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Beth Goodrick  
Florida Atlantic University

Trish Reay  
University of Alberta

### **CONSTELLATIONS OF INSTITUTIONAL LOGICS: U.S. PHARMACY 1800 - 2004**

Instead of focusing on dominant institutional logics to understand institutional change, we develop the concept of a constellation of logics (professional, market and organizational logics). We analyze changes in the US pharmacy organizational field, showing that a changing constellation of logics is consistent with the nature of work and organizing principles for the field.

Early neoinstitutional work sought to explain stability, convergence, and isomorphism in organizational fields. In recent years, however, there has been increasing interest in understanding how organizational fields change over time. Within this relatively new focus on institutional change, a focus on institutional logics has become increasingly prevalent. Logics are the “organizing principles” that shape and constrain the behavioral possibilities of actors (Friedland & Alford 1991). Logics specify what goals or values are to be pursued within a given domain and what means are appropriate for pursuing them (Scott et al. 2000). In most instances, fields are depicted to have a dominant or prevailing logic, although other logics may exist. It is generally accepted that as an organizational field undergoes a “profound institutional change” it transitions from one dominant logic to another (Scott et al., 2000: 24). For example, Thornton (2004) investigated how the field of academic publishing shifted from a professional logic to a market logic. Similarly, Scott et al. (2000) describe a series of transitions in the US health care system from one dominant logic to another.

Underlying the term dominant institutional logic (or prevailing logic) is the assumption that other logics exist but are repressed by the dominant logic (Reay & Hinings, 2005; Scott et al., 2000). In some instances, there is competition between logics, resulting in new dominant logics over time (e.g., Scott, et al., 2000). In other cases, alternative logics are subservient to and organized by the dominant logic. For example, Thornton describes the editorial logic in publishing as characterized by a specific type of market and organization. When a shift to a market logic occurs, the organization changes to be consistent with it.

We suggest that a focus on only dominant institutional logics may impede our ability to understand processes of change in institutional fields. When we pay attention to the work that is accomplished in a field (Barley & Kunda, 2001), it appears that some fields are organized by multiple logics – or a constellation of logics. When considering the work behavior of actors in a field, it seems that professional, organizational and market logics all have a role to play. While the importance of each in organizing a field may shift over time, we may not observe movement from one logic to another. Instead, the way in which logics act together may be critical.

In this paper, we draw on Friedson's (2001) ideal types of the professional, organizational, and market logic to analyze the organizational field of U.S. pharmacy and the work of pharmacists as an example of this phenomenon. Friedson's typology has the advantage of focusing on alternative logics through which work can be organized. We selected U.S. pharmacists as our focus of study because pharmacy, although usually thought of as professional work, has been strongly influenced by market forces and a logic of managerialism associated with large organizations. As well, when looking at the time period from the early 1880s when pharmaceutical concoctions were sold on a buyer beware basis, until today when carefully controlled drugs are sold with counseling services from the pharmacist, it is obvious that the field of U.S. pharmacy has undergone significant and profound changes.

### **Theoretical Background**

Organizational field level change is associated with changing institutional logics (Brint & Karabel, 1991; Kitchener, 2002; Scott et al., 2000). An organizational field refers to the meaningful interaction between key suppliers, resource and product consumers, regulatory agencies, and other organizations producing similar services or products (DiMaggio & Powell, 1983). Institutional logics are the belief systems and associated practices of actors in an organizational field that become organizing principles (Friedland & Alford, 1991; Scott, 2001; Scott et al., 2000, Thornton, 2004). But how do logics and the associated institutions change over time? Some studies suggest that societal conditions change, causing new field level logics to emerge, become popular, and replace the previous logic (Scott et al., 2000; Thornton & Ocasio, 1999). Other studies illustrate more of a battlefield, where different field actors who hold different logics battle with each other for supremacy, until ultimately one logic wins out – becoming the dominant institutional logic for a period of time. This is illustrated by changes in the music industry (Hensmans, 2003) and the oil industry (Hoffman, 1997). A recent addition to this approach suggests that when an older logic is replaced, some actors may continue to support this now subordinate logic – with the result that two or more competing logics persist in a field over time, and strategies for co-existence must be created (Reay & Hinings, forthcoming).

The existing institutional literature, however, does not consider the possibility that the logic organizing a field may actually be a constellation of several distinct logics rather than a dominant logic and subordinate logics. This possibility is implied in the literature on professionals that has also been interested in the dynamics of change and competing institutional logics. Both Friedson (2001) and Abbott (1988) are interested in the logics through which occupations are organized and have pointed out that empirical reality can involve aspects of multiple logics. Abbott, for example, stated that under particular conditions, organizational perspectives may challenge professional approaches to working. Friedson explicates some of what Abbott implies: that there are three alternative logics through which work can be organized. He uses Weber's notion of the ideal type to describe the perfect state of the three alternative organizing principles for work: professional, managerial, and market. By using ideal types as a heuristic device for analyzing the empirical world, it is easier to see that a field is being organized by a constellation of logics that shift in content and importance over time.

