

**THE NURSING SHORTAGE, WAGE-
INFORMATION SHARING AMONG
COMPETING HOSPITALS, AND THE
ANTITRUST LAWS: THE NURSE
WAGES ANTITRUST LITIGATION**

Jeff Miles, J.D.*

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I. INTRODUCTION

Numerous sources have reported a shortage in registered nurses (“RNs”) in the United States, particularly those working in hospitals, and the belief is that this shortage will worsen in the future.¹ If true, this indicates that the quantity of RN services de-

* Shareholder, Ober, Kaler, Grimes & Shriver, Washington, D.C.

¹ See generally JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS, HEALTH CARE AT THE CROSSROADS: STRATEGIES FOR ADDRESSING THE EVOLVING NURSING CRISIS (2003) [hereinafter JCAHO REPORT]; INSTITUTE FOR WOMEN’S POLICY RESEARCH, SOLVING THE NURSING SHORTAGE THROUGH HIGHER WAGES (2006) [hereinafter SOLVING THE NURSING SHORTAGE]; BOBBI KIMBALL & EDWARD O’NEILL, HEALTH CARE’S HUMAN CRISIS: THE AMERICAN NURSING SHORTAGE (Robert Wood Johnson Foundation 2002) [hereinafter HEALTH CARE’S HUMAN CRISIS]; U.S. DEP’T OF HEALTH & HUMAN SERVS., *Projected Supply, Demand, and Shortages of Registered Nurses* (July 2002) [hereinafter *Projected Supply*]; Peter I. Buerhaus, et al., *Recent Trends in the Registered Nurse Labor Market in the U.S.: Short-Run Swings on Top of Long-Term Trends*, NURSING ECONOMIC\$, Mar.-Apr. 2007, at 59 [hereinafter Buerhaus, *Recent Trends*]; Peter I. Buerhaus, et al., *New Signs of a Strengthening U.S. Nurse Labor Market?*, HEALTH TRACKING, Nov. 17, 2004, at W4-526; Susan B. Hassmiller & Maureen Cozine, *Addressing the Nurse Shortage To Improve the Quality of Patient Care*, 25 HEALTH AFF. 268 (2006); Joanne Spetz & Sara Adams, *How Can Employment-Based Benefits Help the Nurse Shortage?*, 25 HEALTH AFF. 212 (2006); Joanne Spetz & Ruth Given, *The Future of the*

manded is greater than that supplied at the current wage rate and that both this wage and the quantity of RN services employed are below the competitive-market level, resulting in inefficient RN resource allocation. The market for RN services fails to clear at the competitive-equilibrium.² An interesting question is why. Absent some form of market failure, simple economic theory would predict that, over time, the return to hospital-employed RNs would increase, drawing more RNs into hospital employment in the short run and more candidates into RN training programs in the long run, ultimately resulting in a competitive-equilibrium quantity of RN services supplied and demanded at the competitive market price, obviating the shortage.³

Several causes might explain the RN-shortage phenomenon; one is collusion among hospitals to prevent the wages they pay RNs from rising to the competitive level.⁴ This appears to be the explana-

Nurse Shortage: Will Wage Increases Close the Gap?, HEALTH AFF., Nov.-Dec. 2003, at 199; Laura Landro, *The Informed Patient: Why Quota for Nurses Isn't Cure-All*, WALL ST. J., Dec. 13, 2006, at D8.

Nursing shortages are not a recent phenomenon, having been reported since at least the 1940s. See generally DONALD E. YETT, AN ECONOMIC ANALYSIS OF THE NURSE SHORTAGE (1975); PAUL J. FELDSTEIN, HEALTH CARE ECONOMICS 393, 397-405 (6th ed. 2005) ("The market for nurses has been characterized by recurrent shortages.").

² See DAVID R. KAMERSCHEN, ECONOMICS 58 (2d ed. 1989) (discussing the economic analysis of market shortages).

³ See, e.g., FELDSTEIN, *supra* note 1, at 331-35, 395-96; see also SOLVING THE NURSING SHORTAGE, *supra* note 1, at 10:

If employment markets operated perfectly [competitively], according to economic theory, the level of employment and prevailing wage at a given moment would be determined by supply and demand The number of workers on the job and the wage paid to them . . . would reflect a compromise between employers' and workers' needs: The number of qualified people willing to work (labor supply) for a given wage would equal the number of workers that employers want to hire at that wage (labor demand) Employers would like to hire more workers at a lower wage, but not enough workers are willing to accept employment for lower pay. And employers can't afford to hire more workers than the [competitive] equilibrium because additional workers will not generate enough revenue to be profitable.

. . . When employers want more workers than are available at the prevailing wage rate . . . employers will have to increase wages, because they are already employing as many workers as will accept the current wage.

⁴ See, e.g., Barbara Bergmann, Letter to the Editor, NEW ENG. J. MED., Apr. 13, 2006, at 1648 ("We know that some hospitals have engaged in agreements to refrain from offering higher wages to attract nurses working for other hospitals in their area."). To support her hypothesis of collusion among hospitals, Dr. Bergmann relies on (1) the hospitals' motive to conspire to keep costs low; (2) the market's failure to respond to solve the shortage; (3) the lack of another explanation for the shortage; (4) an early history, in the 1970s, of alleged hospital collusion to depress RN wages; and (5) a 1994 Antitrust Division enforcement action against hospitals for allegedly exchanging wage information, which was

tion of current and former hospital-employed RNs in five cities—Albany, Chicago, Detroit, Memphis, and San Antonio—who last year filed six almost identical antitrust class-action lawsuits alleging that hospitals in those areas violated section 1 of the Sherman Act⁵ by agreeing to fix or depress the wages they pay RNs and agreeing to exchange wage information about the amounts they were paying, and planned to pay, RNs working in area hospitals (collectively the “Nurse Wages Antitrust Litigation” or “NWAL”).⁶ These cases

settled by a consent decree. Barbara Bergmann, “The Mystery of the Nurse Shortage” (May 6, 2004 draft paper) [hereinafter “Mystery Paper”] (on file with author). Dr. Bergmann, a professor emerita of economics, sets forth the same arguments in another paper. Barbara Bergmann, *The Nurse Shortage Is a Crime*, CHALLENGE, Nov./Dec. 2006, at 96 [hereinafter CHALLENGE]; see also Michael D. Hausfeld, et al., “Innovation, Economics and the Law: The Health Care Industry’s Exposure to Antitrust Liability,” Prepared Remarks Before the ABA Section of Antitrust Law Spring Meeting 18–21 (Apr. 19, 2007) (quoting and citing Bergmann, “Mystery Paper”). Mr. Hausfeld’s law firm is plaintiffs’ counsel in five of the cases discussed in this article. As explained, *infra* note 7, Dr. Bergmann’s submission of the “Mystery Paper” to the Service Employees International Union (“SEIU”) appears to be the genesis of the cases discussed in this article. Ironically for an economist who expresses concern about anticompetitive conduct, Dr. Bergmann recommends, as one method of increasing RN wages, “reduc[ing] the immigration of foreign nurses” because “[o]ne of the sources of the hospitals’ resistance to higher wages is their access to large numbers of these nurses, who are glad to work for current U.S. wage levels.” Bergmann, “Mystery Paper,” at 8. But if the ultimate goal is to reduce the nursing shortage, precisely the opposite strategy would seem appropriate. See *Diagnosis: Critical—Immigration and the Nursing Shortage*, WALL ST. J., Sept. 12, 2007, at A18 (“[L]ow green card quotas have also left the U.S. with an undersupply of nurses that threatens patient care [I]n the short run, Congress could help enormously by easing the limit on foreign nurses allowed entry to the U.S.”).

⁵ Section 1 of the Sherman Act, 15 U.S.C. § 1 (Supp. IV 2004): “Every contract . . . or conspiracy, in restraint of trade or commerce among the several States . . . is . . . illegal.” Early on, the Supreme Court made clear that section 1 does not condemn “[e]very contract” that restrains competition since most contracts restrain competition to some extent, but only those that restrain competition “unreasonably.” See generally *Standard Oil Co. v. United States*, 221 U.S. 1 (1911). For discussions of section 1’s application, see *infra* text accompanying notes 84–88, 128–33, 197–205.

⁶ *Unger v. Albany Med. Ctr.*, No. 06-CV-0765 (N.D.N.Y. filed June 20, 2006); *Reed v. Advocate Health Care*, No. 06-C-3337 (N.D. Ill. filed June 20, 2006); *Schultz v. Evanston Healthcare*, No. 06-CV-3569 (N.D. Ill. filed June 30, 2006); *Clarke v. Baptist Mem’l Healthcare Corp.*, No. 2:06-CV-02377-JPM (W.D. Tenn. filed June 20, 2006); *Cason-Merendo v. Detroit Med. Ctr.*, No. 2:06-CV-15601 (E.D. Mich. filed Dec. 13, 2006); *Maderazo v. VHS San Antonio Partners, L.P.*, No. 06-CV-0535 (W.D. Tex. first amended complaint filed Aug. 29, 2006). See generally Jennifer Lubell, *Nurses Head to Court: Lawsuits Allege Hospitals Conspired to Underpay*, MOD. HEALTHCARE, June 26, 2006, at 12. The Albany, Chicago *Reed*, Detroit, and San Antonio complaints have been amended, available at http://www.cmht.com/cases_nursewages.php (last visited Aug. 21, 2007).

The plaintiffs in the San Antonio case explain the crux of all the plaintiffs’ claims cogently:

For years hospitals in San Antonio and nationwide have operated with significant unfilled nursing vacancies, with serious repercussions for patient care
At the same time San Antonio nurse wages have remained low and stagnant

(which the Service Employees International Union (SEIU) is supporting),⁷ while fact-specific, raise a number of interesting and com-

Such a persistent shortage of supply is inconsistent with the existence of competition in the hiring of RNs. In the presence of market competition for their services, a persistent shortfall in the supply of nurses should lead to an increase in wages offered for those services Instead, hospitals have bemoaned their inability to fill nursing positions, jeopardizing patient care yet have somehow resisted the natural forces of competition. Absent agreement among hospitals to resist the natural market forces present in the face of a nursing shortage, such a persistent situation of excess demand and artificially low wages could not remain. The focus of this action will overwhelmingly be on the wrongful conduct of the Defendants in coordinating and agreeing to fix the wages of their nurses and the impact of that conduct on their nurse employees.

Plaintiffs' Memorandum of Law in Support of Motion for Class Certification at 1, *Maderazo v. VHS San Antonio Partners, L.P.*, No. 5:2006-CV-00535-OG (W.D. Tex. Oct. 27, 2006).

⁷ Declarations by one of plaintiffs' attorneys in both the Chicago *Reed* case and the Albany case provide the background of the cases, which defendants claim are no more than an effort by SEIU to unionize the hospitals' RNs. See Declaration of Mary Joyce Carlson, *Reed v. Advocate Health Care*, No. 06 CV 0337 (N.D. Ill. Oct. 24, 2006) [hereinafter *Advocate Dec.*] and Declaration of Mary Joyce Carlson, *Fleischman v. Albany Med. Ctr.*, No. 06 CV 00765 (N.D. N.Y. May 15, 2007) [hereinafter *Albany Dec.*]. Another of plaintiffs' counsel provides the background in a letter to the court in the Albany action. See Letter from David P. Dean to Hon. David R. Homer, United States Magistrate Judge (May 15, 2007) (on file with author).

According to these documents, Dr. Bergmann submitted the "Mystery Paper" *supra* note 4, to SEIU in July of 2004, and SEIU "engaged her . . . to investigate the issue." *Advocate Dec.*, ¶ 13. Upon reviewing the "Mystery Paper," SEIU believed Bergmann's hypothesis of hospital collusion to depress RN wages credible and executed a retainer agreement with the Institute of Women's Policy Research to "provide a comprehensive public communications report on nurse wages and an economic analysis focusing on the relation between unionization and nurse wages." *Albany Dec.* ¶ 9. Dr. Bergmann is a member of the Institute's Program Advisory Committee. That contract resulted in the preparation and publication of *SOLVING THE NURSING SHORTAGE*, *supra* note 1, which SEIU funded. A major theme of that report is that commentators on the RN shortage have unduly deemphasized wage increases as a strategy for solving the shortage and that "hospitals can choose fair, competitive wage-setting practices to maintain adequate staffing levels." *Id.* at Executive Summary. Dr. Bergmann makes the same point in her writings. See *CHALLENGE*, *supra* note 4, at 93 ("A huge amount of ink has gone into offering explanations for the nurse shortage and proposing solutions, but the real cause and real solution [i.e., higher wages] are rarely mentioned."). The Institute report's policy recommendations include nurse unionization, enforcement of the antitrust laws preventing hospital collusion over wages, government-imposed minimum-staffing ratios, increasing the salaries of nursing school faculty, education of hospitals about comparable-worth because of gender discrimination, and research on health care costs and quality.

