentive” is barely noticeable in the zero- to six-month groups (see Figure 2) and prominent in the groups with the company greater than a year (see Figure 3). A couple of positive words found across all of the groups include “nice,” “fair,” “extra,” “motivating,” “great,” and “bonus.” The word “performance” shows up in Figure 3. The word “docked” is only found in Figure 3. The issue of being docked is often related to losing points because of not meeting the attendance requirements. The words “pm” and “hours” in Figure 3 are indicative of the billing requirements on the Program Manager position.

Comments about moving to annual by tenure

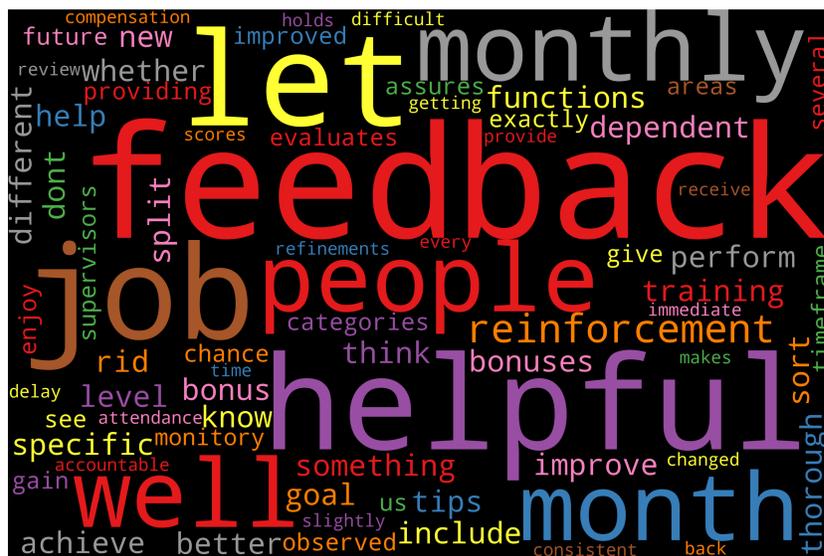
In Figure 4 and Figure 5, the analysis turns to comments about annual incentives. Across all groups, the word “raise” is prominent, suggesting an annual incentive is closely associated with changes in compensation. The zero- to six-month group and the one-to-two year group (see Figure 4) used “prefer” in their responses. In Figure 3, this group used the word “experience.” The word “performance” is only moderately used in Figure 4, and much less than in the responses about monthly incentives. Regarding the word “time” in Figure 4, the words “month” and “monthly” are used more frequently than by the group with less tenure.

Wordclouds on improving the scorecard by tenure

Figure 6 and Figure 7 apply to word frequencies associated with suggestions for improving the overall system. The groups with less than a year of experience (see Figure 6) frequently used the word “feedback.” The group with greater than a year of experience also referred to “feedback,” but with less frequency (see Figure 7). The other groups (see Figure 2, Figure 3, Figure 4, and Figure 5) did not use the term. The word “control” was moderately used in Figure 7(a) and used more frequently in Figure 7(b).



(a) 0–6 months



(b) 6 months–1 year

Figure 6. Suggestions for Improving (< 1 year)

Sentiment About Improving the Scorecard System

Table 15 displays the statement with the lowest sentiment score (-.55) came from the over-two-year group. This was that statement: “I understand the reasoning, but it’s frustrating to me that when we are sick and have to call in, we are docked on our scorecard in addition to using our PTO.” The frustration expressed in the statement relates to an incentive requirement addressing the number of missed days or being late to work. The next lowest sentiment score (-.5) was from an employee with the company between six and twelve months. The statement was, “The delay makes it difficult to provide immediate reinforcement. I like that it holds people accountable.” The issue raised in this comment is that it takes over a month to receive incentive pay. The logistical requirements of the system cause a delay of over a month from the time of performance to receiving compensation.

The statement with the highest positive statement score(.70) was expressed by someone in the over-two-year group. The statement is brief and indicated that the scorecard system is “a fair way to compensate.” The sentiment algorithm may have inflated the positive score due to the brief nature of this comment. Two responses, one in the two-year group and the other in the one-year group, had the next highest score of .65. One of the statements was, “I love that we get bonuses for doing our jobs and being there. There have been great improvements in it since I started.” The other positive statement is, “It’s nice to see that you’re doing a good job.” They both relate to a bonus in compensation and recognition.

The word “bonus” is also in the word cloud images (see Figure 2). The mean is the lowest in the six to twelve month group (.07). This group has the lowest count, so the mean is more sensitive to outliers. The over-two-year group had the second lowest mean (.11) and the highest count.

Table 15. Sentiment Analysis of Comments Improving Scorecard by Tenure

Tenure	<i>n</i>	Mean	Std	Min	Max
0–6months	18.0	0.207616	0.227934	-0.093750	0.60
6–12months	14.0	0.070509	0.244820	-0.500000	0.50
1 year	26.0	0.206824	0.240369	-0.200000	0.65
> 2years	45.0	0.117614	0.251965	-0.557143	0.70

Topics included in negative sentiments

Table 16 summarizes the topics expressed in the open-ended questions about improving the scorecard system. In particular, there are a couple of themes arising from the negative comments. One area is controlling the aspects that influence their performance. The difficulty with scheduling parent meetings was one area mentioned multiple times (33%). Another source of dissatisfaction related to attendance and the impact of being late or missing impacting their score. The contingency made it seem punishing to take time off. It also is seen as difficult to remove from the impact on future performance, almost as if you are doomed once you receive a negative score in attendance.

Table 16. Topics Expressed in Negative Sentiment

	Tenure	Sentiment Score	Topics
0	0–6 months	-0.093750	No scorecard in several months
1	6–12 months	-0.166667	Attendance
2	6–12 months	-0.500000	Delay in compensation
3	1 year	-0.092857	Scorecard incentive, Tardies, Callouts, Attendance, Punished rest
4	1 year	-0.200000	Billing codes, Monthly objective scores, Individualized patient, Me
5	1 year	-0.075000	Control, Parents, Patients, Progress impacted by patient available
6	1 year	-0.010714	Not representative of individualized performance, RBT transition
7	over 2 years	-0.557143	Docked, Punishing to use PTO
8	over 2 years	-0.400000	Billing hours, Control, Parent Meetings
9	over 2 years	-0.142857	Control
10	over 2 years	-0.020833	Like incentive tied to performance, Not representative of PM performance
11	over 2 years	-0.125000	Control, Parent meetings, Objectives, Others impact performance
12	over 2 years	-0.017857	Control, Parent meetings
13	over 2 years	-0.161458	Prefer raise, No scorecard in several months, Billing requirements,
14	over 2 years	-0.125000	Control, Depending on others, PM, PMA

Information Gained During Interviews and My Observations

The comments below are a subset of the interviews conducted. The comments selected appear related to patterns and themes from other aspects of the research and observations.