Freidson (2001) describes three ideal types as follows. In the professional world, specialized knowledge workers, by the right of the superior knowledge and altruistic belief system, make decisions for others. In the market world, consumers' preference and choice are paramount. In the organizational world, administrators of organizations design structures and systems that ensure predictability and efficiency. None of these ideal types exist in reality.

Although pharmacy is usually thought of as professional work, it has always had aspects of the three logics. Pharmacy is an organizational field where strong market forces and organizational issues combine with professionalism. Where pharmacists previously worked primarily as independent practitioners, they are now predominately employees (Dept. Health & Human Services, 1982). This is an increasingly common phenomenon across a variety of professions, raising the possibility that organizational (or managerial) rather than professional dominance of work will reign (Abbott, 1988). Pharmacists are society's experts on medicine (Anderson, 2000) but how has the meaning of that changed as the professional, organizational, and market logics have shifted in importance?

## **Methodology**

The methodology of using formal typologies to analyze empirical data originates with Weber's depiction of systems of legitimate social control. While ideal types do not directly correspond to empirical reality, they are heuristic devices for analyzing the empirical world. Because they are abstracted from reality, ideal types provide a stable point against which empirical variation and process can be systematically compared and analyzed (Freidson, 2001).

Our goal was to be able to evaluate both how and to what extent each of the three logics, professional, organizational, and market, organized pharmacy over time. To that end, we first developed abstract characteristics for each of the three logics, drawing on the existing literature. Using our knowledge of the pharmacy literature, we then determined what each attribute of each of the three logics might mean in the context of pharmacy. For example, with regard to the professional logic, we examined our data to identify information about the state of each professional characteristic (abstract body of knowledge, occupationally controlled division of labour, etc.) at particular points in time. To use this analytical framework, we evaluated how close each logic was to the ideal type for each of six historical eras presented in pharmacy history.

Freidson (2001: 180) clearly set out five defining elements of the ideal type of the professional logic. We used these in our analytical framework.

1. body of knowledge and skills with abstract concepts and use of discretion
2. occupationally controlled division of labor--dominate state institutions and related occupations
3. occupationally controlled labor market requiring training credentials for entry
4. occupationally controlled training program where schooling is segregated from ordinary labor market
5. ideology serving some transcendent value and asserting greater devotion to doing good work than to economic reward.
- 6.

For the characteristics of the organizational ideal type, we drew on Friedson (2001), Abbott (1988), and Daft (2004) as sources describing ‘organization’ generally and rational-legal bureaucracy specifically. Thus the characteristics of the ideal type used in our framework are:

1. managerially controlled division of labor
2. routinization of work, rules and procedures,
3. ideology of efficiency
4. separate position and incumbent, encoding knowledge in structure of organization
5. capital not owned by labour
6. managerial controlled definition of competence
7. hierarchy of authority

Finally, we drew on economics and the market concept, first advanced by Adam Smith in specifying characteristics of the ideal type of market logic.

1. there is free entry
2. there is relatively large number of undifferentiated buyers and sellers
3. consumers are assumed to have sufficient information to make appropriate choices
4. price is determined through supply and demand

Our interest was in describing the extent and way in which the different logics organized U.S. pharmacy from before its first efforts at developing an organized occupation to the present day; in other words from about 1800 to 2004. We drew upon historical accounts of pharmacy to develop eras by which we would depict the logics. The six eras we adopted are: Preorganized pharmacy (Buyer Beware), 1800-1851, Organized and protective pharmacy, 1852-1910, Beginning academic reform, 1910-1945, Dispensing only practice, 1945-1965, Clinical pharmacy, 1965 – 1990, and Pharmaceutical care, 1990-2004.

We then searched for evidence of how the three logics combined to provide organizing principles (institutional logics) for pharmacy in the six historical eras. Our data is of three types: published historical accounts of pharmacy, quantitative indicators of trends from published reports, and editorials in the journal of the major pharmacy professional association, APhA, for the years 1917-2004. We systematically reviewed the textual material from each data source, coding each characteristic of each logic according to the time period. This review led to the development of a large data base – the key points of which we summarize in Tables 1, 2 and 3.

[Table 1, 2 and 3 about here.]

## **Analysis and Discussion**

In this section, we describe our analysis in each era of the three existing logics and evaluate how close each one is to ‘ideal.’ Then, based on our understanding ‘what it means to be society’s expert on medicine’ during each era, we explain how we view the effect of the constellation of logics on pharmacists and their work. Table 4 provides an overview.