Plaintiffs' counsel retained an economic-consulting firm to work on a potential antitrust suit, and Dr. Bergmann and the Institute reviewed that work. In November 2004 and June 2005, SEIU contracted with Dr. Bergmann to assist it in publicizing "the artificial ceiling on nurses wages" through an SEIU publicity campaign, and she continued to consult with SEIU until June 2006. SEIU also retained private investigators, with whom Dr. Bergmann worked, to investigate her allegations of hospital collusion. According to plaintiffs' counsel, "SEIU played a critical role in the genesis of the [case] and offers ongoing support consistent with the public service nature of the suit and its own interests in championing

plex questions under the antitrust laws. In addition, they highlight the antitrust dangers of competitor-information exchange programs, especially those involving the prices charged by competing sellers for their products and services and the prices paid by competing purchasers for the resources or inputs used to produce those products or services. Moreover, the cases may generate much insightful

nurse issues,” *Advocate* Dec. ¶ 12, and “is currently providing support to the lawsuits through paying [plaintiffs’ counsel] a reduced fee for its work on the suits.” *Id.* ¶ 15; see also *Albany* Dec. ¶ 18 (“SEIU became solely a third-party payor as to some fees and expenses for litigations in San Antonio, Chicago, Memphis, Albany, and Detroit.”).

The plaintiffs note that the complaints were “the product of an intensive, months-long investigation by counsel for plaintiffs that included interviews with numerous individuals with first-hand knowledge of the alleged conspiracy, including some who actively exchanged current and future wage information in order to depress nurse compensation.” Pls.’ Report Pursuant to Fed. R. Civ. P. 26(f); see also *A Conspiracy Against the Public*, THE NATION, June 26, 2006, available at <http://valuecarevaluenurses.com/newsroom/index.cfm?nid=12> (“[T]he suits are based on interviews with current and former employees of these hospitals, who were privy to meetings and discussions in which pay information was shared.”). The same article notes that, “[g]iven the current political climate, no one wants to say publicly that the legal actions are part of an organizing strategy, but let’s hope that nurses in these cities do organize for better pay and conditions.” At the same time, SEIU is urging members to sign petitions urging the U.S. Department of Justice Antitrust Division to investigate “RN wage suppression.” <http://www.thenation.com/blogs/notion?pid=96268>.

These facts led the defendants to complain that the cases are a “transparent attempt to drum up support for union campaigns at various hospitals around the country.” Memorandum in Support of Defendants’ Motion to Dismiss at 1, *Clarke v. Baptist Mem’l Healthcare Corp.*, No. 2:06-cv-02377-JPM (W.D. Tenn. Sept. 1, 2006); see also Answer and Affirmative Defenses of Defendant Advocate Health Care, Affirmative Defenses ¶ 5, *Reed v. Advocate Health Care*, No. 06 CV 0337 (N.D. Ill. Sept. 6, 2006) (“Plaintiffs have brought this action as agents or on behalf of . . . [SEIU], which is engaged in a campaign of vilification against Advocate because Advocate has not agreed to SEIU’s efforts to represent Advocate employees. As such, the Complaint seeks to use the antitrust laws for a non-antitrust purpose and is brought in bad faith. For this reason the Complaint . . . does not allege antitrust injuries.”); Defendants’ Opposition to Plaintiffs’ Motion for Class Certification at 18, *Maderazo v. VHS San Antonio Ptrs., L.P.*, No. 5:06-cv-00535 (W.D. Tex. Nov. 10, 2006) (asserting that “this action is nothing more than a stalking horse for the SEIU’s desire to organize the nurses at defendants’ hospitals”). Indeed, the Memphis newspaper noted that SEIU was backing the Memphis case and stated that the case “pits” SEIU “against two local hospital groups.” Daniel Connolly, *Judge Hears Nurses’ Case*, MEMPHIS COMMERCIAL APPEAL, Jan. 5, 2007, available at <http://www.commercialappeal.com/archives/>.

Even if true, the plaintiffs’ (or SEIU’s) intent in participating in or supporting the cases is legally irrelevant, unless the complaints are completely frivolous (which they are not). *Cf. Israel Travel Advisory Serv. v. Israel Identity Tours*, 61 F.3d 1250, 1259 (7th Cir. 1995) (“So what? . . . Who cares? . . . True but irrelevant.”). Ironically, the plaintiffs’ success in the litigation might dampen the union’s organizing because wages might rise regardless of unionization. On the other hand, the plaintiffs’ and SEIU’s intent could be to obtain, in a settlement, concessions making unionization of defendants’ RNs easier, such as employer neutrality or some type of card-check election procedure rather than secret ballot.

information relating to the policy debate about the nursing shortage and how to alleviate it.

This article, based on the NWAL complaints without the benefit of discovery that is in its early stage, provides a brief overview of the RN shortage, describes the allegations in the Nurse Wages Antitrust Litigation, and attempts to explain the antitrust principles that should apply in analyzing those claims. Because modern substantive antitrust law is little more than applied economic theory, the article attempts to integrate relevant general economics principles into the legal analysis.⁸

II. THE NURSING SHORTAGE⁹

There is unanimity of opinion that an RN shortage exists—locally, regionally, nationally, and even internationally.¹⁰ The shortage of hospital-based RNs, who account for almost three-fifths of all RN positions,¹¹ seems most acute, but shortages exist in other fields of nursing¹² and in other health care professions as well.¹³

⁸ Cf. HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE, Preface (3d ed. 2005) (“Today the union of antitrust and economics is so complete that one cannot study antitrust seriously without at least minimal exposure to economics.”).

⁹ The RN nursing shortage is an incredibly complicated subject, and this section presents only a brief overview as background for the discussion of the Nurse Wages Antitrust Litigation cases. For a short history of the recurring RN shortages in the United States and their causes and cures from the 1940s to the present, see FELDSTEIN, *supra* note 1, at 397–405.

¹⁰ See, e.g., HEALTH CARE’S HUMAN CRISIS, *supra* note 1, at 25; David Auerbach et al., *Better Late than Never: Workforce Supply Implications of Later Entry into Nursing*, HEALTH TRACKING, Jan.-Feb. 2007, at 178, 184 (“[T]here is a global shortage of nurses.”); Spetz & Given, *supra* note 1, at 201 (“A majority of countries in the World Health Organization report nurse shortages.”). According to one article, the current RN shortage in the U.S. began in 1998, peaked in 2001, and decreased between 2001 and 2005. Buerhaus, *Recent Trends*, *supra* note 1, at 59.

¹¹ FELDSTEIN, *supra* note 1, at 396–97; U.S. DEP’T OF HEALTH & HUMAN SERVS., *The Registered Nurse Population: National Sample Survey of Registered Nurses* 8 (Mar. 2004) [hereinafter *Nurse Survey*] (noting that in 2004, approximately 56.2 percent of RNs were employed in hospital settings, down from 59 percent in 2000).

¹² See, e.g., Jeffrey Zaslow, *Is There a Nurse in the House? Schools Endure Shortage as Health Needs Rise*, WALL ST. J., Nov. 3, 2006, at D1 (discussing shortage of nurses in public schools).

¹³ See, e.g., JCAHO REPORT, *supra* note 1, at 4 (noting shortages of pharmacists, radiology technicians, lab technicians, and respiratory therapists as well as of RNs). Although there are reported shortages in several health care professions, the American Hospital Association reports that hospitals have more difficulty recruiting RNs than any other type of health care professional. See MOD. HEALTHCARE (Supplement), Dec. 18, 2006, at 50. Addi-

Registered nurses work for a number of different types of employers, including physicians' offices, nursing homes, managed-care companies, nursing schools, home-health agencies, community-health providers, schools, ambulatory-care facilities, pharmaceutical manufacturers, health-technology firms, medical-device firms, health care consultants, private-duty nursing companies, and nurse-staffing agencies.¹⁴ These employers—and hospitals—compete for the services of RNs.¹⁵ As a result, the percentage of RNs working in hospitals has decreased in recent years from some sixty-eight percent in 1984, to about fifty-nine percent in 2000,¹⁶ to about fifty-six percent in 2004.¹⁷ There are many types of nurses, specializing in numerous functions and areas of medicine, some requiring different types and levels of education and experience.¹⁸

The definition of the RN shortage, its extent, and its causes, however, are unclear. Are there fewer RNs working in hospitals than hospitals ideally would like to hire? Are there fewer RNs working in hospitals than unions would like to see hospitals hire? Are there fewer than governments believe sufficient to provide the level of care or quality they think appropriate? Are there fewer willing to work in hospitals at the return level that hospitals are willing

tionally, in 2005, hospital vacancy rates for nurses (8.5 percent) were the highest of the health care professionals hired by hospitals. *Id.* at 51.

¹⁴ See *Nurse Survey*, *supra* note 11 (listing hospitals; ambulatory-care settings, such as physician practices, nurse-based practices, and health-maintenance organizations; community- and public-health offices, such as state and local health departments, home-health agencies, community-health centers, student-health services, and occupational-health services; nursing education; federal agencies; state boards of nursing; health care trade associations; prisons; pharmaceutical manufacturers; health insurers; and durable-medical equipment suppliers).

¹⁵ JCAHO REPORT, *supra* note 1, at 17 ("These alternative nursing career options raise the level of competition for recruiting nurses to and retaining them in direct patient care settings."); SOLVING THE NURSING SHORTAGE, *supra* note 1, at 9 ("Hospitals have to compete more and more with employment opportunities for nurses in other settings, such as physicians' offices and nursing homes."). However, the Report also argues that "[s]kill demands and working conditions are different in hospitals than in settings such as physicians' offices and nursing homes, so labor supply and demand issues are unique for hospitals." SOLVING THE NURSING SHORTAGE, *supra* note 1, at 6.

¹⁶ See SOLVING THE NURSING SHORTAGE, *supra* note 1, at 9.

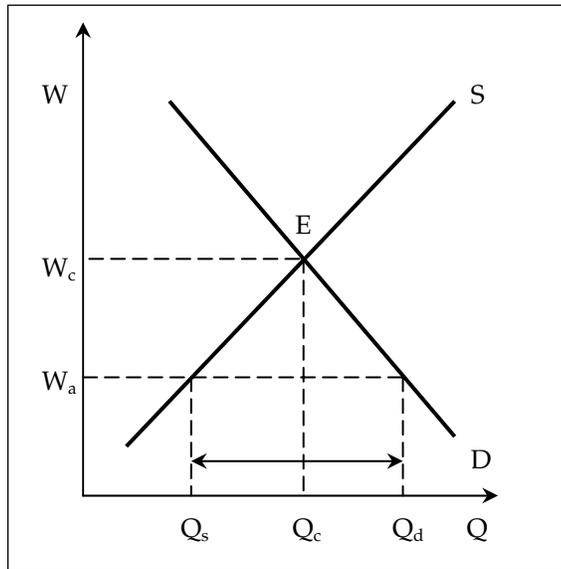
¹⁷ See *supra* note 11. Other commentators report a higher number. Christine Brewer et. al., *Factors Associated with Work Satisfaction of Registered Nurses*, 38 J. OF NURSING SCHOLARSHIP 71, 74 (2006) (sixty-one percent). In any event, "what happens in the hospital sector has the largest effect on the employment of registered nurses." FELDSTEIN, *supra* note 1, at 397.

¹⁸ See U.S. Dep't of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, available at <http://stats.bls.gov/oco/ocos083.htm> (listing over forty types of RNs and explaining educational paths).

to offer? Or are there fewer than hospitals would hire at the competitive wage?¹⁹

¹⁹ Feldstein explains that there are two ways to define a health-manpower shortage. The first is a “normative” judgment that a shortage exists, based on “a value judgment of how much care people should receive, or upon a professional determination of how much [nursing] care is appropriate in the population.” The second is the “economic” definition of a shortage—that the quantity of RNs demanded exceeds the quantity supplied at a given wage rate. An example of the former is the use of staffing ratios to determine if there is a shortage—an approach divorced from the market and which says nothing about how efficiently the market for RNs is functioning. FELDSTEIN, *supra* note 1, at 330–33; see also Peter I. Buerhaus, et al., *Dynamic Shortages of Registered Nurses*, NURSING ECONOMIC\$, Sept.-Oct. 1991, at 317 [hereinafter Buerhaus, *Dynamic Shortages*]. Buerhaus explains that “an economic shortage exists when demand for RNs increases and employers seek to hire additional RNs at the wage currently offered, but there are no RNs available at this wage. Consequently, a shortage develops which is often reflected by reports of high RN vacancy rates. How soon the shortage is resolved depends, in part, on how quickly employers raise wages.” Buerhaus, *Dynamic Shortages*, *supra*, at 317. This article focuses on economic shortages as shown graphically in Figure 1:

FIGURE 1



ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 23 (6th ed. 2005).