Technician interviews

One technician brought forth concerns due to PMs frequently observing her providing therapy to patients during training. Being observed with an unfamiliar patient was identified as not fair. The technician was new to the organization and felt uncertain about all of the components of the scorecard. During orientation, the team member leading the meeting did discuss the main parts of the scorecard. The technician also discussed confusion around how the scoring of therapy observations. It was a common occurrence for the technician that observations occurred at times when she felt unprepared. Sometimes there are multiple observations and uncertainty as to if anyone is scoring the session. Sometimes she just started working with a patient, and a few days later, a PM came in to observe and score the therapy. She felt that in those instances, the observations should not count against her.

PM interview

The informant indicated that she previously was in the role of an RBT. As an RBT, she did feel that she had a lot of control over the scores she received. As a PM, she found several variables negatively impacted her scores, and she did not have much power to address this area of performance. She provided an example that some patients have fewer objectives than others because of the severity of autism. Having

fewer goals meant that there was a narrow gap, and if the patient missed any objective, it would have a more negative impact on her score. The PMA's performance can also negatively impact the PM's performance. If they have a new PMA, they will score lower than if the PMA is more seasoned because of the higher performance.

The original CD had a process of coming up with objectives for the six-month authorization period. The PMs were to set a plan to meet all of the objectives in six months. Monthly, at the beginning of the month, they establish the plan and get approval from their supervisors. At the end of the month, they come back together to see if they met all the objectives. The PM is then scored based upon the percentage of objectives they met. One issue is that there was never a formal process to train all PMs and PMAs on this process.

Changes in billing codes

An interesting conversation that highlights the risk of incentives harming services is related to comments by PMs in regard to assessment services. The PM indicated that they were not aware that the assessment hours "counted towards our completed supervision because I will be honest. I do not bill that as often as I should or what I am approved for because I have been under the impression that we are only getting credit for the face to face time." The PM thought, based upon the contingencies, that specific codes were more critical than others because the contingencies did not identify the other codes. They would then structure their times towards the other

codes, which they received credit for. This issue is likely why some of the clinical staff providing lower scores in response to the measures adequately capture the work they do.

The issue is related to the change in billing codes. Initially, it was impossible to bill for services that were not provided face to face with the client. Subsequently, the codes changed and allowed for billing of assessment hours. The company did not plan to change the contingencies due to the new opportunities for billable services. The leadership had conversations about the need to reflect the new codes in the scorecard incentive but did not land on a solution. The PMs and PMAs asked about changes as the communication came out about the new billable opportunities. The leadership indicated that changes would come, but a change was not implemented immediately due to the complexity of the issue. Since the change did not come from the company, some PMs thought the new codes were less critical. The PMs interviewed also thought that the billing codes included in the contingency had a higher billing rate, which was not factual.

The PM provided an idea that a group of PMs came up with during a brainstorming session. The idea is that the PMs would use the collective skills to determine, based upon the situation, who should work with a patient or tackle a treatment issue. The team could determine coverage when there is a vacation or when a patient is out. A process like this could make it doable to meet the contingencies and make sure the

clients are getting the best services. Based on the current contingencies, a challenge with this is that the PM gets credit on their caseload services.

Not enough money

The PM also suggested moving from a monthly payout to quarterly. She suggested this so that the total amount would seem larger. Seeing the amount paid out increased three to four times makes the reward appear larger than the monthly payout. The suggestions are interesting but contrary to best practice in regard to delivering reinforcers. Ideally, the reinforcer is delivered as close as possible to the actual behavior (Skinner, 1969) The suggestion of moving to fewer payouts would be less burdensome to the company, but likely they would not adopt the recommendation because it would not have the desired change in performance.

Monthly meetings

The PM described that due to the frequency of meetings, there is not often much to discuss. The suggestion was to reduce the frequency from monthly to every other month. The increase in time between meetings would increase the number of topics to cover in the monthly feedback session. The PM also talked about how she typically provides feedback and discussion immediately after conducting a formal therapy observation. Since they spend the time discussing the observation, cover training, and answer questions, there is not more to discuss during the monthly meeting.

Appraisal

The idea that the company sought to achieve with the monthly feedback sessions is that they would act as an appraisal of the entire month's performance. The meetings

were to last no longer than ten minutes. The PM would review how the team member is performing overall. They would then discuss and highlight where things are going well and, if necessary, opportunities for improvement. The meeting would also allow for the employee to ask questions about the organization, opportunities, and discuss how the company could help them along their career path. Unfortunately, based upon the PMs' information, other interviews, observations, and survey responses, this does not seem to be the reality.

As part of this research, I observed several feedback sessions. Either a PM or a CD leads the feedback sessions. In particular, the observations included six different feedback sessions. None of the sessions included the information that the organization intended would happen during these meetings. The CD even requested suggestions on carrying out the session during one observation. It was more common during these meetings that the discussion turned to current therapy topics concerning shared patients. The other common statement was in line with "Keep up the good work" or "We already covered the feedback when I talked to you previously." Instead of ten minutes dedicated to the employee, the leader closed the meeting in less than four minutes.

The billing calculator

An issue that regularly shows up regarding the contingency to provide services is something the organization calls *the billing calculator*. The billing calculator is an excel spreadsheet created to analyze the patient and staff availability to determine the

expected billable service hours. The PM puts in several different calculations, such as time off or patient vacation. The information entered into the calculator would provide the target amount of billable service hours. The PM and CD reviewed the target number of hours and would agree that it was the target for the monthly incentive. The billing calculator was put in place to address concerns brought forth by the clinicians that the billable service hours were not fair and that they could not meet the demands. They could not meet this demand because of areas outside of their control, like the patient is sick or on vacation. It was also punishing to take their vacation because they could not meet the billable requirements.

Chapter 6: Implications and Findings

This chapter is a review of the findings of this study and the implications. In addition, information is included about the current status of the scorecard system. I will describe what we learned about the PfP system and what we would consider doing differently. In highlighting the opportunities for improving the system, I would also like to describe areas in which I still have questions. I also hope this section is illuminating for future researchers and encourages leaders to take advantage of being a participant-observer.

Summary and Findings

The organization moved to a PfP system to address concerns with how the annual appraisal system was administered and concerns that the system did not improve employee performance. The PfP system implemented by this organization required leadership, expertise, operations and logistics, training, and management. This researcher also wanted to gain an understanding of how incentive pay systems are perceived by healthcare workers.

There was a noted difference in perspective about the scorecard between the different roles and tenures within the organization. Staff employed greater than two years had a more negative opinion of the scorecard system. The negative sentiment also applied to the different roles within the company. The clinical staff had a more negative opinion about the system than technicians.