*Buyer Beware (pre-organized pharmacy): 1800 to 1852*

In the first period we analyzed, the constellation of logics consisted of a very strong market logic, a weak organizational logic, and an essentially nonexistent professional logic. Pharmacy was not organized as a field of expertise. Rather it was considered to be a simple business to be transferred to another if expected profit did not materialize. The pharmacist was a shopkeeper who supplied what people would buy. With no legal requirement about who could be a pharmacist, there was free entry into the market. There were a large number of undifferentiated buyers and sellers with price determined through supply and demand, and competition occurring primarily around price. Price cutting, in fact, was a striking feature of American pharmacy during this period (Kremer & Urdang, 1963). Many cut rate drug stores were established by enterprising businessmen for whom pharmacy was simply the latest in a series of businesses.

The market assumption that consumers have sufficient information to make informed choices was very strong. There was virtually no government regulation of pharmacy, even to ensure basic safety. The only federal regulation was drug import control, which placed inspectors in the principal ports of entry (Kremer and Urdang, 1963). Mostly, the job of ensuring that drugs were unaltered was left up to the states, who did so very unevenly. As a result, there was a segment of the market engaged in the unscrupulous business of quackery.

While trade took place through organizations, these organizations had little resemblance to the organizational ideal type. Typically, they were owner operated, with drug stores often part of general stores. Shopkeepers had clerks who were supervised, but the very small number of employees resulted in a very limited hierarchy of authority. 'Pharmacist' as a position did not exist separately from 'shopkeeper' during this time period. As a result, there was no managerial control over evaluation and management of pharmacists.

The professional logic had virtually no role in organizing pharmacy in the first half of the nineteenth century. During this time, the work of pharmacists was closely tied to physicians. While pharmacy had unique work, compounding medications, there was no occupationally controlled division of labor, labor market, or requirement for training. The majority of drug stores were owned by physicians and even more were founded by physicians (Kremer & Urdang, 1963). Physicians often sold their stores to clerks, who had served for a short time as an apprentice. The four states that had legislation regulating pharmacy before 1870 did so as part of the practice of medicine (Kremer & Urdang, 1963).

*Organized and Protective Pharmacy: 1852 to 1910*

We characterize the second time period by a weak but developing professional logic, a moderately weak organizational logic, and a moderately strong market logic. The biggest change during this period was the beginning of pharmacy as an organized profession. In 1852, the first national association for pharmacists was founded, American Pharmaceutical Association (APhA). The APhA facilitated an occupationally controlled division of labor and labor market. They developed a model law to regulate the practice of pharmacy in the states and encouraged the founding of state associations who worked to pass pharmacy practice legislation. The concern

was to distinguish a pharmacist from a mere merchant, by the need for knowledge of drugs. Typical laws required an apprenticeship and passing an exam, but no formal education. In 1900 only 12% of pharmacists were educated beyond apprenticeship (Kremer & Urdang, 1963).

Being society's expert on medicine during this time involved compounding prescriptions and doing some low level doctoring (Higby, 1997). This body of knowledge and abstract skills was soon to be threatened, however, by the industrial revolution. Pharmaceutical companies were founded in the second half of the 19<sup>th</sup> century and quickly took over the manufacture of pharmaceutical drugs (Posey, 2003). While most prescriptions in 1900 still required compounding, pharmaceutical companies were introducing new synthetic drugs like aspirin, which supplanted older liquid mixtures of botanicals and tinctures (Kremer & Urdang, 1963).

The market logic remained strong during this era but not as close to the ideal type as in the first period. As laws requiring apprenticeship and passing of an exam became common in the states, free entry to the market was reduced. Price continued to be determined through demand and supply, although price competition led to a cooperative movement among owners of independent drug stores (Kremer & Urdang, 1963). While there were a relatively large number of undifferentiated buyers and sellers, some of the efforts to counter price competition developed into chains. The ideal market logic assumption that consumers have sufficient information to make informed choices gave way during this time in American history to the Progressive agenda of "social welfare" legislation. In 1906, the first federal legislation regulating drugs was passed under the constitutional right to regulate interstate commerce (Posey, 2003). Just as important, more than 2/3 of the states passed similar food and drug statutes regulating intra-state commerce.

While the organizational logic remained relatively weak, the roots of change were sown in this period with the development of chain stores. There were few attempts at chains before 1900 but after 1900 the two men most responsible for the chain drug store movement, Liggett and Walgreen, began founding and acquiring drug stores (Kremer & Urdang, 1963). Still, except in the very limited number of chains, there is little resemblance during this period of organizations to the ideal type. Most stores remained owner operated with a limited hierarchy. Pharmacist as a position did not exist except in the chain stores employing pharmacists. Pharmacy was generally not a full time occupation. Most pharmacists sold other goods as well as pharmaceuticals. Except in the chains, there was no managerial control over pharmacists. In an attempt to guarantee that pharmacists would only be responsible to pharmacists, a few states during this time restricted ownership of pharmacies to pharmacists.