At the competitive equilibrium, E, where the quantities of RN services supplied and demanded are equal, the competitive wage would be W_c and the quantity of RN services produced and purchased would be Q_c . Assuming, however, that hospitals are paying only a wage of W_a , the quantity supplied of RN services is only Q_s . At the same “low” wage, hospitals demand the much larger quantity of RN services, Q_d . The amount of the shortage, then, at wage level W_a is Q_d minus Q_s . Compared to the competitive level of RN services, the shortage is Q_c minus Q_s . Absent collusion or some other market failure, one would expect hospitals to increase the level of remuneration to RNs from W_a to W_c , increasing the quantity of RN services supplied from Q_s to Q_c and reducing the quantity demanded by Q_d to Q_c .

The degree of the RN shortage is typically measured by hospital RN vacancy rates—“the number of budgeted full-time RN positions that are unfilled divided by the total number of budgeted full-time RN positions.”²⁰ But most observers opine that available data is not sufficient to quantify accurately the degree of the shortage, and, of course, it varies over time.²¹ Estimates, based primarily on anecdotal evidence, vary, but the most frequently cited vacancy figure is between eight and thirteen percent, depending on the time period examined.²² Observers expect the shortage to worsen as the general

In addition to the distinction between normative and economic shortages, it is important to distinguish between short-term, or “dynamic,” economic shortages, and long-term, or “static,” economic shortages. Dynamic shortages occur when, for example, demand increases and the market then takes some time to adjust to a new competitive equilibrium at a higher wage rate in the short run. Of more concern are long-term static shortages, where, over time, wages do not rise to establish a new equilibrium when demand increases. Typically, this results from some artificial constraint on the wage level, such as a restriction on supply, price controls, or collusion among employers to prevent wages from rising. FELDSTEIN, *supra* note 1, at 331–35; *see also* Buerhaus, *Dynamic Shortages*, *supra* note 19, at 317.

²⁰ Janet Heinrich, Dir., Health Care - Public Health Issues, U.S. GEN. ACCOUNTING OFFICE, *Ensuring Adequate Supply and Distribution Remains Challenging*, Prepared Remarks Before the Subcommittee on Health, Committee on Energy and Commerce, U.S. House of Representatives (Aug. 1, 2001) at 4 n.3; *see also* FELDSTEIN, *supra* note 1, at 395; SOLVING THE NURSING SHORTAGE, *supra* note 1, at 8 (noting that the primary evidence of a shortage is the vacancy rate for funded-nurse positions); Peter I. Buerhaus, *Economic Determinants of Annual Hours Worked by Registered Nurses*, 29 MED. CARE 1181, 1181 (1991) (noting that hospital vacancy rates, defined as “the number of unfilled full-time equivalent RN positions that hospitals are actively trying to fill” is a “commonly used indicator of shortages”). Others have defined a nursing shortage more broadly as simply an imbalance of supply and demand. HEALTH CARE’S HUMAN CRISIS, *supra* note 1, at 24 (“The ‘nursing shortage’ is defined as an overarching imbalance of supply and demand attributed to demographics, qualifications, availability and willingness to do the work.”).

²¹ *See* SOLVING THE NURSING SHORTAGE, *supra* note 1, at 8 (“[I]t is impossible to ‘prove’ there is a shortage of nurses. There is no objective measure of how many nurses are needed, nor is the level of ‘need’ determined the same way by all employers or for all health care situations. The number of vacant funded nurse positions is often cited as an indicator of the relationship between nurse supply and demand.”); Spetz & Given, *supra* note 1, at 203 (“[E]xisting data are inadequate to measure nurse shortages over time. The severity of the shortages is typically measured with anecdotal evidence, such as the number of hospitals that complain of shortage and the number of advertisements for RNs in the newspaper.”); U.S. GENERAL ACCOUNTING OFFICE, *Nursing Workforce: Emerging Nurse Shortages Due to Multiple Factors* 2 (July 2001) (“While shortages emerge because of an imbalance of demand and supply, there are insufficient data to measure how each may be affecting the current situation.”).

²² *See* MOD. HEALTHCARE (Supplement), Dec. 18, 2006, at 51 (citing an American Hospital Association figure of 8.5 percent in 2005); *see also* SOLVING THE NURSING SHORTAGE, *supra* note 1, at 6; Buerhaus, *Recent Trends*, *supra* note 1, at 59; Spetz & Given, *supra* note 1, at 199; Landro, *supra* note 1, at D9. There is no “magic” vacancy rate indicative of a shortage, but Feldstein describes a shortage as a vacancy rate exceeding five percent; *see* FELDSTEIN, *supra* note 1, at 395. Interestingly, it appears that the vacancy rate for hospital-employed RNs has decreased from about thirteen percent in 2001 to about 8.5 percent in 2005. *See*

population and the RN work force ages and women have more and better employment opportunities outside of nursing.²³ Recent studies suggest that while the shortage will remain serious, it may not be as large as previously believed because of increased entry into the profession during the last five or six years.²⁴

Commentators list a number of sometimes related reasons for the RN shortage. In no particular order of importance, these include: (1) poor working conditions, including lack of respect, particularly from physicians, heavy workloads, understaffing, mandatory overtime and lack of regular working hours, physical and mental stress, lack of staff and administrative support, non-nursing tasks, and safety; (2) absence of a positive public image; (3) lack of sufficient educational facilities and faculty; (4) more competing employment opportunities for women; (5) a shortage of nursing students because of capacity constraints on nursing-education programs;²⁵ (6) failure

FELDSTEIN, *supra* note 1, at 404. Numeric estimates of the future shortage vary. *See generally* *Diagnosis: Critical—Immigration and the Nursing Shortage*, WALL ST. J., Sept. 12, 2007, at A18 (noting government estimates of the need for one million additional RNs over next decade and analysts' estimates of 340,000; also noting that "the coming retirement of 77 million baby boomers means something will have to give").

²³ *See, e.g.*, JCAHO REPORT, *supra* note 1, at 5; HEALTH CARE'S HUMAN CRISIS, *supra* note 1, at 14–15; *Projected Supply*, *supra* note 1, at 2–3, 6, 9–10.

²⁴ David Auerbach et al., *Better Late Than Never: Workforce Supply Implications of Later Entry Into Nursing*, 26 HEALTH AFF. 178, 183 (2007) (reducing predicted shortage through 2020 because of increase in supply of RNs and explaining that "[w]ith its relatively attractive entry wage, high job security, and relatively small educational investment, nursing has become an attractive career option for people in their early twenties or thirties who might have begun careers in other fields"); Melanie Evans, *Nurses Older, More Plentiful, Better Paid: Study*, MOD. HEALTHCARE, Feb. 26, 2007, at 20 (noting that "[g]rowth in the supply of nurses rebounded between 2000 and 2004 after a 'record slowdown' the previous four years"); Melanie Evans, *Following the Money to Nursing*, MOD. HEALTHCARE, Jan. 15, 2007, at 10.

Although starting salaries of RNs may be adequate, one problem appears to be "wage compression," i.e., a relatively small difference between starting salary and the salary maximum after years of services. *See, e.g.*, SOLVING THE NURSING SHORTAGE, *supra* note 1, at 14; *Projected Supply*, *supra* note 1, at 8 ("[A] good portion of the wage growth . . . appears to occur early in their careers, then taper off with time.").

²⁵ At present, there seems to be a sufficient number of candidates wishing to enter the nursing profession, but the lack of adequate RN training program capacity has been described as a "bottleneck." *Nurse Survey*, *supra* note 11, at 16 ("One issue that has received considerable attention in recent years is the shortage of nurses in faculty positions."); *see also* Jessica Zigmund, *Remote Possibilities: Rural Communities Seek Creative Solutions as They Grapple with a Nurse Shortage That's Particularly Acute Outside Metro Areas*, MOD. HEALTHCARE, Apr. 9, 2007, at 26–27 (The author notes that, for the 2006–07 academic year, admissions to baccalaureate nursing programs increased by seven percent, but that some 43,000 applications were rejected. She explains that "[t]he top reasons for not accepting applications included the school not having enough faculty members and already having reached its admission limit" and also "a shortage of clinical space."); Melanie Evans, *Following the Money to Nurs-*

of the profession to draw large numbers of men; (7) lag time between a person's choosing nursing as a career and the time of actual licensure and entry into the RN work force; (8) fewer candidates choosing nursing as a career; (9) lack of hospital incentives to invest in nursing staffs; (10) high RN turnover; (11) the aging RN workforce; (12) the already-low RN unemployment rate (around one percent); (13) lack of advancement opportunities; (14) level of wages and benefits;²⁶ (15) increased demand because of an aging

ing, MOD. HEALTHCARE, Jan. 15, 2007, at 10 (indicating lack of nursing faculty and space constraints are serious problems; also noting American Association of Colleges of Nursing report stating that nursing colleges rejected 32,000 qualified applicants in 2006); *Diagnosis: Critical—Immigration and the Nursing Shortage*, WALL ST. J., Sept. 12, 2007, at A18 (“Despite more interest in the profession, faculty shortages and inadequate facilities have prevented nursing programs from expanding enrollment.”); Chris L. Jenkins, *In Health Professions, College Is Bottleneck: Schools Can’t Keep Up with Demand for Spots*, WASH. POST, Dec. 25, 2006, at B1 (“[L]ack of interest isn’t the problem—the ability to train students is.”) Jenkins also notes that the largest nursing program in Virginia had 600 applications for 200 slots and that the “American Association of Colleges of Nurses estimated last year that more than 30,000 qualified nursing students across the country couldn’t enter professional schools because of a lack of capacity.” According to the National League for Nursing, when all nursing programs (associate degree and diploma programs, as well as college baccalaureate programs) are considered, nursing programs rejected approximately 147,000 qualified applicants in 2005, even though the programs substantially increased enrollment. Press Release, Nat’l League for Nursing, “Despite Encouraging Trends Suggested by NLN’s Comprehensive Survey of All Nursing Programs, Large Numbers of Qualified Applications Continue to be Turned Down” (Dec. 5, 2005). The same group reported, in 2006, that “[n]ursing school applications have surged in recent years, rising more than fifty-nine percent over the past decade,” although they may be increasing at a decreasing rate. Press Release, Nat’l League for Nursing, “NLN Data Reveal Slowdown in Nursing School Admission Growth” (Aug. 2006).

²⁶ See generally JCAHO REPORT, *supra* note 1, at 10, 12, 24, 34; HEALTH CARE’S HUMAN CRISIS, *supra* note 1, at 5; SOLVING THE NURSING SHORTAGE, *supra* note 1, at 10, 15–16, 19; *Projected Supply*, *supra* note 1, at 4 (listing “declining number of nursing school graduates, the aging of the RN workforce, declines in relative earnings, and the emergence of job alternatives”); Peter I. Buerhaus, et al., *Trends in the Experiences of Hospital-Employed Registered Nurses: Results From Three National Surveys*, NURSING ECONOMIC\$, Mar.-Apr. 2007, at 69, 73 (“RNs identified the top five reasons for the nursing shortage as ‘inadequate salary and benefits,’ ‘more career options for women,’ ‘undesirable hours,’ a ‘negative healthcare work environment,’ and ‘nursing not seen as a rewarding career.’” The Report also notes that thirty-two percent of RN-survey respondents listed salary and benefits as the main cause of shortage); Buerhaus, *Dynamic Shortages*, *supra* note 19, at 327 (opining that raising wages would help alleviate the shortage); Hassmiller & Cozine, *supra* note 1, at 268–69 (“The current nurse shortage is driven by a broad set of factors related to recruitment and retention—among them, fewer workers, an aging workforce, and unsatisfying work environments—that have contributed to a different kind of shortage that is more complex, more serious, and expected to last longer than previous shortages.”); Spetz & Adams, *supra* note 1, at 218; Spetz & Given, *supra* note 1, at 200; U.S. GEN. ACCOUNTING OFFICE, *Nursing Workforce: Emerging Nurse Shortages Due to Multiple Factors* (2001); Patricia Kennan, “The Nursing Workforce Shortage: Causes, Consequences, Proposed Solutions” 2–3 (Commonwealth Issue Brief No. 619, Apr. 2003).

population; and (16) cost pressures on providers exerted by both governmental and private third-party payers.²⁷

Significantly, studies and surveys indicate that the primary job concern of RNs is not low wages, but other non-monetary factors that can be described generally as their “working environment.”²⁸ Wages, of course, are an important competitive variable but appear to be outweighed by other variables,²⁹ particularly by workload because RNs believe that their workload affects both themselves and the quality of care they provide their patients. Nurses and those who might become RNs base their career and employment decisions on what economists call the “full wage rate”—that is, “the sum of the money wage rate and the monetary equivalent of the non-monetary benefits of a job,”³⁰ such as the working environment. Of course, there is a trade-off between monetary and non-monetary benefits in the sense that some level of higher wages can offset almost any degree of poor working conditions; “everyone has a

²⁷ Another factor affecting the supply of RNs is the actual income and future income perceptions of the RN's spouse: “[W]hen the spouse of an RN receives a wage increase or is confident that his or her job is secure . . . [this] stimulates some, but not all married RNs to reduce not only the number of hours worked but may even encourage some RNs to withdraw from the labor market altogether.” Buerhaus, *Recent Trends*, *supra* note 1, at 61.