Implications

There are a few key implications for the healthcare field and pay-for-performance systems. This research identified components of PfP required for the effectiveness of this system.

The departments and functions were evaluated to provide a couple of key areas to further explore. The employees' responses to surveys and interviews expressed their overall opinion of this incentive process. In this research, the sentiment was mined through the use of word clouds and other algorithms. Also, the use of statistical analysis identified that Pfp is perceived differently by both tenure and position.

Negative perspective about Pfp

The concerns expressed in the survey by tenured employees were not easily understood or captured during the Pfp implementation. Organizations should be aware that new employees may not fully understand the process and rationale for incentive pay. However, it is likely preferred because it is resulting in additional compensation. Having a robust onboarding, communication process, and training could help start employees on the right path towards high performance. Without giving staff an early understanding of this system and the measures, they may begin to have a negative perspective. This is contrary to what is expressed in the Pfp literature (Gerhart & Fang, 2014). Ideally, more senior employees are performing highly, trust the system, and are rewarded. There were a couple of factors that impacted trusting the system and felt that they were rewarded for their efforts.

Clinician as manager

In addition to leadership, this PfP implementation required clinical staff to take on management responsibilities. The clinical staff voiced concerns about having the time to manage staff and implement and oversee treatment. The clinical staff was often busy providing medically necessary services for 80% of their available time. The responsibilities of treatment programming and progress monitoring left little time for the management functions necessary for a PfP system's success.

Additionally, clinicians are often not trained in the management of staff or leadership. They are well trained in clinical procedures but may have no management experience. However, due to the patient population's demands and financial constraints, they need to fill management and leadership responsibilities. One issue related to this was how to address grievances and concerns brought forth by employees about incentive pay. Based on interviews, this proposed additional challenges because, at times, managers had a similar grievance. The grievances put the clinical staff in the uncomfortable situation of explaining something they did not themselves fully endorse. One example was the phasing out of annual increases to base pay and changing this with monthly variable pay. The managers had concerns that this did not sufficiently reward dedication to the company. They explained during interviews that, at a certain point, the amount paid in monthly incentive is now less than what they would earn if they would have received an annual raise in base pay.

Responsibility for implementation

The responsibility for implementing the PfP system moved from different departments. As early as possible, the organization should determine which department is responsible for implementing and monitoring the system. As the company grew and had additional Human Resources (HR) staff and leadership, it did seem a good fit within the department. Additional research is needed to explore the optimal methods for logistics and support of a PfP implementation. One area to explore is the department or position responsible for answering staff questions and fielding their concerns. The HR department employee indicated they received complaints and grievances from employees, but this was also not the responsibility of this role. The staff responsible for this should be well aware of this responsibility, included in job descriptions, and trained on how to handle these delicate situations. Researchers could determine if the manager best meets this or if an HR department is a better option. The HR department is also responsible for onboarding employees. The company is still looking into the best way to train new managers and making sure staff fully understand PfP incentive pay. Additional research could compare different methods for onboarding and training of staff and managers. Large companies could even consider having a department dedicated to the PfP system, which is also a source of future studies.

Data entry errors

It was essential to the company that the staff trusted the scorecard. Therefore, if an employee found an error, it was looked at quickly. In analyzing the data, there were several data entry errors. The data entry errors resulted in some challenges with

evaluating the performance of employees. It is unknown, but some of the errors could have resulted in compensation issues and delays. The department responsible for this system will need quality assurance functions to capture and address errors quickly. The quality assurance function should also evaluate the overall system to minimize the future occurrences of errors. The survey responses and interviews did indicate concerns with trusting that the data is valid. High performers must trust the system.

Leadership Recommendations

Clear vision

It was important to this company that leadership agreed on beginning and continuing the PfP system. Based on all information gathered in this research, leaders need to know and convey a clear vision for this type of system. The team behind this implementation had difficulties getting information out to all departments and staff. In addition to having difficulties communicating with staff, there was also no forum for staff to voice concerns. Without this forum, employees voiced grievances and concerns to administrative staff, peers, and occasionally their supervisor. This distributed complaint process did not provide for a clear input for the company. The resistance demonstrated at the leadership level impacted vital financial decisions limiting the effectiveness of this system. In hindsight, this resistance warranted a discussion to gain acceptance of the path forward. The leadership team dedicated a significant amount of time to this system. Having leadership tied up in these meetings and multiple additional team members is a high personnel cost. A follow up study could evaluate the cost of a system like this and evaluate cost effectiveness strategies.

The cost resulted in concerns brought forth from the finance department. If the organization's leadership did not believe in this system, it is likely they would have terminated it based upon the financial concerns. It was essential for this organization to have champions to push through times of uncertainty.

Providing staff feedback and support is of critical importance for healthcare workers. Future research should look at different methods of training clinicians as managers. Another area of interest is how to incentivize these additional management responsibilities. One measure in this system for senior clinicians includes a “roll-up” score for the clinical staff they supervise. Future research could look into these roll-up measures and determine how the manager and the staff perceive this type of measure. It is also essential for research to evaluate if this type of measure is useful.

Perspective held by clinical staff about the scorecard system

A possible reason for the higher score is that the clinical staff led these sessions, which was covered in the PM interview section above. The clinical staff expressed that the frequency of meetings makes it hard to discuss career goals. It also may be something that is more likely covered in feedback sessions between clinical staff and their supervisor, while being something that technicians do not see during their sessions.

Financial impact

Since the money is paid out monthly, this can initially have a negative and potentially unexpected impact on cash flow. The organization should make sure they have

adequate resources to support the monthly opportunity amount. Since the amount is frequently less than the opportunity, which was 81% on average (see Table 10), this created a buffer for funding incentives in the future. The organization made some decisions based on the recommendations of the finance department. The decision was to use a flat incentive payout per employee. A flat payout is easier for budgeting but does not directly incentivize employees to perform highly throughout the organization.

The company could have decided to implement a system in which the organization determines upfront the cost to remain viable. Once that amount is reached, the additional revenue is distributed in incentive payout based upon each employee's individual performance. An incentive system like this would require additional expertise and time from the finance department. The company continues to implement a budgeted system. An interesting area of future research is the impact of these different incentive systems. Are the additional resources from the finance department justified in return on employee performance?

One concern shared throughout the company was around how to navigate when the company has not met or barely meets the financial threshold. During the winters in Indiana, it is not uncommon for the employees to not be able to provide services. Having to shut down services because of weather has a significant impact on the monthly revenue. The company also has to pay its employees and facility costs. In

situations like this, a high performing employee could encounter a tough situation where his incentive is impacted by the finances of the company. Additional research could look at the employee's perspective and management strategies for these types of scenarios. The research could also look into transparency around times in which incentives are reduced based upon factors outside of the control of employees.