#### *Beginning Academic Reform: 1910 to 1945*

During this period, the constellation of logics was affected by the increasingly strong professional logic because of more onerous educational requirements. Pharmacists were forced to consider higher levels of education when in 1915, Abraham Flexner called pharmacy a non-profession and the U.S. government refused to recognize pharmacists as professionals in WWI because of inadequate educational standards (Higby, 2003). A two year pharmacy diploma was in place by 1907, three years in 1925, and by 1932 the colleges of pharmacy agreed to institute a mandatory 4 year B.S. for graduation (Griffenhagen, 2002).

While there was clear development on an occupationally controlled training program segregated from the ordinary labor market, the occupation held little control over the division of labor and the labor market because they did not dominate state institutions. Some states, like NY and Pennsylvania, passed laws requiring a college degree before organized pharmacy favored such requirements (Kremer & Urdang, 1963). In the 1920s and 1930s pharmacy leaders actively worked to push through educational requirements in the remaining states (Higby, 1997), since states did not automatically translate organized pharmacy's desires into legal requirements. By the end of this era, most states required a college degree to be a pharmacist. Still, the United States government refused to commission pharmacists as officers in WWII, citing again the low professional status of pharmacists (Higby, 1997).

Even as the educational requirements were rising, the actual work of pharmacists was being transformed during this era by the pharmaceutical industry taking over functions previously reserved for pharmacists (Gosselin & Robbins, 1999). In the 1920s and 1930s, "the work of the day was the compounding and dispensing of medication forms such as table triturates, capsules, powders, some pills, some cachets, ointments, suppositories, and the like". In 1920, 80% of medications dispensed required compounding, while only 26% did in 1940 (Higby, 1997).

Generally, the strength of the organizational logic in organizing pharmacy remained unchanged from the previous period. However, there is evidence by the end of the era that pharmacist as a position existed -- separate from its incumbent. "Supply generally balanced demand, and there are forecasted upward trends for employment" (Kremer & Urdang, 1963). Clearly, some pharmacists were now employees, although the exact number cannot be easily ascertained from historical records. Some hospitals did employ pharmacists but only 500 of 6,000 hospitals employed pharmacists in 1921. The military began formal training for pharmacy technicians. This is the first effort at a managerially controlled division of labor to increase efficiency, a development that spread first to hospitals and then to retail establishments.

Free entry into the market was reduced again by educational requirements for pharmacy practice. There was, however, a relatively large number of undifferentiated buyers and sellers. In the 1920s, chains comprised only 3 to 4% of total pharmacies (Griffenhagen, 2002). The market assumption that consumers have sufficient information to make informed choices was eroded by passage of the 1938 amendment to the Food and Drug act which expanded federal oversight to include approval of new drug products, medical devices, and cosmetics. At the same time, the 1928 Supreme Court decision which ruled ownership of drug stores could not be restricted to pharmacists was evidence of a stronger market logic. The sale of pharmaceuticals was viewed as similar to other products, with no control over store ownership required. Finally, during this time, there were legal and occupational efforts to control the price of pharmaceuticals. In 1924, APhA published the first of many price schedules for prescriptions (Griffenhagen, 2002). In 1937, the Fair Trade Bill was passed which legalized contracts requiring the buyer to sell at or above the retail price set by the seller.

*Dispensing Only Practice: 1945 to 1965*

Overall, the professional logic remained relatively weak during this era while the organizational and market logics were moderate in strength. Work was routinized as pharmacists engaged in what has been referred to as “count and pour” pharmacy. Prescription volume rose dramatically and compounding all but disappeared. The role of pharmacist was limited to dispensing by custom and law (Higby, 1997). The Code of Ethics (1952) of the APhA prohibited discussing medication with patients and Amendments to the 1938 Food and Drug Cosmetic Act restricted the discretionary power of pharmacists by codifying the prescription drug legend and limits on refills. Anti-substitution laws in most states limited practice even more. Advances in technology allowed mass production of ready-to-dispense drugs and prescriptions. But at the same time, pharmacists controlled the labor market and training programs. Pharmacy schools held the exclusive right to educate pharmacists. In hopes of making pharmacy a true profession in the public’s eyes, a five year B.S. program was adopted to begin as the standard in 1960.