²⁸ See JCAHO REPORT, *supra* note 1, at 10 (reporting study showing that the most important reason nurses were leaving patient-care jobs was to seek a less stressful, less physically demanding job, and that the desire for more money was the third most important reason); HEALTH CARE'S HUMAN CRISIS, *supra* note 1, at 8 (reporting that the number one concern of authors' nurse focus group was increased workload); Spetz & Adams, *supra* note 1, at 218 (“Surveys of nurses often find that the work environment plays a larger role than wages and benefits in retention of staff . . . Nurses in our focus groups echoed these opinions, stating ‘[H]ow we feel about our patients and the quality of work we are doing are more important than the benefits we get.’”); Christine Kovner, et al. *Factors Associated with Work Satisfaction of Registered Nurses*, 38 J. OF NURSING SCHOLARSHIP 71, 77 (2006) (“Regarding compensation, contrary to findings of some other studies . . . wages were not associated with satisfaction.”); Jessica H. May, et al., *Hospitals' Responses to Nurse Staffing Shortages*, 25 HEALTH AFF. W316, W318 (2006) (“[M]oney alone was not sufficient to tie nurses to a hospital if the work environment were unpleasant.”); U.S. GEN. ACCOUNTING OFFICE, *Nursing Workforce: Emerging Shortages Due to Multiple Factors* 10 (2001) (citing several studies); Heinrich, *supra* note 20, at 6 (“[S]urveys indicate while increased wages might encourage nurses to stay at their jobs, money is not generally cited as the primary reason for job dissatisfaction.”).

A relatively recent government survey indicated that most RNs are satisfied with their jobs. *Nurse Survey*, *supra* note 11, at 16 (of all RNs surveyed, 27 percent were extremely satisfied, 50.5 percent were moderately satisfied, 10.9 percent were moderately dissatisfied, and 2.9 percent were extremely dissatisfied).

²⁹ Cf. Zigmond, *supra* note 25, at 26 (nursing-education program administrator explaining that “[m]oney is not necessarily the basic motivator. I don't know many people who went into nursing for the money, but you have to have money to live.”).

³⁰ DAVID R. KAMERSCHEN, ET AL., MICROECONOMICS 340 (2d ed. 1989).

price,” as the old saying goes.³¹ Economic theory predicts that an increase in the non-monetary benefits of a job will increase supply (shifting the entire supply function outward to the right) and thus, assuming constant demand, result in a lower wage rate.³² Accordingly, employers have substantial leeway in the components of the full wage rate that they can adjust to attract the RNs they need.³³

Of course, some strategies to alleviate the shortage would cost more than others, and some may generate a larger increase-in-supply-response than others. The most efficient response would be that which generates the largest increase in supply (or that which increases the quantity of RN services supplied to the quantity demanded) for a given level of investment.³⁴ Both short-term and long-term strategies exist to address the RN-shortage problem,³⁵ affecting both the short-run and long-run supply of RNs. Long-term strategies, to increase the stock of RNs, emphasize greater investment in nursing-education programs, including facilities and

³¹ See Bergmann, CHALLENGE, *supra* note 4, at 96 (“Yet there has to be a pay level that would compensate for that hardship [in working conditions], bringing in enough nurses to balance supply and demand Difficult working conditions cause shortages only when the jobs do not pay enough to make workers willing to endure them.”); Bergmann, “Mystery Paper,” *supra* note 4, at 4 (“[D]ifficult working conditions do cause shortages, but only when jobs don’t pay enough to make workers endure them. There is no reason to believe that a sufficient increase in pay would not cut departures and increase intake to the nursing profession, as well as bring back some of the qualified people who have left it for other fields.”).

³² See KAMERSCHEN, *supra* note 2, at 680–81; RICHARD G. LIPSEY & PAUL N. COURANT, MICROECONOMICS 319 (11th ed. 1996) (noting that even in competitive labor markets, wages will differ depending on the non-monetary benefits of the job).

³³ See, e.g., SOLVING THE NURSING SHORTAGE, *supra* note 1, at 8–9:

If working in an ambulatory care setting seems less stressful and more satisfying than hospital nursing, hospitals could increase wages to compensate for differences in working conditions and draw more nurses into their workforces Physicians’ offices, for instance, may offer a lower risk of injury and more satisfying professional relationships than many staff nurses experience in hospitals. The fact that hospitals have not taken sufficient measures to improve working conditions or offer wages that compensate for them explains why the nursing shortage is worse in hospitals than elsewhere.

³⁴ In economics jargon, this can be called the investment elasticity of supply—the percentage change in the quantity of RN services supplied resulting from a one percent increase in RN investment. See generally DAVID R. KAMERSCHEN & LLOYD M. VALENTINE, INTERMEDIATE MICROECONOMIC THEORY 514 (Glossary) (2d ed. 1981) (defining “elasticity” as “[a] concept measuring the responsiveness of a dependent variable to a change in an independent variable”). Unfortunately, there appear to be few, if any, studies indicating the most efficient solutions.

³⁵ See generally HEALTH CARE’S HUMAN CRISIS, *supra* note 1, at 25; May, *supra* note 28, at W317–19.

faculty.³⁶ Short-term solutions include use of temporary nurses (who tend to have significantly higher hourly rates than full-time RN employees)³⁷ and tactics to lure RNs currently out of the RN workforce back in, to induce more RNs in the workforce to chose hospital employment, and to induce RNs working part time (which many RNs do)³⁸ to increase their hours of work, such as wage increases; better fringe benefits; signing, retention, and referral bonuses; and more flexible work schedules. Some commentators opine that “[t]he most obvious strategy is to offer higher wages to nurses.”³⁹

While increasing wages might be the most obvious strategy, whether it is the most efficient is a different question. The cost would be substantial,⁴⁰ and hospital operating margins, especially in

³⁶ Short-term solutions focus on inducing existing RNs to enter the workforce as RNs: “If we are interested in increasing the supply of RNs to help resolve the current shortage of nurses, any increase in supply will come initially from increasing the participation in the workforce from *current* RNs or, if they are already working, increasing the number of hours these already available RNs are willing to work (or both).” Buerhaus, *Recent Trends*, *supra* note 1, at 60; *see also* Buerhaus, *Dynamic Shortages*, *supra* note 19, at 320 (noting that short-term increases in the supply of hospital-employed RNs can come from three sources: (1) other employers of RNs, (2) inducing RNs not employed in nursing positions to choose nursing positions, and (3) increasing the number of hours that currently employed RNs work). Note that there are potential demand-side solutions as well, by substituting technology and other hospital personnel, such as nurses’ aides, where possible, for RN work, thus reducing the demand for RN services. *See generally* Buerhaus, *Economic Determinants*, *supra* note 20, at 1182.

³⁷ *See* Compl., ¶¶ 39, 47, *United States v. Ariz. Hosp. and Healthcare Ass’n*, No. CV07-1030-PHX (D. Ariz. May 22, 2007) (Antitrust Division complaint alleging hospitals pay temporary per diem and traveling nurses more than regularly employed RNs, not even accounting for additional amounts paid the temporary nurses’ agency employers); JCAHO REPORT, *supra* note 1, at 19 (“One Oregon hospital has paid hundreds of thousands of dollars a week in temporary nurse fees—at \$54 an hour per nurse, \$20 more per hour than a permanent employee, inclusive of benefits and taxes.”).

³⁸ *See* Buerhaus, *Economic Determinants*, *supra* note 20, at 1182 (“[N]early a third of employed RNs work on a part time basis.”).

³⁹ Bergmann, CHALLENGE, *supra* note 4, at 93 (“The basic reason for the nurse shortage comes right out of Economics 101: the wages of nurses are seldom high enough to induce a supply that is equal to the demand.”); Spetz & Given, *supra* note 1, at 199; *see also* SOLVING THE NURSING SHORTAGE, *supra* note 1, at 17 (“Higher wages and fair negotiation of compensation are the keys to solving the hospital nursing shortage.”).

⁴⁰ Bergmann, CHALLENGE, *supra* note 4, at 98 (“All the hospitals would have to match the salary raise to keep from losing nurses, so all of them would end up having considerably higher costs.”); *id.* at 102 (opining that increasing both the wages of current RNs and the number of RNs by ten percent would cost about \$18 billion or one percent of the current cost of medical goods and service but that the resulting increase in quality would be worth the cost); FELDMAN, *supra* note 1, at 405 (“[I]t is clear that an increase in staffing ratios will increase hospital costs. These increased costs will be passed on in the form of higher health insurance premiums, which will increase the number of uninsured since their insurance becomes too expensive.”); May, *supra* note 28, at W322 (“[F]uture shortages could create

recent years, have been thin, in large part because a substantial percentage of the reimbursement of most hospitals is fixed by Medicare and Medicaid, arguably only slightly above, at, or below the hospitals' costs. Moreover, many managed-care firms use Medicare and Medicaid reimbursement rates as benchmarks or focal-point prices in determining the prices they pay hospitals, which also tends to squeeze hospitals financially. Hospitals thus may be unwilling or unable to invest the requisite additional monies in RN staffing simply to avoid operating losses.⁴¹ It may be that they would willingly make the investment if the market, rather than government fiat and politics, played a larger role in determining the prices they obtain.⁴²

If low wages are a significant cause of the RN shortage,⁴³ an important question is the level of any wage increase (and the amount of time) necessary to alleviate the shortage. This depends in large part on the degree to which the quantity of RNs (or RN services) supplied responds to changes in wages (the "wage-elasticity of supply"). The more inelastic the supply of labor is, the less the quantity of labor supplied will increase in response to a given wage increase.⁴⁴ All else equal, the less elastic the supply of labor is, the

yet another round of rapid increases in labor costs, which ultimately are passed on to payers and consumers."); Hausfeld, *supra* note 4, at 19 ("[T]he marginal cost of hiring additional nurses may be high.") (citing Bergmann, "Mystery Paper," *supra* note 4, at 5).

⁴¹ Cf. JCAHO REPORT, *supra* note 1, at 34 ("Hospitals have few incentives to invest in nursing staff . . . [T]hey are paid the same whether, for instance, their medical/surgical nurse-to-patient ratios are one-to-four or one-to-ten. There are no incentives or even expectations built into the payment system—either through public or private payers—that encourage an optimal number of nurses."); SOLVING THE NURSING SHORTAGE, *supra* note 1, at 9 (noting that prospective payment and pressure from managed care introduced a new emphasis on cost containment); Buerhaus, *Dynamic Shortages*, *supra* note 19, at 326-27 ("[A] substantial wage increase will be required to result in short-run increases in RN supply. Due to hospitals' mounting financial pressures, and if demand for RNs continues to increase, it will be increasingly difficult for hospitals to afford to raise RN wages substantially."); Hausfeld, *supra* note 4, at 17 ("Hospitals across the country are confronted simultaneously with a struggle to remain profitable amidst rising health care costs and an ever-increasing emphasis on controlling those costs on the one hand, and a nursing shortage—with its accompanying potential for rising labor costs—on the other.").