Further research could also examine different methods for communicating with the managers and employees.

Payout frequency

During an interview with the clinical staff, the PM suggested moving from a monthly payout to quarterly. She suggested this as a strategy to increase the amount shown on the scorecard. Seeing the amount paid out increased three to four times makes the reward appear larger than the monthly payout. The suggestions are interesting but contrary to best practice in regard to delivering reinforcers. Ideally, the reinforcer is delivered as close as possible to the actual behavior (Skinner, 1969). The suggestion of moving to fewer payouts would be less burdensome to the company, but likely they would not adopt the recommendation because it would not have the desired change in performance. However, this is an issue that future research could evaluate. Is it the case that seeing a larger amount of money paid out but not as frequent increases the effectiveness of a PFP system? Also, the research could look to evaluate if quarterly payouts are optimal due to the payout amount and if there are alternative communication strategies to address the amount of time between engaging in the

behavior and the delivery of the incentive payout. Researchers could determine the point at which the delay is negatively impacting incentive compensation.

Recommendations for Implementing a PFP System

Based on this research, there are a few recommendations that companies should explore. The recommendations describe current opportunities for improving the current scorecard system. The recommendations cover areas relevant to communication, management, and operations.

Communication and values

The organization implemented this system to motivate employees and reward performance. It does seem clear that the organization and leadership had the best of intentions. However, the employees' perspective of this system did not seem aligned with the intentions of the organization. It does appear that one reason for this is in the communication strategies.

Communication recommendations

Time is your friend

Give yourself a runway to explore the idea and the intention with staff. Do not pass up on this opportunity. You may think that it is a favorable decision and everyone will approve, but that may not be the actual impact. In my experience, when discussing the purpose and the rationale for performance pay, I rarely receive any push back. It is in implementation, and there is a great risk because your decisions impact an employee's livelihood.

Pair with positive changes

In any organization, to ensure the success of the company, you will have times where you have to make decisions that have negative implications for your employees. Set up performance pay for success and do not begin implementation around a situation or decision that is negative. If moving from an annual raise to variable pay, consider a slight increase in base compensation with the change. A modification like this could buffer against the notion that the incentive system is to save money.

Ownership by managers

In communication, consider having the managers closest to the team present the change. A top-down feel can detract from employees receiving the message. I vividly remember senior leaders sitting in the audience receiving the information about the change. In hindsight, I would have them present the change and take ownership of this initiative. Giving the additional time, as described above, could also help to ensure the managers are ready to support the change initiative.

Connect with mission and outcomes

As often as possible, scream from the rooftops when there are connections between a performance measure and your mission. Cultivate stories that resonate with the team. The staff should leave with these stories, clearly understanding why the performance-pay system exists and why it is important. In creating these stories, be critical of the system and make sure the story is not fictitious. If you have to make something up for theatrical effects, then that should tell you something about the system.

Opportunities for Improvement

Training

A clear opportunity for improving the system is to increase communication around all facets of the scorecard. The organization made great strides in doing this and continues to seek areas of improvement. The organization now has a training director and a training staff. The department is responsible for the initial training for employees. The organization could dedicate additional time to a candid discussion about the scorecard, provide opportunities for questions, express the intentions of the system, and tie it to the mission of the organization.

Supervisor training

The supervisors that implement a scorecard system need to understand it conceptually as well as practically. The training of supervisors should describe the expectations for feedback sessions and best practices. All leaders within the organization should embrace the necessity of feedback and actively demonstrate and use this tool.

Administration

The delay in accessing incentive pay was one of the more negative comments (-.5) based upon sentiment score. Ideally, the incentive pay should follow the performance area closely. In a perfect world, incentives are paid the same day, or even at the exact moment. With the increase in compensation strategies with employees receiving payment the same day, this could, at some point, become a reality. In the meantime, this is an area of concern that warrants a special focus and evaluating various solutions. A challenge for providing the incentive compensation timely is due to the

multiple steps necessary to process the scorecard. The handling of scorecard incentives will greatly benefit from technology.

Technology

Technology is advancing around us all the time. Technology solutions are needed to support performance monitoring, feedback, and incentive systems.

Logistics and operations

As highlighted, the administration of this system requires multiple hands in the pot. The handoff between departments has resulted in errors that can threaten how well an employee will trust the system. You really want high performers to trust that their performance is correctly captured and reported. A database solution that has the data entered in a single place could simplify the data collection process.

Additionally, you want supervisors to have easy access to performance data. It was particularly challenging and even required coding to aggregate the performance data. I found it challenging to find the performance data and did not identify any system implemented by an employee to improve access to the data. Instead, the system becomes about the current data and using visuals on the scorecard to facilitate feedback sessions. If a manager had easy access, they could access this data on the fly prior to an observation or interaction with an employee. The ease of access would help ingrain the scorecard into ongoing daily operations.

A significant amount of time was spent on finding data, cleaning the data, and then submitting it to the consultant. This responsibility was not intended for the role but became an assumed responsibility. Staff would contact this person asking why the score was reflected in a specific way. They were asked to explain how the calculations for a specific measure worked. It made sense for this person to field some of these questions, but often the details of how to calculate a measure are more than how it is administered. The position did not receive explicit training in the calculations or how to answer these questions.

Closing Thoughts

Limitations

The study did not include experimental manipulations, so generalization or causality is not implied from the study. The study did include interviews and discussion conducted by me, the COO of the company. My role could have influenced the responses by staff. Also, some of the findings are based upon my recollection, which may not be valid due to the extensive timeframes. The analysis of employee performance is based on the submitted data. The data is based upon what was collected, submitted, and then ultimately captured in the final dataset. As identified in this study, the dataset included several errors and missing data. Therefore, there are limits to the validity and accuracy of the data.

Future research

Performance management and compensation are open to many areas of research. An area that could greatly assist this organization is how to leverage technology and

improve the logistics of a performance-pay system. Research is needed on how to develop overburdened healthcare staff into managers and leaders.

Researchers could also explore methods of delivering compensation. For example, it is now possible to provide daily pay. With the use of smartphones and other devices, staff could receive compensation daily or even hourly. The research could evaluate the different timeframes and determine what the most cost-effective solution is.

The company initially set a scorecard for the performance of the organization. The subsequent scorecards were set up in a cascading fashion. The idea is that the measures should impact the overall performance of the organization. The company never revisited these measures. Future research could look into evaluating this process, as well as why and how to make sure the organization measures are reviewed by leadership.

In response to COVID-19, LSABA had to make significant changes to address the financial impact of providing services in a pandemic. One cost-saving measure was to discontinue incentive pay temporarily. Discontinuing the incentive compensation was not something that harmed employee morale. The pandemic was alone a major issue for service providers, and most employees understood the need to discontinue incentive pay. As of October 2020, LSABA is looking to restart the incentive pay for specific positions. The information gained from this research will help inform steps to

re-establish incentive compensation and the potential for adding incentive pay for other roles.