The organizational logic became moderate in strength during this era as chain drug stores expanded into the suburbs growing up around cities. This trend held far reaching implications for pharmacy practice but most were not realized during this era. From 1948 to 1960, the number of pharmacies operated by only a single pharmacist shrank from 50 to 40 percent of pharmacies (Kremer & Uldang, 1963). Approximately 45% of all pharmacists owned a retail pharmacy alone or with a partner. Despite the growth in chain drug stores, only 1 to 1.5% of pharmacists worked in a store with five or more pharmacists. The percentage of pharmacists employed remained steady from 1948 to 1960 at about 48% (Kremer & Uldang, 1963). Still, the tension between efficiency and professional standards showed up in APhA editorials where there was seen to be too much focus on efficiency and economic gain, at the expense of high professional standards. In the hospital sector, pharmacist positions were created and formal training programs for pharmacist technicians began -- the beginning of a managerially controlled division of labor.

We categorize the market logic as remaining moderate overall, because some characteristics indicated a logic closer to the ideal type while others showed increased distance. Free entry to the market was reduced by the restrictive legal requirements of education for the pharmacy occupation. Buyers continued to be undifferentiated but sellers were starting to consolidate with the movement of chains into the suburbs. However, the determination of price through supply and demand was strengthened during this era as the U.S. Justice Department won an anti-trust complaint for uniform prices for prescription drugs against professional associations who had routinely published price schedules (Griffenhagen, 2002). Also indicating a strengthening market logic, was the losing battle independent owners fought during this era trying to keep Fair Trade laws in place. With the demise of Fair Trade laws, the field was once again wide open to price cutting. Finally, in 1952 federal law clearly divided drug products into prescription and over the counter (OTC) and in 1962 the domain of the FDA expanded to control research into new drugs and impose requirements of effectiveness (not only safety).

#### *Clinical Pharmacy: 1965 to 1990*

We identify the constellation of logics at this time to consist of a moderate professional logic, a strong organizational logic, and a moderate market logic. Organized pharmacy, searching for a professional identity, developed the ideal of clinical pharmacy (Posey, 2003). The clinical



pharmacy movement switched the meaning of being society's experts in medicine from product to patient. Rather than simply dispensing medication responsibly, pharmacists were to control drug use through unit packaging, pharmacy technicians, drug information center, and patient profiles with the goal of safe use of drugs by the public (Higby, 1997). This shift in emphasis was reflected in a 1969 revision of the APhA code of ethics eliminating the old prohibition on sharing of information (Higby, 1997). While pharmacy schools revised their curriculum in the 1970s to reflect this new orientation, the actual work of most pharmacists did not change radically. Most of their time (48%) was spent processing prescription orders (DHHS, 2000). Still, the federal government recognized a clinical role for pharmacists in 1974 when it began requiring nursing homes to have pharmacists conduct monthly regimens (Posey, 2003).

Shifts in the broader institutional environment allowed the profession to impact more strongly on state institutions. While previous efforts to repeal anti-substitution laws had been derailed by pharmacy manufacturers, the widespread concern over health costs and the consumer movement helped overcome their opposition. In 1979 the Federal Trade Commission and the Department of Health, Education, and Welfare jointly released a "model drug product selection act" that was endorsed by APhA (Higby, 1997). By 1982, drug selection product laws had been enacted in 49 states.

Pharmacy was also characterized during this time by a strong organizational logic as pharmacists transitioned from being owner practitioners to employees. In 1956 almost half of pharmacists owned a store alone or with a partner while only 20% did in 1970 (Phipps, 1991). By 1980 only 10% of pharmacists were self-employed. A 1982 federal report remarked that in "less than 20 years, pharmacy has changed from a profession characterized by practitioners who were pharmacy owners to one in which pharmacists are predominantly employees" (DHHS, 2000). Concomitantly, we see concerns expressed about pharmacists being subject to managerial control as non-pharmacists increasingly perform managerial duties (Bezold et al, 1985). Managerial control over the division of labor became common during this time as a formal role for pharmacist technicians developed. These techs are usually trained on the job, and supervised by a pharmacist (Posey, 2003).

On average, the market logic remained the same during this period. As pharmacy struggled to redefine itself professionally as clinical pharmacy, pharmacists lost their monopoly as other health care providers could legally substitute for the clinical role of pharmacists. The rise of technicians also threatened pharmacists' monopoly over dispensing drugs. In addition to sellers becoming more concentrated as drug store chains began to dominate the market place, buyers also began to concentrate. Health insurance plans grew rapidly during this period with almost 40% of all prescriptions paid for by third parties by 1989 (Williams, 1998). Unlike individual buyers, health insurance plans often negotiated with drug stores on price. As a result, price was no longer purely determined through supply and demand. At the same time, though, there were significant changes in assumptions about consumers that are more in line with the ideal market logic. In the 1970s, the consumer health movement encouraged patients to think of themselves as consumers, challenging the view that responsibility for a person's health rests primarily with a physician rather than the patient (Scott et al, 2000). This view was reinforced by the courts which

established across a number of cases during this same time patients' right to informed consent, access to medical records, and participation in medical decisions (Starr, 1982).