⁴² Cf. JCAHO REPORT, *supra* note 1, at 35 ("[P]ublic and private payers need to align reimbursement policies with indices of adequacy of numbers of nurses and the quality of services they provide."); Spetz & Given, *supra* note 1, at 204 ("[R]eimbursements to facilities that employ RNs need to reflect the growing cost of RN labor.").

⁴³ RN earnings (adjusted for inflation) were flat between 1983 and 2000, but increased some 11.2 percent between 2000 and 2004. See *Projected Supply*, *supra* note 1, at 8; *Nurse Survey*, *supra* note 11, at 9. Since then, they appear to have stagnated. MOD. HEALTHCARE, June 4, 2007, at 35.

⁴⁴ The wage-elasticity of supply is "the percentage change in quantity supplied in response to a given small change in the [wage] . . . [T]he elasticity of supply is usually . . . positive." If a one percent increase in the wage level results in a greater-than-one percent increase in

less likely employers are to raise wages to alleviate a labor shortage because of the amount of the necessary wage increase.⁴⁵

As would be expected, the supply curve for RNs is upward sloping, indicating that higher wages do increase the quantity supplied of RN services.⁴⁶ Relatively few studies, however, quantify the relationship. One, published in 2003, estimates that RN wages, adjusted for inflation, would need to increase by between 3.2 and 3.8 percent per year from 2005 to 2016 to increase nursing graduation rates by 6.2 percent—the level necessary to obviate the nursing shortage by 2020.⁴⁷ Most studies find that RN wage-elasticity of supply is low,⁴⁸ especially in the short run,⁴⁹ indicating both that quan-

the quantity supplied, supply is said to be elastic. If the increase is less than one percent, supply is inelastic. DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 65 (4th ed. 2005); see also Buerhaus, *Dynamic Shortages*, *supra* note 19 at 317 (“In the field of labor economics the responsiveness between changes in labor supply resulting from changes in wages is termed the ‘wage elasticity of supply.’ It is formally defined as the percentage change in labor supply . . . resulting from a one percent change in wages.”).

⁴⁵ See, e.g., Buerhaus, *Dynamic Shortages*, *supra* note 19, at 318:

[I]t is apparent that the wage elasticity of supply plays an important role in explaining RN shortages. For example, if the supply curve is inelastic, then an increase in wages will result in only modest increases in [the quantity of labor supplied] as compared to the more substantial increase that would occur if supply was relatively elastic. Thus, if an employer believed that the relationship between hours worked and wages was . . . [inelastic], the employer may be hesitant to raise wages.

⁴⁶ SOLVING THE NURSING SHORTAGE, *supra* note 1, at 9. A wage increase can have two, opposite, effects on the quantity of labor supplied. On one hand, there is a substitution effect, inducing currently existing RNs to substitute more work time for leisure time, thus increasing the quantity of services supplied. On the other hand, there is an income effect, by which the higher income induces precisely the opposite effect—substitution of more leisure time for work time—thus reducing the quantity of RN services supplied. Because the substitution effect predominates, the supply curve for RNs slopes upward and to the right: “Many studies have been conducted to determine which effect is more powerful, with the majority concluding that the substitution effect dominates; raising wages is positively associated with increases in participation and hours worked.” Buerhaus, *Recent Trends*, *supra* note 1, at 61; see also Buerhaus, *Economic Determinants*, *supra* note 20, at 1184 (indicating that while the substitution effect dominates, the positive relationship between RN wages and hours worked was not strong).

⁴⁷ Spetz & Given, *supra* note 1, at 202.

⁴⁸ See, e.g., Buerhaus, *Recent Trends*, *supra* note 1, at 61 (“[M]ost studies find that this net effect [of a wage increase] is not very strong, meaning that it would take a very large wage increase to induce a moderate increase in either participation or hours worked.”) (citing studies); Buerhaus, *Dynamic Shortages*, *supra* note 19, at 323 (Based on 1984 data, Buerhaus finds a .49 elasticity of supply. The author also notes other studies of wage-supply elasticity.); Buerhaus, *Economic Determinants*, *supra* note 20, at 1192; V. Bhaskar, et al., *Oligopsony and Monopsonistic Competition in Labor Markets*, 16 J. ECON. PERSPECTIVES 155, 170–72 (2002); Daniel Sullivan, *Monopsony Power in the Market for Nurses*, 22 J. LAW & ECON. S135, S165 (1989); Douglas Staiger, et al., “Is There Monopsony in the Labor Market? Evidence From a Natural Experiment” 24 (NBER Working Paper No. 7258, Jul. 1999) (“[W]e find that the

tity of labor supplied would increase relatively little for a given increase in wages (or that a relatively large increase would be needed to have much effect on the shortage) and that it would take a relatively long time for wages to adjust upward by an amount necessary to alleviate the shortage.⁵⁰

One fact, however, seems clear: numerous studies and commentators have found, not surprisingly, a direct, positive relationship between hospital RN staffing levels and the quality of care that hospital patients receive.⁵¹ In addition, some commentators believe

labor supply curve facing an individual hospital is very inelastic—a ten percent increase in wages is estimated to increase labor supply by between zero and two percent.”).

⁴⁹Typically, supply is more elastic in the long-run than in the short run because suppliers (and potential suppliers) have time to adjust their decisions affecting supply. See generally ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 293 (6th ed. 2005). In RN markets, for example, if wages rise, more students would begin to choose nursing as a career, thus (assuming training programs are not capacity-constrained) increasing the supply of RNs in the long run.

⁵⁰See, e.g., Buerhaus, *Dynamic Shortages*, supra note 19, at 326 (“If the supply curve of RNs is relatively inelastic . . . [as this study showed], then shortages caused by demand increasing along a[n] inelastic supply curve will take longer to resolve (that is, the market reaction speed will be slower).”).

⁵¹See, e.g., JCAHO REPORT, supra note 1, at 5, 13 (“Where there is little disagreement is around the relationship between nurse staffing levels and patient outcomes . . . Spread too thinly or lacking the appropriate skill set, the nurse is at risk of missing early signs of a problem, or missing the problem altogether.”). JCAHO data also indicates that low staffing levels were a factor in twenty-four percent of “sentinel events” in the hospital—that is, “unanticipated events that result in death, injury, or permanent loss of function.” *Id.*; see also SOLVING THE NURSING SHORTAGE, supra note 1, at 17; Peter Buerhaus, et al., *Impact of the Nurse Shortage on Hospital Patient Care: Comparative Perspectives*, 26 HEALTH AFF. 853, 854 (2007) (“A growing body of research, based primarily on state and hospital administrative data, has established a relationship between inadequate hospital nurse staffing and increased risk of adverse patient outcomes, including mortality.”); Jack Needleman et al., *Nurse Staffing Levels and the Quality of Care in Hospitals*, 346 N. ENG. J. MED. 1715 (2002) (finding a positive relationship between several types of negative outcomes and hours of RN care provided to patients); Spetz & Given, supra note 1, at 199 (noting that several major studies have shown that reduced RN staffing correlates positively with increased patient mortality, post-surgical complications, hospital-acquired infections, and other negative outcomes); *Diagnosis: Critical—Immigration and the Nursing Shortage*, WALL ST. J., Sept. 12, 2007, at A18 (“When growers can’t find field hands, food rots and businesses lose money. But when hospitals can’t find nurses, patient care suffers.”).

No one doubts the correlation and causal relationship between RN staffing levels and quality. Rather, the question is how much “quality” is appropriate given its cost. It might be possible, at a prohibitively high cost, to decrease adverse events to near zero. But the marginal cost of doing so would likely be prohibitive, and measuring the marginal benefit would raise difficult ethical and methodological issues in measuring the values of human lives and morbidity. Thus, the level of quality provided results from the subjective judgments of providers (and those who pay for care) or from government or accreditation agency mandates having little to do with supply and demand, and thus little to do with the efficient functioning of the market.

that the shortage of RNs results in a less-than-optimal supply of hospital services because it constrains hospital capacity and thus reduces the volume of services the hospital can provide.⁵² One report argues that the decrease in cost from the fewer adverse hospital events resulting from higher staffing levels might offset the cost of the additional RNs.⁵³ Some states have attempted to solve this problem by taking the market out of the equation and setting minimum-staffing ratios by fiat through mandated minimum-staffing ratio laws.⁵⁴

Assuming that RN wages and the quantity of RN services purchased by hospitals are at sub-competitive levels, there are several possible explanations, some benign and some not. These include the likely better negotiating skills of hospitals than of RNs; job differentiation (that is, non-monetary job considerations that affect RN-job decision making more than wages do); lawfully obtained and exercised monopsony or oligopsony power of hospitals (i.e., the market power as buyers of those purchasing RN services);⁵⁵ unlawfully ob-

⁵² See JCAHO REPORT, *supra* note 1, at 6 (noting that the nursing shortage decreases the capacity of hospitals to treat patients); May, *supra* note 28, at W322; Buerhaus, *supra* note 51, at 857 (suggesting nursing shortage reduces the number of available beds, delays discharges, increases patients' waiting time for surgery, and results in discontinuation of hospital programs). And all else equal, the lower market output is, the higher the price will be.

⁵³ SOLVING THE NURSING SHORTAGE, *supra* note 1, at 16.

⁵⁴ See Landro, *supra* note 1, at D8. A problem with mandated-staffing-ratio laws is that only by coincidence will the mandated number of nurses hired equal the number that would be hired in a competitive market, almost guaranteeing some misallocation of resources and either subcompetitive or supracompetitive wages; see also FELDSTEIN, *supra* note 1, at 404-05 ("Minimum staffing ratios were mandated in California without any conclusive empirical evidence as to which RN ratios, either by type of nursing unit or type of patient, produces the best outcomes [I]t is uncertain as to what staffing ratio in different hospital departments would produce an increase in patient outcomes.").

⁵⁵ Literally speaking, a monopsony "is a market in which there is only one buyer; it is to the buying side what monopoly is to the selling side." LIPSEY & COURANT, *supra* note 32, at 324; PINDYCK & RUBINFELD, *supra* note 49, at 364 ("Monopsony refers to a market in which there is a single buyer."); see also *Weyerhaeuser Co. v. Ross-Simmons Hardware Lumber Co.*, 127 S.Ct. 1069, 1075 (2007) ("Monopsony power is market power on the buy side of the market As such, a monopsony is to the buy side of the market what a monopoly is to the sell side and is sometimes called a 'buyer's monopoly.'"). For an in-depth discussion of monopsony, see ROGER D. BLAIR & JEFFREY H. HARRISON, *MONOPSONY: ANTITRUST LAW & ECONOMICS* (1993).

An oligopsony is a buyer-side market structure in which there is small number of purchasers that buy a large percentage of the total market supply of the product or service in question. See generally ARTHUR A. THOMPSON, JR., *ECONOMICS OF THE FIRM* 583 (2d ed. 1977) ("If only a few firms are the predominant purchasers of the input, the resource market is designated as *oligopsony*."). These buyers are able to increase their buyer-side market power when they coordinate their purchasing decisions. The term "monopsony power" is

tained and exercised monopsony or oligopsony power resulting, for example, from collusion among employers about wages⁵⁶ or unlawful mergers of significant purchasers of RN services, such as hospitals;⁵⁷ capacity-constrained RN education programs;⁵⁸ significant lag times between the time a shortage occurs and the time supply actually increases; gender discrimination; or some combination of these.

A number of commentators have suggested that hospitals do have a significant degree of monopsony or oligopsony power in the market for RN services.⁵⁹ If so, the result would be an equilibrium-

frequently used generally to refer to any degree of buyer-side market power. *See generally infra* Section IV(A) for a more detailed discussion.

⁵⁶ *See* Bergmann, CHALLENGE, *supra* note 4, at 99–100; Sullivan, *supra* note 48, at S137 (noting one commentator’s belief that “most metropolitan hospital associations had in place ‘wage-standardization’ programs that were tantamount to collusive agreements”); *see also* FELDSTEIN, *supra* note 1, at 400 (“Prior to 1966, hospitals acted as a cartel in setting RN wages.”). Feldstein concludes that prior to the introduction of Medicare cost-based reimbursement in 1966, hospitals colluded to set RN wages below the competitive equilibrium. Medicare cost-based reimbursement eroded the hospitals’ incentive to restrain RN wages because they were directly reimbursed for their nursing costs. He also concludes that recurrent RN shortages since 1966 have been short-term “dynamic” shortages that the normal workings of the market have solved. *Id.* at 400–05.