Closing

This research was an investigation into why and how to implement a performance-pay system in a healthcare setting. The company moved to a performance-pay system to address an array of challenges from implementing an annual review. The annual review was deemed burdensome and ineffective at motivating key areas of performance. The move to performance pay appears effective based upon mean performance scores. Implementing a performance-pay system does require logistical supports. The company had a staff that used approximately half their time to maintain the system and coordinate with payroll, consultants, and employees. The company also had multiple meetings with committees focused on evaluating the performance measures. The newer employees preferred the performance-pay system. The clinical staff had more concerns that the PFP system did not adequately capture their work and felt that some areas were out of their control. Companies should also be aware of the financial requirements and prepare to pay about 2% of their operating budget to incentive pay for non-executive staff. It is apparent that incentives do positively impact performance and care and, as such, should be the focus of compensation strategies amongst healthcare providers.

Appendix A: Scorecard Instruction Manual Created by LSABA

THINGS TO KNOW
Start collecting data by the 6 th of the month. Collect data for about a week then when done send to Consultant. Let HR know when you send the data so they can send the earnings report. Consultant will return it back quickly.
Scorecard documents in One Drive
Give CD's a week with the scorecards. Then they will give to therapists or come back with questions
If a mistake is made with a scorecard, send the correction to Consultant and she will send an updated scorecard For example: a PM scorecard billing needs to be changed, you need to add the CD into this as well since it will affect them both. Once Consultant sends the updated scorecard, send to the correct person (usually the CD)

Step 1: Update scorecard data sheets (OneDrive/Scorecards/scorecard data sheets)

Timeline: Update on the 5th (not before the 5th).

To update: Remove any resignations from the previous month and add any new people that were written in by hand on the data sheets from the previous month. When determining if you need to gather data for a resignation: ask yourself will they be here for payout? The scorecard is a month behind so May data will be collected in June but won't be paid out until July.

Step 2: Print the scorecard data sheets in color (leave extra blank lines for adding people)

Timeline: Print on the 5th.

For admin (print the first 5 pages)

Therapist/RBT (print every sheet)

BCBA/PM list

PMA list (make sure they are assigned the right PM. You can check this by looking at the PM workbook or calling the CD)

Step 3: Update the org chart (OneDrive/Scorecards/Org Chart)

Timeline: Update on the 6th.

Look at each program and make sure each CD, PM, and PMA is correct. Once those are correct, delete all the therapists. Go to the PM workbook therapist data and copy and paste those therapists listed into the org chart. Make sure you are in the therapist data tab. You must use the "fx" paste option for this to work.

Once this is updated, send to Consultant.

Consultant will send back the data entry spreadsheet in a day or so. Once it's returned save it in OneDrive/Scorecards/Data Entry Spreadsheets/Month/Yr Data Entry

Step 4: Start collecting therapist data

Timeline: Start on the 6th.

OneDrive/Scorecards/Scorecard Spreadsheets/PM Workbooks/PM Workbooks
2019/Location and Program

Each program has its own workbook.

Click on the tap that says "Therapist Data"

Each therapist has an observation/Scorecard score and professionalism score in this workbook. Find their name on the data entry sheet and write in their scores for each. (if there is an N/A in the scorecard column then cross them off the list – you also might need to add additional people to the list if there are scores for someone – if there is no professionalism score just enter a 4)

For Scheduler Data go to OneDrive/Scorecards/Scorecard Spreadsheets/Scheduler Date/Scheduler Data 2019 and add in all tardies/call-in's for therapists. (there may be terminated employees still on this list so don't worry if you see a name that isn't on the Therapist Data Sheet – also PMA tardies are listed but we don't keep track of those)

The last step is the late billing report. This report hasn't been worked out in Code Metro yet so for the time being give everyone 100%.

If a therapist is missing (you will know this if they are on your sheet but not on the workbook), contact that CD and tell them who is missing and ask what their score should be. Most likely, they forgot to add them in. On occasion a therapist will not get an observation score that month so that measure will be No-Weighted.

If a therapist has scores on the workbook but you do not have them listed on your sheet-go ahead and write their name in. They may be new.

In order for a new therapist to receive a scorecard-they must have worked the majority of the month.

After you have finished entering all the data highlight any blank spots – check the sheet one more time for that info and if you still don't see it then contact the CD of that program and ask for them to fill in what is missing. Take percent off the PM assigned to that therapist if they just were late on inputting the data.

Step 5: Collect PM data (BCBA)

Timeline: Usually by the 8th. Usually the hold up is getting in contact with the CD and PM to confirm the correct numbers.

Located in One Drive/Scorecards/Scorecard Spreadsheets/PM Workbooks/Program Workbooks 2019/Location (labeled under learner data)

You will gather this data: Objectives met, documents submitted on time, and parent data.

Documents submitted on time: divided into fourths. The late score in the PM workbook goes against the PM but not the CD.

25%=Did they submit treatment plans on time? You will need to email Michelle Yonts in insurance dept.

25%=Did they complete all their observations on time?

25%=Did they input their data for learner objectives?

25%=Did they input their data for parent meeting data?

For parent data: they only get credit for the ones they projected they would have.

Divide met/set to get the correct percentage. (# of parent meetings set or parent trainings set/#parent meetings met or parent trainings met – **if no meetings set then No-w**)

Monthly Objectives: They cannot get more than 100% on their monthly objective's that month. If you see that they have more than 100% on one of the learner objectives, change it to 100%. Then average the sum of each of the learner objectives combined. (also delete any error codes that might show up)

Billing report:

Remind Chris Kirk in insurance when you will need the report from Code Metro Use codes 97151, 97155, 97156, H0031, H0032, and H2012 for the time being.

Filter by each location to get the total hours billed as well as the PM hours billed

Use the billing number from Code Metro divided by the expected number on the CD workbook to get each PM's billing percentage and enter that number on the Data Sheet.

Professionalism:

Located in the CD workbook

CD's will give them a score

Matrix score:

Located in the CD workbook

CD's will give them a score

Step 6: PMA Data

Timeline: Usually by the 8th.

Billing: The same score as their PM

Objectives Met: The same score as their PM

Treatment Plan Matrix:

Located in One Drive/Scorecards/Scorecard

Spreadsheets/CD Workbookbooks/Location

CD's will give them a score

Professionalism:

Located in One Drive/Scorecards/Scorecard
Spreadsheets/CD Workbookbooks/Location
CD's will give them a score

Project Milestones:

Located in One Drive/Scorecards/Scorecard
Spreadsheets/CD Workbookbooks/Location
CD's will give them a score

Step 7: CD Workbook (Clinical Directors)

The program overall will have a score-you will write on
the therapist's data sheet. Use the actual billing hours from the Code Metro report
divided by the expected hours to get a percentage.