*Pharmaceutical Care: 1990 to present (2004)*

In this current era, we observe a constellation of logics consisting of a strong professional and market logic and a very strong organizational logic. The work of pharmacists as professionals is currently one based on superior knowledge about how to use medicine (prescription, behind-the-counter, OTC preparations). Broader than clinical pharmacy, pharmaceutical care has been defined as "the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life," (Hepler & Strand, 1990). Pharmaceutical care is intended to require a strong counseling role for pharmacists. This role has been accepted and legitimated by both state and federal governments. In 1991, a federal report found that at least 20 states required some kind of counseling of patients (DHHS, 2000). In 1993, the federal government began requiring counseling of Medicaid patients which many states followed up with similar laws for all patients (Posey, 2003). In some cases, insurers are recognizing this expertise through plans that cover 'pharmaceutical counseling.' As part of this increasing reliance on expertise, educational programs continue to lengthen. The minimum entrance to pharmacy is currently a Masters' degree requiring 6 years of post-secondary education. Despite these changes, a 2002 national study found that pharmacists still spend most of their time dispensing drugs.

The organizational logic is very strong in the present era. With virtually all pharmacists now working as employees, the days of individual proprietorship appear to have all but disappeared. In 1998, only 3.4% of pharmacists reported being self-employed compared to 8.9 in 1989 (DHHS, 2000). About 1/3 of independent stores (typically owned by pharmacists) closed between 1990 and 1998 (DHHS, 2000). At the same time, there have been significant increases in the number of grocery stores and mass merchandisers like Wal-mart with pharmacies, while the number of chain drug stores has remained relatively steady. While the percentage of pharmacists in the retail sector remained steady at about 68%, there has been a huge increase in the number of prescriptions filled. From 1992 to 1999, prescription volume in community pharmacies (independents and chains) increased from 1,942 million to 2,799 million, an increase of 44.1% (DHHS, 2000). This productivity gain has been possible partly because of a managerially controlled division of labor: there are now almost as many technicians as pharmacists. With the continuing impact of large organizations, pharmacists are necessarily subjected to the routinization of work, rules, and procedures and a hierarchy of authority where they are managed by others -- often individuals who have little if any knowledge of pharmacy.

The market logic remained moderate in strength. In terms of free entry, efforts by pharmacy to shift away from 'dispensing' toward 'counseling' appear to be placing limits on the potential for substitution of services by pharmacy technicians or other health workers. There was increasing market distortion as buyers and sellers continued to consolidate: the number of independent pharmacies declined by 1/3 and the number of prescriptions covered by third party insurers climbed during this era to 78% (DHHS, 2000). However, other events show relaxing of controls to prevent open competition. For example, the FDA has reduced several restrictions that result in a less difficult approval process for new drugs coming onto the market. As well, the

number of OTC drugs continues to escalate. Relaxing of controls on Direct to Consumer (DTC) advertising has resulted in individual consumers being bombarded with information about drugs that may be ‘just what you need – ask your doctor’. Finally, the phenomenal growth of the internet during this era has increasingly given consumers access to detailed information

## **Conclusions and Implications**

In this paper we have analyzed the field of pharmacy over time in terms of each of three ideal logics (professional, market and organizational), focusing not on which logic was dominant at any particular point, but instead paying attention to how the three logics combined to create the overall operating principles for the field. What we observe is that the field moved from market forces overwhelming the other logics in the earliest era, to market logic being only one part of the organizing principles as both the professional and organizational logics strengthened.

By thinking of the organizing principles of a field as a constellation of logics, we may be better able to understand institutional change. Our ideas here are at an early stage of development, but we suggest that by recognizing the way in which market, professional and organizational logics interact in the world of pharmacy, we can observe trends and components of change that we might otherwise miss. For example, instead of seeing that market forces are threatening the professionalism of pharmacists, the changing constellation of logics over time indicates that a market logic has always been relatively strong in this field. Pharmacists have developed educational standards and professional codes, while continuing to act as merchants. As well, pharmacists have experienced an increasingly strong professional logic while at the same time shifting from independent operators (where the organizational logic was very distant from the ideal type) to employees in large bureaucratic organizations. Figure 1 shows changes in the strength of each logic over time.