⁵⁷ *Cf.* United States v. UnitedHealth Group, Inc., 2006-1 Trade Cas. (CCH) ¶ 75,255 (D.D.C. 2006) (consent decree and competitive impact statement resulting from Antitrust Division challenge to managed-care firm merger, alleging that merger would increase health plans’ monopsony power over physicians in contracting, resulting in lower, noncompetitive reimbursement, and potentially lower quality services); United States v. Aetna, Inc., 1999-2 Trade Cas. (CCH) ¶ 72,730 (N.D. Tex. 1999) (same). Thus far, no hospital merger has been challenged on the ground that it would result in a monopsonistic or oligopsonistic market for RN services.

⁵⁸ *See supra* note 25.

⁵⁹ *See* FELDSTEIN, *supra* note 1, at 414 (“[M]onopsony and oligopsony market structure is an additional explanation of the existence of nurse vacancy rates and why hospitals claimed there was a shortage of nurses. Hospitals will demand more RNs than will be supplied at the going wage rate. Hospitals will therefore report RN vacancies and claim there is a shortage.”); YETT, *supra* note 1; Richard W. Hurd, *Equilibrium Vacancies in a Labor Market Dominated by Non-Profit Firms*, 55 REV. OF ECON. & STAT. 234, 234 (1973) (“A significant negative relationship is demonstrated between the wages of nurses and concentration in the hospital sector.”; “the high vacancy rates for nursing positions result in part from an oligopsonistic market structure.”); *id.* at 239 (“[I]t can be concluded that monopsony power is exerted in the labor market for nurses in order to hold wages down. This fact is most clearly demonstrated by the consistent negative relationship between the earnings of nurses and the concentration ratio for the hospital sector of the market.”); Sullivan, *supra* note 48, at S135 (“The market for hospital nurses is literally *the* textbook example of monopsony in the labor market.”). Sullivan also explains study results suggesting “that hospitals have very substantial monopsony power in the short run and that even over a longer time horizon may exercise significant market power.” *Id.*; Staiger, *supra* note 48, at 3–4 (“The RN labor market is a popular textbook example of monopsony power Our empirical results are consistent with the presence of monopsony power in the RN labor market, generated by geographic differentiation between hospitals.”).

wage rate for RNs below the competitive-wage equilibrium and a “shortage” in the sense that fewer RN services are employed than at the competitive equilibrium or than the hospitals wish to hire.⁶⁰ This, by itself, is a far cry, however, from proof of an antitrust violation because just as the mere existence, and even the exercise, of market power by sellers in charging supracompetitive prices for their output violates no antitrust law if the sellers obtained their market power lawfully,⁶¹ neither do purchasers violate the antitrust laws when they exercise lawfully obtained market power by purchasing inputs at sub-competitive prices.⁶² The thrust of the Nurse Wages Antitrust Litigation, however, is that the defendant hospitals not only have—and exercised—monopsony power by paying RNs sub-competitive wages, but that they acquired that power as a group through agreements violating section 1 of the Sherman Act.

III. THE NURSE WAGES ANTITRUST LITIGATION

The six Nurse Wages Antitrust Litigation class-action complaints, filed in five different cities, are almost identical. The Third Amended Complaint in the Chicago *Reed v. Advocate Health Care* case appears slightly more detailed than the other complaints and is cited as a common reference throughout this article.⁶³ All the NWAL complaints contain two counts, each count alleging a violation of section 1 of the Sherman Act. Count I alleges that the defendant hospitals participated in an unlawful wage-fixing conspiracy by agreeing on the wages they paid RNs and agreeing not to raise wages as the market otherwise would dictate in response to the RN shortage. Count II alleges an analytically distinct unlawful agreement with the same effect—an agreement among the hospitals to exchange information about RN wages, which resulted in lower wages than otherwise would have prevailed in the markets. Signifi-

⁶⁰ See FELDSTEIN, *supra* note 1, at 414 (“In monopsony or oligopsony markets, high vacancy rates will persist, and hospitals will not be able to hire all of the nurses they want at the going wage, *even though the market is in equilibrium.*”).

⁶¹ *E.g.*, *Verizon Commc’n, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004).

⁶² *E.g.*, *Austin v. Blue Cross & Blue Shield*, 903 F.2d 1385, 1390 (11th Cir. 1990). See generally BLAIR & HARRISON, *supra* note 55, at 64 (“As a matter of legal interpretation, it has been clear for some time that merely charging a monopoly price is not an abuse of monopoly power. Now the same reasoning has been applied to the use of monopsony power . . .”).

⁶³ Third Amended Compl., *Reed v. Advocate Health Care*, No. 06 C 3337 (N.D. Ill. filed Feb. 27, 2007) [hereinafter *Reed Am. Compl.*].

cantly, each complaint alleges, in boilerplate language, that other, unidentified area hospitals, not named as defendants, also participated in the alleged conspiracies. The plaintiffs exclude as alleged co-conspirators “any federal, state, county or municipal entities.”⁶⁴

Each complaint delineates its alleged class as “[a]ll persons employed by any defendant or co-conspirator to work in a hospital in the . . . area as an RN” during the four-year period preceding the complaint’s filing.⁶⁵ The complaints provide no estimate of the size of the classes or the amounts by which the plaintiffs were allegedly underpaid.⁶⁶ They allege that the unlawful agreements “occurred in the context of a national nursing shortage” and that, absent the conspiracy, area hospitals would have responded to the shortage by “substantially increasing RN compensation.”⁶⁷ They cite high RN vacancy rates (without specifying those rates) at area hospitals as evidence that the hospitals are not paying RNs a competitive wage.⁶⁸

The plaintiffs allege five acts by the hospitals in furtherance of the wage-fixing conspiracies: (1) regularly exchanging detailed, non-public data about the current and future compensation that each hospital pays, or will pay, its RNs; (2) agreeing not to compete against one another in setting RN compensation; (3) agreeing not to hire one another’s RNs by offering them higher wages; (4) paying RNs identical or near-identical wages; and (5) jointly recruiting new RNs at job fairs to avoid competing for their services.⁶⁹

Providing more detail, the plaintiffs claim that the defendants’ officials regularly telephoned one another to determine the wages that each hospital was paying RNs and that the hospitals evaluated their human-resources personnel based in part on their ability to

⁶⁴ *E.g.*, Reed Am. Compl., *supra* note 63, ¶ 16. The inclusion of other hospitals as co-conspirators is significant because the larger the aggregate market share of the hospitals participating in the alleged conspiracies, the more likely they have market power and thus could depress RN wages. On the other hand, the greater the number of participants in an alleged conspiracy, the more difficult it is for them to coordinate their actions, and thus the less likely that the market performs as an oligopsony.

⁶⁵ Reed Am. Compl., *supra* note 63, ¶ 17. The statute of limitations for recovering damages in federal antitrust cases is four years. 15 U.S.C. § 15b (2000).

⁶⁶ Plaintiffs’ counsel’s website, however, claims that the underpayment per RN per year was \$6,200 in Albany, \$5,000 in Chicago, \$5,000 in Detroit, \$1,300 in San Antonio, and \$14,000 in Memphis. Cohen, Milstein, Hausfeld & Toll, P.L.L.C. website, http://www.cmht.com/cases_nursewages.NYT0662106.php and http://cmht.com/PR_120906.php (last visited Aug. 22, 2007).

⁶⁷ Reed Am. Compl., *supra* note 63, ¶ 3.

⁶⁸ *Id.*

⁶⁹ *Id.* ¶ 30.

coordinate RN compensation with their competitors.⁷⁰ In addition, several hospitals allegedly conducted informal surveys of the wages that other hospitals were paying RNs, and hospital employees allegedly exchanged wage information at various nursing job fairs.⁷¹ The hospitals allegedly exchanged RN wage information through meetings of several local associations including, in Chicago, the Chicago Health Executives Forum, the Human Resources Association of Chicago, the Chicago Chapter of the American Society for Healthcare Human Resources Administration, and the Metropolitan Chicago Healthcare Council, the last of which allegedly posted RN wage surveys and wage-benchmarking data on its website.⁷² Although that data was blinded, the complaint alleges that the hospitals could easily disaggregate the data and thus identify the individual data of particular hospitals.⁷³

Count I of each complaint alleges that the defendant hospitals engaged in an unlawful “wage-fixing” agreement—that the hospitals actually agreed on certain facets of their RN compensation—a per se, or automatic, violation of section 1 of the Sherman Act unless part of a larger, efficiency-enhancing effort, such as a joint venture.⁷⁴ Count II alleges that the hospitals exchanged and discussed, as described above, information about their RN compensation—that the “defendants and their co-conspirators . . . engaged in a continuing agreement to regularly exchange detailed and non-public information about the compensation being paid or to be paid to their RN employees” and that their agreement “reduced competition among [area] hospitals in compensation of their RN employees and . . . depressed the compensation of such employees.”⁷⁵ As discussed below, the rule-of-reason standard applies in determining whether the conduct alleged in Count II would violate section 1 by unreasonably restraining competition,⁷⁶ and thus the complaints allege relevant

⁷⁰ *Id.* ¶ 32.

⁷¹ *Id.* ¶¶ 33–34.

⁷² Reed Am. Compl., *supra* note 63, ¶ 36.

⁷³ *Id.*

⁷⁴ *Id.* ¶¶ 1, 42–45. Certain limited types of agreements with obvious anticompetitive effects, such as price-fixing agreements among competing buyers or sellers, that have no significant plausible procompetitive justification are “per se,” or automatically, unlawful; *see infra* text accompanying notes 127–33. *See generally* 1 ABA SECTION OF ANTITRUST LAW, ANTITRUST LAW DEVELOPMENTS 49–55, 81–90 (6th ed. 2007).

⁷⁵ Reed Am. Compl., *supra* note 63, ¶ 47.

⁷⁶ *See infra* Section IV.C.

markets in which to assess the effect on competition of the wage-exchange agreements.⁷⁷

Each complaint alleges a relevant product market defined as “the services provided to hospitals by RN employees.”⁷⁸ Accordingly, the complaints exclude from their definitions of the relevant product market non-RNs who may perform some of the same functions as RNs (such as licensed practical nurses and nurses’ aids) and, more controversially, RN services provided to employers other than hospitals, such as physicians’ offices, ambulatory-care facilities, and other non-hospital employers. This limitation is likely to be a major issue in the cases, although, as discussed below, the complaints allege several facts that support the limitation.⁷⁹ The plaintiffs’ definition of the relevant product markets does not distinguish between RNs serving in different capacities within the hospitals—for example, operating room, floor, and ICU nurses. Nor does it distinguish between supervisory and non-supervisory RNs; between those serving the hospital in administrative and clinical functions; or between RNs working in different types of hospitals, such as general acute-care, children’s, rehabilitation, psychiatric, and specialty hospitals. Differences between these types of RNs may affect the class-certification issue because they may raise different fact issues under the commonality requirement of Rule 23(a)(2).⁸⁰

Probably less controversial, but also likely to be challenged, are the plaintiffs’ definitions of the relevant geographic markets, alleged generally as the local areas surrounding the conspiring hospitals.⁸¹ It may be, for example, that RNs are more mobile than the

⁷⁷ The rule of reason requires that the plaintiff prove that the agreement had (or will have) an actual, significant anticompetitive effect and thus usually requires proof of a “relevant market” in which this effect occurs and is measured. See generally ANTITRUST LAW DEVELOPMENTS, *supra* note 63, at 56, 65–68.

⁷⁸ Reed Am. Compl., *supra* note 74, ¶ 49 (emphasis added).

⁷⁹ See *infra* text accompanying notes 225–27.

⁸⁰ FED. R. CIV. P. 23(a)(2); see Defendants’ Opposition to Plaintiffs’ Motion for Class Certification at 1-2, 9-12, Maderazo v. VHS San Antonio Partners, L.P., No. 5:06-cv-00535-OLG (W.D. Tex. Nov. 11, 2006), raising this argument.

⁸¹ See Reed Am. Compl., *supra* note 63, ¶ 49. In the Chicago cases, the alleged relevant geographic market is the “Chicago area,” described as “the Chicago-Naperville-Joliet, IL-IN-WI Metropolitan Statistical Area”; in the San Antonio case, it is the “San Antonio MSA,” described in the complaint as San Antonio and “the immediately surrounding towns and cities” and in Plaintiffs’ Memorandum, *supra* note 6, at 4 n.3, as eight counties; in the Detroit case, it is the “greater Detroit MSA,” consisting of “the Detroit-Warren—Livonia Metropolitan Statistical Area”; in the Memphis case, it is the “Memphis MSA,” described as three Tennessee counties and “neighboring counties in Arkansas and Mississippi”; and in the Albany case, it is “the Albany-Schenectady-Troy Metropolitan Statistical Area.”

complaints allege, particularly entry-level RNs, who have not “laid down stakes” in a particular community, and thus that the relevant geographic market is broader than merely the locality in question. And there could be different relevant geographic markets for different classifications or types of RNs if the geographic scope of their job alternatives are significantly different.⁸² The complaints’ allegations of the relevant geographic markets, however, are both plausible and adequately supported.