Step 8: Parent Surveys

There should be one from each program but if not you don't have to have one
If they do not send it in you can No-W it
Each CD gets its own score-average goes on Mary's scorecard
A few admin have measures as well-this goes on FSD's scorecard
CD is out of 55 (each one is worth 5)
Admin has 1 question (question 11)
Mary has everybody's average
Strongly agree=5, Agree=4, Neutral=3, Disagree=2, Strongly disagree=1
The subcategories don't count (like 1a) towards the total
Score the parent survey using the numbers above. Figure the percentage of how
many points they got out of the total of 55. CD gets the overall %, Mary gets overall
, Admin gets the % of only the answer to number 11 out of a total of a possible
5. Write all three of these numbers at the bottom of the parent survey.
If there is more than one survey average the percentages. This number is written at
the top of the Therapist/RBI Data Sheets in the left Parent Survey Box.

Step 9: Once all data is on the sheet-you can enter it into the excel
spreadsheet in OneDrive/Scorecards/Data Entry Spreadsheets/Correct
Month Then send to Consultant. Nothing over 100%, don't leave blank spots.
Verify you have the right name for each line. You can't add additional lines other
than what Consultant has included so email her the names and scores if you have any
additional people over the number of blank lines. If on Consultant's list but we have
them crossed out because we don't have scores then type in Termed (or maternity,
leave etc.) (the people we had to handwrite in at the bottom of the sheets can be added
for next months list anytime after we have submitted the data to Consultant – can be
done whenever there is time as long as it's before the next month is ran).

Step 10: Consultant will email you to let you know the scorecards have been added to the drop box. Download from the drop box, save to OneDrive/Data entry spreadsheets/the month and year. Then audit each of the scorecards by using our data sheets. (search using Ctrl/F – if one is missing see if they are termed, see if they are on the original list sent to Consultant and see if they are on the earnings spreadsheet from Kim. If all of those show them then email Consultant that they were missed. Email her the name and data.)

Step 11: Take all the CD's scorecards and make 2 color copies of them (they should be at the front of each tab of the current months data entry spreadsheet but occasionally you have to look for them)
One goes to VP Clinical Operations (Just Lindsay, Danyl, Stuart and Tiffany) and all CDs go to CCO

Step 12: Parent surveys-make a copy for CCO and VP Clinical Operations, and the CD of that location/program as well as FSD Blessing if the admin question was answered at less than a 5. (hold these to add to the email you send with the Scorecards and then save to OneDrive/Scorecard/Parent Survey/Year Parent Survey)

Step 13: Distribute the scorecards (try to have done by 15th but okay if not)
Email the scorecards for their location to each CD as well as the parent surveys.
Admin staff: each director gets their set of scorecards for the people they supervise.
FSD Blessing – Doron
Katie – FSD Blessing
CCO – CCO
Brittany – CCO
Susan – Dorron
Hilary – CCO
VP Clinical Operations – CCO & VP Clinical Operations

Step 14: Errors

CD's will audit their scorecards for their program. If there are errors or mistakes, they will notify you. You will investigate the error then send to Consultant what the correct numbers should be, or send to the CD stating it is correct. You can correct errors up until you start data collection for the following month. It can still be corrected after that time but it will be delayed on paying out for an additional month.

Page Break

Admin Staff Scorecards

For FSD-we do not collect data on project milestones. CCO will report professionalism scores for her

CCO-go to executive folder, input professionalism scores, total billing hours comes from total ABA Scroll down to the bottom of the sheet and the last column on the right will be the total billing number. Give this to CCO.

VP Clinical Operations-in the executive folder

Waiver-waiver services folder

Recruiting-recruiting folder

Training-recruiting folder

Schedulers-Scheduler Scorecard folder

Project Coordinator folder

Billing-insurance folder

Additional Notes

If there is a particular column with no data to input then put in No-w (which means no weight will be given to that particular data point)

On tardies and call-in put in zeros for people with none – don't leave blank

If there is more than one PM assigned to a PMA then email the CD to see which PM's scores that particular PMA should have.

When people do several positions they can only receive a scorecard for one so ask the CD which position they should receive it for.

When there is an error and the PM scorecard changes it will also change the CD's card. Consultant does this automatically. Make sure to hand out both new ones (as well as VP Clinical Operations and CCO getting the new CD scorecard)

If there is an error and the PM changes it will also affect the PMA score and you will need to ask Consultant to run theirs again.

The list goes to Payroll directly from Consultant as well as any corrections so nothing needs sent to Kim.

Sample Timeline

6th – 8th Gather Therapist Data/Admin Data

8 – 10th Gather CD, PM, PMA data

14th Add late billing report data to therapist sheets

15th Input all data and send to Consultant

22nd Receive scorecards back

23rd Audit, print and distribute scorecards and correct till end of the month

Technician Scorecard

References

- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis I. *Journal of Applied Behavior Analysis, 1*(1), 91–97. <https://doi.org/10.1901/jaba.1968.1-91>
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1987). Some still-current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis, 20*(4), 313–327. <https://doi.org/10.1901/jaba.1987.20-313>
- Baiman, S. (1990). Agency research in managerial accounting: A second look. *Accounting, Organizations, and Society, 15*(4), 314–371. [https://doi.org/10.1016/0361-3682\(90\)90023-N](https://doi.org/10.1016/0361-3682(90)90023-N)
- Baio, J., Wiggins, L., Christensen, D. L., Maenner, M. J., Daniels, J., Warren, Z., Kurzius-Spencer, M., Zahorodny, W., Robinson Rosenberg, C., White, T., Durkin, M. S., Imm, P., Nikolaou, L., Yeargin-Allsopp, M., Lee, L. C., Harrington, R., Lopez, M., Fitzgerald, R. T., Hewitt, A., . . . Dowling, N. F. (2018). Prevalence of autism spectrum disorder among children aged 8 years—Autism and developmental disabilities monitoring network, 11 sites, United States, 2014. *MMWR Surveillance Summaries, 67*(6), 1–23. <https://doi.org/10.15585/mmwr.ss6706a1>
- Becker, G. S. (1965). The theory of the allocation of time. *The Economic Journal, 75*(299), 493–517. <https://doi.org/10.2307/2228949>
- Brown, M., Kraimer, M. L., & Bratton, V. K. (2019). The influence of employee performance appraisal cynicism on intent to quit and sportsmanship. *Personnel Review, 49*(1), 1–18. <https://doi.org/10.1108/PR-11-2017-0351>
- Cahuc, P., & Dormont, B. (1992). Profit-sharing: Does it increase productivity and employment? a theoretical model and empirical evidence of French micro data. *Papiers d'Economie Mathématique et Applications 92.45*, Université Panthéon-Sorbonne (Paris 1).
- Cameron, J., & Pierce, W. D. (1994). Reinforcement, reward, and intrinsic motivation: A meta-analysis. *Review of Educational Research, 64*(3), 363–423. <https://doi.org/10.2307/1170677>
- Cernius, A. (2018). “Thou shalt not ration justice”: The importance of autism insurance reform for military autism families, and the economic and national security implications of improving access to aba therapy under tricare. *Journal of Legislation, 44*(2), 201–238.