[Figure 1 about here]

In our study, we have connected our discussion of logics with observations about the nature of pharmacy work over time, focusing particularly on what it means to be ‘society’s expert on medicine.’ We summarized these descriptions in Table 4, showing how the nature of expertise has changed over time. In early days, pharmacists were experts at compounding medicine. But when pharmaceutical companies took over those tasks, pharmacists were left to be ‘counters’ and ‘pourers.’ Soon, machines and technicians took over the counting and pouring. But currently, pharmacists are trying to use their knowledge of medications and proper usage as part of counseling services for patients, even as the organizational logic is increasing in importance. Thus, we are gaining insights about the nature of work as a reflection of the constellation of logics, rather than a case of simply increasing or decreasing professionalism.

In previous studies of institutional change, different actors have been associated with different logics. For example, Reay and Hinings (forthcoming) found that physicians continued to hold beliefs associated with a logic of medical professionalism, while government and health care managers operated with a logic of business-like health care. In contrast, we see that the beliefs

and behaviors of one actor -- pharmacists -- have changed over time. These changes appear to be best explained by a varying constellation of logics.

We suggest that the impact of all logics is overlooked when focus is directed only to the dominant logic as has often been the case in previous studies. This conceptual framework provides a new way to examine what have previously been considered tensions between the market and professionalism, for example. With further research, we may be able to provide more rich explanations of change that incorporate the combined effect of logics over time in both pharmacy and other fields.

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Table 1: Characteristics of the Professional Logic by Era

Characteristics	1800-1852- preorganized pharmacy	1852-1910- organized pharmacy	1910-1945: beginning academic reform	1945-1965 Dispensing Only Practice	1965 – 1990 Clinical Pharmacy	1990 – 2004 Pharmaceutical Care
1. Body of knowledge and abstract skills	Not organized field of expertise.	Work involved compounding and low level doctoring.	Compounding and dispensing of drugs.	Dispensing manufactured drugs.	Dispensing and counseling to ensuring safe use of drugs.	Dispensing, counseling, drug monitoring to achieve optimal outcomes
2. Occupationally controlled division of labor	Simple trade.	State pharmaceutical associations worked to pass state laws requiring exam and apprenticeship.	Occupations preferences regarding college degrees are not automatically reflected in law.	Anti substitution laws in most states.	Pharmacists' preferences reflected in some laws.	Federal and many state laws require counseling.
3. Occupationally controlled labor market	No credentials or training required	States have tests and requirements for pharmacists.	Requirements for education were gradually enacted into law.	Pharmacy schools hold exclusive right to educate pharmacists.	Pharmacy schools hold exclusive right to educate.	Pharmacy schools hold exclusive right to educate.
4. Occupationally controlled training	Part of ordinary labor market.	Apprenticeship was norm	2 year college degree in 1907, 3 year in 1925, 4 year in 1932.	1960-five year bachelor degree required.	Five year bachelor's degree required.	2000-6 year Pharm D program
5. Ideology asserting greater devotion to doing good work than to economic reward	Business ideology prevailed	Concern seemed to be to separate pharmacist from a "mere" merchant.	Pharmacists should hold ideals greater than personal gain. They should be part of creating a better civilization.	Pharmacists should ensure that patients receive medication properly and their interests are protected.	Pharmacists should serve as a source of professional guidance to the self-medicating public.	Pharmacists should talk with patients and other health care providers and work together to promote wellness.

Table 2: Characteristics of the Organizational Logic by Era

Characteristics	1800-1852- preorganized pharmacy	1852-1910-organized pharmacy	1910-1945: beginning academic reform	1945-1965 Dispensing Only Practice	1965 – 1990 Clinical Pharmacy	1990 – 2004 Pharmaceutical Care
1. Managerially controlled division of labor	Absent	Virtually absent.	Military began formal training programs for pharmacy techs.	Hospitals began formal training programs.	Formal role for technicians develop. On the job training.	Technician use wide spread. . Mostly on the job training.
2. Routinization of work, rules, and procedures	Absent	1900-no more than 25 pharmacies combined into chains.	1920: 3.12% of all pharmacies,	Chains started expanding into suburbs but independent pharmacies still dominate.	Transition from mom and pop stores to large organizations.	Virtually all pharmacists employed by large organizations.
3. Ideology of efficiency	Not evident	Not evident	Pharmacy can efficient if sales of medicines are restricted to stores that sell relatively large volumes.	Too much efficiency and economic gain (in retail sales) may reduce professional standards.	Efficiency and profitability are viewed as negatively affecting quality.	Pharmacists can improve efficiency in Managed Care by assessing value for cost.
4. Separate position and incumbent	Pharmacist as a position did not exist.	Pharmacy generally not a full time occupation	Pharmacist as position existed.	Pharmacist as position existed.	Pharmacist as position existed.	Pharmacist as position existed.
5. Capital not owned	Owner operated	Predominately owner operated.	Predominantly owner operated. Some hospitals employ pharmacists.	1948-1960 Approximately 45% of pharmacists owned stores alone or with a partner	1970-20% of pharmacists self-employed 1985-8.9% of pharmacists self-employed	1995 5.8% pharmacists self-employed 1998 3.4 % pharmacists self employed
6. Managerial control over definition of competence	Not relevant.	Mostly irrelevant.	Mostly irrelevant	Mostly irrelevant	Raised as an issue in pharmacy publications.	Major issue.
7. Hierarchy of authority	Little	Little	Some	Some	Extensive	Extensive