The complaints request the usual relief in civil-antitrust actions: a declaration that the conduct violates section 1, treble damages, post-judgment interest, attorneys fees and costs, and “such other relief deemed proper by the court,” which presumably would include injunctive relief.⁸³

IV. ANALYZING THE ANTITRUST ISSUES

Both counts in the NWAL complaints allege violations of section 1 of the Sherman Act, which broadly prohibits (1) every agreement or type of concerted action (2) that unreasonably restrains competition.⁸⁴ Accordingly, the plaintiffs must first prove that the challenged conduct resulted from agreements rather than from the defendants’ independent, unilateral actions.⁸⁵ Then the plaintiffs must prove that those agreements unreasonably restrained competi-

⁸² Generally speaking, the relevant geographic market includes the area in which the hospitals operate and the more distant areas (if any) to which RNs would turn for jobs in sufficient numbers to prevent those hospitals from decreasing wages because they would lose too many RNs. See generally BLAIR & HARRISON, *supra* note 55, at 56:

Geographic market definition . . . requires a search for outlets [for RN services] that could be regarded as reasonable geographic substitutes. The relevant question is whether [RNs] can [switch] to users outside the local geographic area where [wages] are depressed. If so, those distant buyers should be regarded as part of the relevant geographic market . . . [T]he distant buyers provide a way for [area RNs] to avoid taking the lower [wage] offered by the local buyer.

⁸³ Reed Am. Compl., *supra* note 63, Prayer for Relief.

⁸⁴ 15 U.S.C. § 1 (Supp. IV 2004). The defendants in the Memphis case filed a motion to dismiss for failure to state a claim, which was denied on May 17, 2005; see Order Denying Defendants’ Motion to Dismiss and Deny as Moot Defendants’ Motion to Stay Discovery, Clarke v. Baptist Mem’l Healthcare, No. 06-2337 Ma/V (W.D. Tenn. May 17, 2007). Courts in the Albany and one of the Chicago cases denied motions for summary judgment, based on the labor exemption to the antitrust laws, filed by one hospital in each case whose RNs are unionized. See Tr. of Proceedings, Unger v. Albany Med. Ctr., No. 06-cv-765 (N.D.N.Y. Dec. 11, 2006); Reed v. Advocate Health Care, 2007-1 Trade Cas. (CCH) ¶ 75,667 (N.D. Ill. 2007) (denying motion of University of Chicago Hospitals).

⁸⁵ E.g., Fisher v. City of Berkeley, 475 U.S. 260, 266 (1986) (“[T]here can be no liability under § 1 in the absence of an agreement.”).

tion, either because they are per se, or “automatically,” unlawful⁸⁶ or because, under rule-of-reason analysis, the agreements resulted in anticompetitive effects significantly outweighing any procompetitive benefits.⁸⁷ The plaintiffs’ burden is dramatically different under the two standards, and this distinction is crucial because the per se rule applies to the allegations of Count I—a naked wage-fixing agreement—while the rule of reason applies to those of Count II.⁸⁸ Each count alleges, at least implicitly, that the defendant hospitals obtained and exercised monopsony or oligopsony power in the market for hospital-employed RN services—in Count I by explicit collusion and in Count II by tacit collusion.⁸⁹ Accordingly, a basic understanding of these buyer-side market characteristics is important in applying the relevant antitrust legal principles.

A. Monopsony and Oligopsony Power

Unlike the Nurse Wages Antitrust Litigation, most antitrust cases focus on alleged unlawful actions of sellers to restrain competition by exercising market power in selling their output.⁹⁰ To maximize its profit, a seller (or group of sellers acting jointly) with market power increases its price above the competitive level by reducing its output below the competitive level, thus decreasing supply.⁹¹ Resources are misallocated and inefficiency results because output would have been greater at the competitive price. Some customers who would have purchased the product or service at the

⁸⁶ A per se unlawful agreement constitutes an unreasonable restraint of competition, and thus a violation of section 1, as a matter of law. In effect, the agreement is conclusively presumed unlawful without any proof of its actual or likely effect on competition or any consideration of the defendants’ purported justifications for the agreement. *E.g.*, *FTC v. Superior Court Trial Lawyers Association*, 493 U.S. 411 (1990); *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 1, 9 (1984); *Ariz. v. Maricopa County Med. Soc’y*, 457 U.S. 332, 344 (1982).

⁸⁷ *E.g.*, *Paladin Assocs., Inc. v. Mont. Power Co.*, 328 F.3d 1145, 1156 (9th Cir. 2003) (explaining that the court “determines whether the anticompetitive aspects of the challenged practice outweigh its procompetitive effects”).

⁸⁸ See *infra* notes 128–33, 190–93 and accompanying text.

⁸⁹ “Tacit collusion” occurs when firms “coordinate their actions despite the lack of an explicit cartel agreement.” CARLTON & PERLOFF, *supra* note 44, at 187. “Tacit collusion,” as used in this article, means interdependent action absent an agreement that would satisfy the concerted-action requirement of section 1 of the Sherman Act.

⁹⁰ “The term ‘market power’ refers to the ability of a firm (or a group of firms, acting jointly) to raise price above the competitive level without losing so many sales so rapidly that the price increase is unprofitable and must be rescinded.” William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 937 (1981).

⁹¹ See generally LAWRENCE A. SULLIVAN & WARREN S. GRIMES, *THE LAW OF ANTITRUST: AN INTEGRATED HANDBOOK* § 2.3 (2006).

lower competitive price do not obtain a product or service they desire because of its supracompetitive price.⁹² In addition, there is a wealth-transfer effect—from consumers to the seller—as consumers who do purchase the product or service must pay more for it than they would in a competitive market.⁹³

The Nurse Wages Antitrust Litigation, however, focuses on alleged agreements among buyers to restrain competition in the purchase of an input—RN services used in the production of hospital services.⁹⁴ The adverse effects of buyer-side market power, or monopsony power, are analogous to those of seller-side monopoly power; indeed, some commentators refer to monopsony power as the “mirror image” or the “demand side analog of monopoly.”⁹⁵ The purchaser (or group of purchasers working together, although not necessarily in an unlawfully collusive manner) maximizes its profits by restricting the amount of the input it purchases by decreasing the price it pays, just as the seller with market power maximizes its profits by increasing the price of its output through restricting supply.⁹⁶ In each case, resource misallocation and wealth transfers re-

⁹² See generally HOVENKAMP, *supra* note 8, § 1.2a, at 12–13; § 1.3, at 18–20.

⁹³ *Id.*

⁹⁴ The more frequently heard complaints about monopsony power in the health care sector are complaints from physicians that managed-care plans, particularly through mergers, have obtained and exercise monopsony power in their contracting with physicians, driving down physician reimbursement. Accordingly, they argue both that the Antitrust Division should exercise more oversight over health-plan mergers and that the antitrust laws should permit them to bargain collectively with health plans through physician unions and provider-contracting networks, such as provider-controlled independent practice associations and preferred-provider organizations. See generally Roger D. Blair & Jill Boylston Herndon, *Physician Cooperative Bargaining Ventures*, 71 ANTITRUST L.J. 989 (2004); Am. Med. Ass'n, *Competition in Health Insurance: A Comprehensive Study of U.S. Markets* (2005).

⁹⁵ HOVENKAMP, *supra* note 8, § 1.2b, at 14 (“mirror image of monopoly power”); Laura Alexander, Note, *Monopsony and the Consumer Harm Standard*, 95 GEO. L.J. 1611, 1613, 1616–17 (2007); Roger D. Blair & Jeffrey L. Harrison, *Antitrust Policy and Monopsony*, 76 CORNELL L.REV. 297, 301 (1991) (“demand side analog” of monopoly); see also U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *Horizontal Merger Guidelines* § 0.1 (1992, as amended 1997), 4 Trade Reg. Rep. (CCH) ¶ 13,104 (“Market power also encompasses the ability of a single buyer (a ‘monopsonist’) to depress the price paid for a product to a level that is below the competitive price and thereby depress output. The exercise of market power by buyers (‘monopsony power’) has adverse effects comparable to . . . the exercise of market power by sellers.”). For a helpful discussion of monopsony in the context of health care antitrust analysis, see Thomas R. McCarthy & Scott J. Thomas, “Analyzing Monopsony in Health Care Matters,” Prepared Text Presented Before the ABA Antitrust Section of Antitrust Law Spring Meeting (Apr. 19, 2007).

⁹⁶ See *Weyerhaeuser v. Ross-Simmons Hardward Lumber Co.*, 127 S.Ct. 1069, 1075 (2007) (explaining that a firm with monopsony power “will seek to ‘restrict its input purchases below the competitive level,’ thus ‘reducing the unit price for the remaining inputs it purchases’” (quoting Steven A. Salop, *Anticompetitive Overbuying by Power Buyers*, 72 ANTI-

sult.⁹⁷ Resource misallocation, and thus economic inefficiency, results from monopsony because less of the input is produced and used than would result at a competitive equilibrium, and providers of the input, willing to sell their product at the competitive price, are unwilling to do so at the monopsony price.⁹⁸ The wealth transfer is from input sellers to the purchaser as sellers of the input receive a sub-competitive price.⁹⁹ It is unprofitable, however, for the monopsony purchaser to buy more of the input because the marginal cost of an additional unit of input would exceed the input's value to the purchaser.¹⁰⁰ So purchasing more of the input would be economi-

TRUST L.J. 669, 672 (2005)); *see also* FED. TRADE COMM'N & U.S. DEP'T OF JUSTICE, IMPROVING HEALTH CARE: A DOSE OF COMPETITION, Ch. 6, at 13 (2004) ("A buyer has monopsony power when it can profitably reduce prices in a market below competitive levels by curtailing purchases of the relevant product or services."); HOVENKAMP, *supra* note 8, § 1.26, at 14 ("By reducing its demand for a product, the monopsonist can force suppliers to sell to it at a lower price than would prevail in a competitive market."); Jonathan M. Jacobson & Gary J. Dorman, *Joint Purchasing, Monopsony and Antitrust*, 36 ANTITRUST BULL. 1, 4 (1991) (explaining that monopsony power is "the ability of a buyer to reduce the price of a purchased item (usually an input) below the competitive level by restricting its purchases of the item").

⁹⁷ *See generally* PINDYCK & RUBINFELD, *supra* note 49, at 368–70 & Fig. 10.17; Alexander, *supra* note 95, at 1613 ("In monopoly and monopsony, the quantity of goods transacted decreases and wealth is transferred to the parties with market power."), 1615–17.

⁹⁸ BLAIR & HARRISON, *supra* note 55, at 39; *see also* Mark V. Pauly, *Managed Care, Market Power, and Monopsony*, 33 HEALTH SERV. RESEARCH 1439, 1457 (1998) ("[T]here is no doubt that true monopsony . . . reduces economic efficiency."); Roger D. Blair & Jeffrey L. Harrison, *Cooperative Buying, Monopsony Power, and Antitrust Policy*, 86 NW. U. L. REV. 331, 333 (1992) ("The economic objection to monopsony is that the exercise of this buying power results in social welfare losses because the monopsonist buys too little.").

⁹⁹ "[I]n monopoly, wealth is transferred from end consumers to output sellers (or from input buyers to input sellers), but in monopsony, wealth is transferred from input sellers to input buyers (or from output sellers to consumers)." Alexander, *supra* note 95, at 1617.

¹⁰⁰ As a theoretical matter, a firm purchases an input just up to the point at which its marginal expenditure for an additional unit of the input—the marginal factor cost—equals the marginal value of (or marginal revenue from) that unit of input. *See* PINDYCK & RUBINFELD, *supra* note 49, at 366–68.