- Cole, R. E. (1991). Participant observer research: An activist role. In W. F. Whyte (Ed.), *Participatory action research* (pp. 159–168). Sage.
- Daniels, A. C. (2013, July 16). Finally! A real solution for the performance appraisal system. *Chief Learning Officer*.
https://www.chieflearningofficer.com/2013/07/16/finally-a-real-solution-for-the-performance-appraisal-system__trashed/
- Daniels, A. C., & Daniels, J. E. (2004). *Performance management: Changing behavior that drives organizational effectiveness*. Performance Management Publications.
- Daniels, A. C., & Lattal, A. D. (2017). *Life is a picnic: ...when you understand behavior*. Sloan Publishing.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. In E. Seidman & J. Rappaport (Eds.), *Perspectives in social psychology*. Plenum Press.
- Defulio, A., Yankelevitz, R. L., Bullock, C., & Hackenberg, T. D. (2014). Generalized conditioned reinforcement with pigeons in a token economy. *Journal of the Experimental Analysis of Behavior*, *102*(1), 26–46.
<https://doi.org/10.1002/jeab.94>
- Deming, W. E. (1986). *Out of the crisis: Quality, productivity and competitive position*. Cambridge University Press.
- Flora, S. R. (2000). Praise's magic reinforcement ratio: Five to one gets the job done. *The Behavior Analyst Today*, *1*(4), 64–69. <https://doi.org/10.1037/h0099898>
- Gerhart, B. A. (2017). Incentives and pay for performance in the workplace. In A. J. Elliot (Ed.), *Advances in motivation science: Vol. 4. Advances in motivation science* (pp. 91–140). Elsevier Academic Press.
- Gerhart, B. A., & Fang, M. (2014). Pay for (individual) performance: Issues, claims, evidence and the role of sorting effects. *Human Resource Management Review*, *24*(1), 41–52. <https://doi.org/10.1016/j.hrmr.2013.08.010>
- Gerhart, B. A., & Milkovich, G. T. (1992). Employee compensation: Research and practice. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 481–569). Consulting Psychologists Press.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25

- years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6(2), 219–247. [https://doi.org/10.1016/1048-9843\(95\)90036-5](https://doi.org/10.1016/1048-9843(95)90036-5)
- Haire, M., Ghiselli, E. E., & Gordon, M. E. (1967). A psychological study of pay. *Journal of Applied Psychology*, 51(4, Pt.2), 1–24. <https://doi.org/10.1037/h0024870>
- Hall, B. J., Lazear, E., & Madigan, C. (2000). *Performance pay at Safelite Auto Glass (A)*. HBS No. 800-291. Harvard Business Publishing. <https://hbsp.harvard.edu/cases/>
- Holbrook, A. C. (2018). *Burnout and work engagement: Occupational well-being of service providers for individuals with autism spectrum disorder* (Publication No. 17472) [Doctoral dissertation, UCLA]. Proquest. <http://dissertations.umi.com/ucla:17472>
- Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 64(4), 349–371.
- Jenkins, G. D., Jr., Mitra, A., Gupta, N., & Shaw, J. D. (1998). Are financial incentives related to performance? A meta-analytic review of empirical research. *Journal of Applied Psychology*, 83(5), 777–787. <https://doi.org/10.1037/0021-9010.83.5.777>
- Johnson, D. A., Dickinson, A. M., & Huitema, B. E. (2008). The effects of objective feedback on performance when individuals receive fixed and individual incentive pay. *Performance Improvement Quarterly*, 20(3-4), 53–74. <https://doi.org/10.1002/piq.20003>
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292. <https://doi.org/10.2307/1914185>
- Kaplan, R., & Norton, D. (1996). *The balanced scorecard: Translating strategy into action*. Harvard Business School Press.
- Kerr, S. (1975). On the folly of rewarding a, while hoping for b. *Academy of Management Journal*, 18(4), 769–783.
- Kondo, K. K., Damberg, C. L., Mendelson, A., Motu'apuka, M., Freeman, M., O'Neil, M., Relevo, R., Low, A., & Kansagara, D. (2015). Implementation processes and pay for performance in healthcare: A systematic review. *Journal of General Internal Medicine*, 31(1), 61–69. <https://doi.org/10.1007/s11606-015-3567-0>

- Kulage, K. M., Goldberg, J., Usseglio, J., Romero, D., Bain, J. M., & Smaldone, A. M. (2019). How has dsm-5 affected autism diagnosis? A 5-year follow-up systematic literature review and meta-analysis. *Journal of Autism and Developmental Disorders*, *50*(6), 2102–2127. <https://doi.org/10.1007/s10803-019-03967-5>
- Larkin, I., Pierce, L., & Gino, F. (2012). The psychological costs of pay-for-performance: Implications for the strategic compensation of employees. *Strategic Management Journal*, *33*(10), 1194–1214. <https://doi.org/10.1002/smj.1974>
- Lawler, E. E. (1973). *Motivation in work organizations*. Brooks/Cole Publishing.
- Lazear, E. P. (2000). Performance pay and productivity. *American Economic Review*, *90*(5), 1346–1361. <https://doi.org/10.1257/aer.90.5.1346>
- Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of Consulting and Clinical Psychology*, *55*(1), 3–9. <https://doi.org/10.1037/0022-006X.55.1.3>
- Makrygianni, M. K., Gena, A., Katoudi, S., & Galanis, P. (2018). The effectiveness of applied behavior analytic interventions for children with autism spectrum disorder: A meta-analytic study. *Research in Autism Spectrum Disorders*, *51*, 18–31. <https://doi.org/10.1016/j.rasd.2010.03.011>
- Malone, J. C. (2014). Did John B. Watson really “found” behaviorism? *The Behavior Analyst*, *37*(1), 1–12. <https://doi.org/10.1007/s40614-014-0004-3>
- Maurice, C. (1994). *Let me hear your voice: A family's triumph over autism*. Ballantine Books.
- McEachin, J. J., Smith, T., & Lovaas, O. I. (1993). Long-term outcome for children with autism who received early intensive behavioral treatment. *American Journal of Mental Retardation*, *97*(4), 359–372.
- Milgrom, P., & Roberts, J. (1988). An economic approach to influence activities in organizations. *American Journal of Sociology*, *94*, S154–S179.
- Origo, F. M. (2009). Flexible pay, firm performance and the role of unions. New evidence from Italy. *Labour Economics*, *16*(1), 64–78. <https://doi.org/10.1016/j.labeco.2008.05.001>
- Paarsch, H. J., & Shearer, B. (1996). Piece rates, fixed wages, and incentive effects: Statistical evidence from payroll records. *International Economic Review*, *41*(1), 59–92. <https://doi.org/10.1111/1468-2354.00055>