Table 3: Characteristics of the Market Logic by Era

Characteristics	1800-1852- preorganized pharmacy	1852-1910-organized pharmacy	1910-1945: beginning academic reform	1945-1965 Dispensing Only Practice	1965 – 1990 Clinical Pharmacy	1990 – 2004 Pharmaceutical Care
1. Free entry	No legal restrictions.	Legal requirement of apprenticeship and passing of exam.	Legal requirements for education become common.	Restrictive legal educational requirements	Potential for other professions to substitute.	Pharmacists have monopoly.
2. Relatively large number of undifferentiated buyers and sellers	Cut throat competition around price	Cooperative movement among owners of independent drug stores to counter price competition.	Small number of chains— 3 to 4%.	Number of drug store chains increases.	Chains continue to increase and 40% of prescriptions paid by 3 <sup>rd</sup> party.	1/3 of independents lost, grocery store and mass merchandisers chains increase. 3 <sup>rd</sup> parties pay for 78% of prescriptions.
3. Consumers are assumed to have sufficient information to make informed choices	Virtually no government regulation.	1906-Food and Drug Administration created to regulate inter-state commerce. Similar laws passed by 2/3 states.	1928 Supreme Court overthrew PA law restricting pharmacy ownership to pharmacists. 1938 FDA authority expanded to include approval of new drugs. Must be safe.	1952-federal law divides OTC and prescription drugs 1962 FDA now requires drugs be effective not just safe. Regulates prescription drug advertising.	Consumer health movement. Court cases favoring consumer rights.	1997 FDA reduces some restrictions on drug approval, OTC drugs increase, Direct to Consumer drug advertising regulation relaxed.
4. Price determined through supply and demand	Price cutting common.	Attempts to control price through cooperative action.	1924-AphA published first of many price schedules 1937-Fair Trade Bill	Justice dept. wins anti-trust case against professional associations for uniform pricing on prescription drugs	Chain store and insurance company buying power.	Chain store and insurance company buying power.



Table 4: Constellation of Logics

<b>ERA</b>	<b>Constellation of Logics and Closeness to Ideal Type</b>	<i>What it means to be society's expert on medicine</i>
<i>Buyer Beware 1800- 1852</i>	Professional: (0) none Market: (5) very close to ideal Organizational: (1) very distant	'Pharmacist' was not a title. The work was as a salesman or merchant, and drugs were sold to those who would buy. Little knowledge of medicine required.
<i>Organizing Pharmacy 1852-1910</i>	Professional: (1) very distant Market: (4) close to ideal Organizational: (2) distant	The title of pharmacist or druggist became more common. The work involved low-level doctoring, compounding of medications, and sales of medication. Pharmacists were self-employed merchants. In their drugstore they sold many items, and often ran a soda fountain.
<i>Early Academic Reform 1910-45</i>	Professional: (2) distant Market: (3) moderately distant Organizational: (2) distant	Pharmacists continued to be self-employed merchants, but increasingly were required by law to hold specific educational certification. They continued to sell a variety of items in their drug store. They compounded and dispensed medications in early part of era, but by end of the era most medicine was prepared by pharmaceutical manufacturers.
<i>Dispensing Only 1945-65</i>	Professional: (2) distant Market: (3) moderately distant Organizational: (3) moderately distant	Most pharmacists were self-employed merchants, dispensing medications as one line of sales in the store. Pharmacists often ran soda fountains until late 1950s. They engaged in 'count and pour' pharmacy – almost exclusively filling prescriptions and selling the product to customers. Their overall task was the responsible dispensing of drugs.
<i>Clinical Pharmacy 1965-90</i>	Professional: (3) moderately distant Market: (3) moderately distant Organizational: (4) close to ideal	Increasingly pharmacists were working for a larger organization – chain drug stores or grocery stores. Pharmacists' work was primarily to fill prescriptions, but due to legislation change, they were able to share information about medicine with their customers. Their overall task became ensuring the safe use of drugs.
<i>Pharmaceutical Care 1990-2004</i>	Professional: (4) close to ideal Market: (3) moderately distant Organizational: (5) very close	Most pharmacists work as employees, often as shift workers. They package medications and provide guidance and counseling for patients as they pick up prescriptions, or when they ask for assistance.

Figure 1: Logics by Era and Likeness to Ideal Type