- Piekkola, H. (2005). Performance-related pay and firm performance in Finland. *International Journal of Manpower*, 26(7/8), 619–635. <https://doi.org/10.1108/01437720510628103>
- Pink, D. H. (2009). *Drive: The surprising truth about what motivates us*. Riverhead Books.
- Rogers, S., & Vismara, L. A. (2008). Evidence-based comprehensive treatments for early autism. *Journal of Clinical Child Adolescent Psychology*, 37(1), 8–38. <https://doi.org/10.1080/15374410701817808>
- Rosen, S. (1986). Prizes and incentives in elimination tournaments. *American Economic Review*, 76(4), 701–715.
- Ross, S. A. (1973). The economic theory of agency: The principal's problem. *American Economic Review*, 63(2), 134–139.
- Russell, D., Ingvarsson, E. T., Hagggar, J. L., & Jesse, J. (2018). Using progressive ratio schedules to evaluate tokens as generalized conditioned reinforcers. *Journal of Applied Behavior Analysis*, 51(1), 40–52. <https://doi.org/10.1002/jaba.424>
- Rutter, M. L. (2014). Addressing the issue of fractionation in autism spectrum disorder: A commentary on Brunson and Happé, Frazier et al., Hobson and Mandy et al. *Autism*, 18(1), 55–57. <https://doi.org/10.1177/1362361313513522>
- Rynes, S. L., Gerhart, B. A., & Parks, L. (2005). Personnel psychology: Performance evaluation and pay for performance. *Annual Review of Psychology*, 56(1), 571–600. <https://doi.org/10.1146/annurev.psych.56.091103.070254>
- Sabey, C. V., Charlton, C. T., & Charlton, S. R. (2019). The “magic” positive-to-negative interaction ratio: Benefits, applications, cautions, and recommendations. *Journal of Emotional and Behavioral Disorders*, 27(3), 154–164. <https://doi.org/10.1177/1063426618763106>
- Sallows, G. O., & Graupner, T. D. (2005). Intensive behavioral treatment for children with autism: Four-year outcome and predictors. *American Journal of Mental Retardation*, 110(6), 417–438. [https://doi.org/10.1352/0895-8017\(2005\)110\[417:IBTFCW\]2.0.CO;2](https://doi.org/10.1352/0895-8017(2005)110[417:IBTFCW]2.0.CO;2)
- Schneider, B., Smith, D. B., & Goldstein, H. W. (2000). Attraction–selection–attrition: Toward a person–environment psychology of organizations. In W. B. Walsh, K. H. Craik, & R. H. Price (Eds.), *Person–environment psychology: New directions and perspectives* (p. 61–85). Lawrence Erlbaum Associates Publishers.

- Shaw, J. D., & Gupta, N. K. (2015). Let the evidence speak again! Financial incentives are more effective than we thought. *Human Resource Management Journal*, 25(3), 281–293. <https://doi.org/10.1111/1748-8583.12080>
- Shaw, J. D., Gupta, N. K., & Delery, J. E. (2002). Pay dispersion and workforce performance: Moderating effects of incentives and interdependence. *Strategic Management Journal*, 23(6) 491–512. <https://doi.org/10.1002/smj.235>
- Shields, J., Brown, M., Kaine, S., Dolle-Samuel, C., North-Samardzic, A., McLean, P., Johns, R., O’Leary, P., Plimmer, G., & Robinson, J. (2015). *Managing employee performance and reward: Concepts, practices, strategies* (2nd ed.). Cambridge University Press.
- Shores, R. E., Gunter, P. L., & Jack, S. L. (1993). Classroom management strategies: Are they setting events for coercion? *Behavioral Disorders*, 18(2), 92–102.
- Skinner, B. F. (1953). *Science and human behavior*. Macmillan.
- Skinner, B. F. (1956). A case history in scientific method. *American Psychologist*, 11(5), 221–233. <https://doi.org/10.1037/h0047662>
- Skinner, B. F. (1969). *Contingencies of reinforcement: A theoretical analysis*. Appleton-Century-Crofts.
- Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations*. McMaster University Archive for the History of Economic Thought. <https://EconPapers.repec.org/RePEc:hay:hetboo:smith1776>
- Taylor, F. W. (1911). *Scientific management*. Harper & Bros. Publishers.
- Thaler, R. H., & Sunstein, C. R. (2009). *Nudge: Improving decisions about health, wealth, and happiness*. Penguin Books.
- Thorndike, E. L. (1898). Animal intelligence: An experimental study of the associative processes in animals. *The Psychological Review: Monograph Supplements*, 2(4), i–109. <https://doi.org/10.1037/h0092987>
- Treffert, D. A. (1970). Epidemiology of infantile autism. *Archives of General Psychiatry*, 22(5), 431–438. <https://doi.org/10.1001/archpsyc.1970.01740290047006>
- Trivedi, M. (2020, November 1). *Indiana—The autism health insurance reform pioneer*. The Arc of Indiana. <https://www.arcind.org/wp-content/uploads/2016/12/HistoryAutismMandateLawsFinal.pdf>

- Trussell, R. P. (2008). Classroom universals to prevent problem behaviors. *Intervention in School and Clinic, 43*(3), 179–185. <https://doi.org/10.1177/1053451207311678>
- Turan, H. (2015). Taylor’s “scientific management principles”: Contemporary issues in personnel selection period. *Journal of Economics, Business and Management, 3*(11), 1102–1105.
- Wilcox, R. R. (2003). *Applying contemporary statistical techniques*. Elsevier.
- Wilder, D. A., Cymbal, D., & Villacorta, J. (2020). The performance diagnostic checklist-human services: A brief review. *Journal of Applied Behavior Analysis, 53*(2), 1170–1176. <https://doi.org/10.1002/jaba.676>
- WorldatWork. (2012, October). *Compensation programs and practices 2012*. <https://www.worldatwork.org/docs/research-and-surveys/survey-brief-compensation-programs-and-practices-2012.pdf>
- WorldatWork. (2014, February). *Incentive pay practices survey: Non-profit/government organizations*. <https://www.worldatwork.org/docs/research-and-surveys/survey-brief-incentive-pay-practices-survey-non-profitgovernment-organizations.pdf>