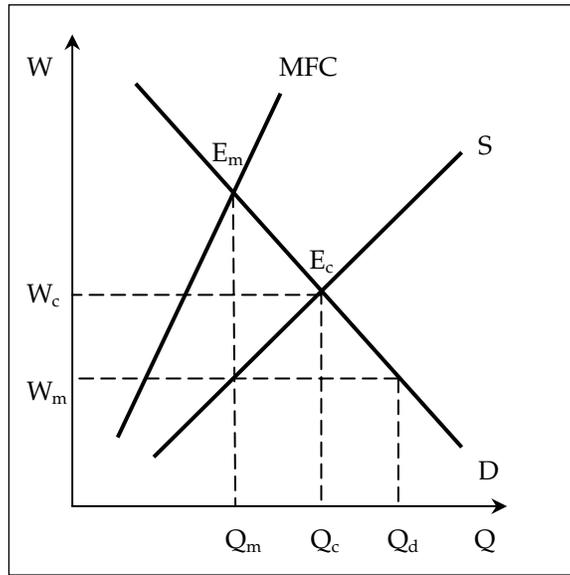
cally irrational.¹⁰¹ The problem is illustrated graphically in Figure 2 below.¹⁰²

There is a “shortage” only in the sense that less of the input is employed than if the input market were competitive and that hospitals cannot purchase the volume of RN services they demand at the

¹⁰¹ See BLAIR & HARRISON, *supra* note 55, at 39; PINDYCK & RUBINFELD, *supra* note 49, at 364–67.

¹⁰²

FIGURE 2



PAUL J. FELDSTEIN, HEALTH CARE ECONOMICS 414, Fig. 16-7 (6th ed. 2005).

In a competitive market for RN services, the competitive equilibrium is E_c , the intersection of the supply (S) and demand (D) curves. Hospitals purchase RN services up to the point at which the marginal factor cost (which, in competitive markets, is the supply curve) of an additional unit of RN services equals the marginal value of that service to the hospitals (here, shown by the demand curve). Hospitals in a perfectly competitive market for RN services would buy Q_c of RN services, paying each unit a wage of W_c . The hospital (or hospitals) in a monopsonistic (or oligopsonistic) market also will buy RN services only up to the point at which marginal factor cost equals the marginal value of the additional input. But in a monopsonistic or oligopsonistic market, the marginal factor cost curve (MFC) lies above the supply curve because, in order to obtain additional RN services, the hospitals must pay a higher wage not only to the marginal RN, but also to each already-hired RN. Hence, the monopsony equilibrium is E_m again at the point where marginal factor cost equals marginal value. At this equilibrium, reading from the supply curve, hospitals will pay a wage of only W_m , and, at this wage, RNs are only willing to supply Q_m of nursing services. But at this wage, hospitals wish to purchase Q_d of RN services, and thus they perceive a shortage of Q_d minus Q_m . Purchases of RN services are Q_c minus Q_m less than they would be if the market were competitive. The per unit wealth-transfer from RNs to hospitals equals W_c minus W_m .

prevailing wage rate. The input market is in an equilibrium but not the competitive-market equilibrium.¹⁰³

Importantly, that a purchaser is able to pay a “low price” for an input does not necessarily mean that it has monopsony power. A low price might result from negotiating skills or efficiencies in purchasing, resulting, for example, from a lawful merger of purchasers.¹⁰⁴ The key indication of monopsony power is a restriction of the amount of the input purchased below the competitive-equilibrium amount. If the amount of the input purchased (or the purchaser’s output) expands from its depressing the price of the input, the cause of the input-price decrease is not monopsony power.¹⁰⁵ But “if the quantity of inputs (supplied under conditions of increasing long-run marginal cost) declines, monopsony is present.”¹⁰⁶

For monopsony power to exist, (1) the purchaser (or purchasers acting jointly) must have a large market share of purchases (i.e., few alternative buyers exist to which input sellers can turn to sell their products or services); (2) the supply curve for the product or service must be upward-sloping (that is, supply is not perfectly elastic, also indicating limited alternative purchasers); (3) there must be entry barriers that deter potential new purchasers from entering the market (or reason to believe new purchasers would not enter the market in response to a decrease in the input’s price); and (4) other purchasers must not significantly increase their purchases of the input (that is, the price-elasticity of fringe demand must be low).¹⁰⁷

¹⁰³ See FELDMAN, *supra* note 1, at 414.

¹⁰⁴ See generally Marius Schwartz, Econ. Dir. of Enforcement, Antitrust Division, “Buyer Power Concerns and the Aetna/Prudential Merger,” Prepared Remarks Before the 5th Annual Health Care Antitrust Forum, Northwestern School of Law (Oct. 20, 1999), *reprinted in* 4 JOHN J. MILES, HEALTH CARE & ANTITRUST LAW App. E91 (Supp. 2007).

¹⁰⁵ *Id.* at pp. E91-4-5 (“If lower input prices are due to efficiencies, the decrease in the firm’s costs induces it to expand its output and lower price, an effect which is positive for consumers.”).

¹⁰⁶ Pauly, *supra* note 98, at 1439, 1445, 1451.

¹⁰⁷ BLAIR & HARRISON, *supra* note 55, at 52-53; see also *id.* at 60 (“When market share is large, supply is relatively inelastic, and fringe demand is also relatively inelastic, then one can be quite confident that [monopsony power] is large.”); PINDYCK & RUBINFELD, *supra* note 49, at 368-69 (“Monopsony power depends on . . . [t]he elasticity of supply, the number of buyers in the market, and the way those buyers interact [i.e., the degree of aggressiveness of competition among them for the input].”); FED. TRADE COMM’N & U.S. DEP’T OF JUSTICE, IMPROVING HEALTH CARE: A DOSE OF COMPETITION, Ch. 6, at 17 (2004) (listing as requirement for monopsony power: (1) a large purchaser market share, (2) an upward-sloping supply curve, and (3) the inability or unwillingness of new purchasers to enter the market or current purchasers to increase their purchases); McCarthy & Thomas, *supra* note 95, at 6-11 (listing eight conditions: (1) a large share of total market purchases, (2) significant purchaser entry and expansion barriers, (3) no countervailing seller-side market power, (4)

At first glance, it might seem that a firm's monopsony power over its input suppliers (e.g., RNs) would ultimately benefit consumers by permitting the purchaser to pass-on some of the benefit of its lower input costs to its customers through lower prices for its output (e.g., hospital services). Rarely will this happen, however, because, if the purchaser has monopsony power, it will buy less of the input and thus produce less output. If the purchaser sells its output in a competitive market, its monopsony power will not affect the price of its output because it is a price-taker and cannot affect the market output price; its competitors will make up the difference. But the amount of its output will be lower than the competitive-output level unless it substitutes less efficient inputs for the monopsonized input so that its output remains unchanged, and this substitution of inferior inputs results in resource misallocation. On the other hand, if the purchaser has market power in its output market, it does have some power over price and, given its lower output because of its restricted input purchases, price will rise above the competitive level.¹⁰⁸ Accordingly, it is a mistake to assume, as some

immobile purchasers, (5) significant costs in sellers switching to different purchasers, (6) identical prices to all sellers, (7) sub-competitive prices, and (8) sub-competitive levels of purchases).

¹⁰⁸ HOVENKAMP, *supra* note 8, § 1.2b, at 15:

The monopsonist reduces its buying price by *reducing* the amount of some input that it purchases. If the input is used in the output in fixed proportions, then the output must be reduced as well. This suggests two things: (1) the monopsony buyer that resells in a competitive market will charge the same price, but its output will be lower than if it were a competitive purchaser; (2) the monopsony buyer (or cartel) that resells in a monopolized (or cartelized) market will actually charge a *higher* price than if it were a competitive purchaser.

See Alexander, *supra* note 95, at 1617–18:

Although the monopsonist secures his inputs at a lower price, he does so by reducing the quantity he buys. Since he buys fewer inputs, he produces fewer outputs. Depending on the structure of the downstream market, this more limited output may or may not cause the price charged to consumers to increase. For instance, if the monopsonist is just one of the many firms selling in the downstream market, other firms may make up for his decreased output, and the quantity and price of goods sold might be unaffected. On the other hand, if he also has market power as a seller, his decreased output will lower the total quantity of goods transacted and lead to higher consumer prices. The best case scenario for the consumer, at any rate, is that the output price stays the same, which will occur if the downstream market is perfectly competitive.

See also BLAIR & HARRISON, *supra* note 55, at 39–42; Pauly, *supra* note 98, at 1449 (noting the “counterintuitive result” in the case of a “monopolizing monopsonist”). Pauly also explains that “although monopsony depresses the unit price paid to suppliers, it leads to an increase . . . in the price charged for the final product.” *Id.*

courts have,¹⁰⁹ that the antitrust laws should be more hospitable to buyer-side market power than to seller-side power because the former results in lower ultimate prices to consumers.¹¹⁰

Similar to monopsony, oligopsony is an input market (e.g., a labor market) structure in which there is a small number of purchasers (but more than one), each of which recognizes that its individual purchases are sufficiently large to affect significantly the total amount of purchases in the market and thus the input's market price.¹¹¹ Each purchaser knows that its purchasing decisions—price and quantity purchased—will affect the purchasing decisions of its competitors; that is, the firms' purchasing decisions are “interdependent.”¹¹² The purchasers may reach no agreement about prices

¹⁰⁹ See, e.g., *Balmoral Cinema v. Allied Artists Pictures Corp.*, 885 F.2d 313, 316–17 (6th Cir. 1989).

¹¹⁰ See, e.g., *Confederated Tribes of Siletz Indians v. Weyerhaeuser Co.*, 411 F.3d 1030, 1036 (9th Cir. 2005) (“Both sides of the market affect allocative efficiency, and hence consumer welfare. Antitrust laws are thus concerned with competition on the buy-side of the market as much as on the sell-side of the market.”), *rev'd on other grounds*, 127 S.Ct. 1069 (2007); see also Roger G. Noll, “Buyer Power” and Economic Policy, 72 ANTITRUST L.J. 589, 591 (2005):

No serious argument can be made that antitrust law should make distinctions between buyer power and seller power if significant market power is obtained anticompetitively, such as through horizontal combination or collusion [I]f one adopts the “harm to consumers” standard or the [harm to allocative efficiency] standard for evaluating monopsony, exercise of monopsony power is likely to be harmful, so that its acquisition through anticompetitive actions is as much a violation of the antitrust law as is the anticompetitive acquisition of monopoly power.

Rather, “most antitrust scholars conclude that the treatment [of monopoly and monopsony power] should be symmetric,” in part because the cost reduction resulting from monopsony power is not passed on to consumers.” *Id.* at 590, 606. *But cf.* Jacobson & Dorman, *supra* note 96, at 4 (“[B]uyer agreements are rarely likely to have significant anticompetitive effects and, therefore . . . the antitrust treatment of joint buyer activity should not be symmetrical to the treatment of joint seller activity.”).

¹¹¹ See PINDYCK & RUBINFELD, *supra* note 49, at 364 (“An oligopsony is a market with only a few buyers.”). Oligopsony is the mirror image, on the buyer side of a market, of oligopoly on the seller side—i.e., a market consisting of few sellers. In a competitive input market, the amount of each firm's purchases is too small a percentage of the total market to affect the input's price. But the number of buyers in an oligopsonistic market is sufficiently small that the purchases of each are sufficiently large to affect the price of the input, and thus each has some degree of monopsony power. *Id.* at 368.

¹¹² See 6 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1429a, at 207 (2d ed. 2003). Discussing oligopolies, the authors explain:

[I]n a market served by [for example] three large companies, each firm must know that if it reduces its price and increases its sales at the expense of its rivals, they will notice the sales loss, identify the cause, and probably respond. In short, each firm is aware of its impact upon the others. Though each may independently decide upon its own course of action, any rational decision must take into account the anticipated reaction of the other two firms. Whenever rational decision making requires an estimate of the impact of any decision on the remaining

or the quantity of the input they purchase, but, in a “cooperative oligopsony,”¹¹³ each bases its purchasing decisions on the expected decisions and reactions of its competitors.¹¹⁴ This phenomenon is frequently referred to in the antitrust and economics literatures as “tacit collusion,” “conscious parallelism,”¹¹⁵ “strategic behavior,”¹¹⁶ or, by the Department of Justice and Federal Trade Commission *Merger Guidelines*, as one form of “coordinated interaction” among competing firms.¹¹⁷ Acting interdependently, the firms, together, are able to exercise substantial market power as purchasers—as they could if they entered into a price-fixing agreement. If their coordination is perfect, the result is the same as if they were a single purchaser—a monopsony.¹¹⁸

Oligopsonistic interdependence, or buyer-side tacit collusion, provides a perfectly rational explanation why purchasers in an oligopsonistic market might decide, without an agreement among themselves, not to increase the prices paid for inputs to the competitive-equilibrium level, even in the face of an input shortage: Each firm understands that if it attempts to gain a competitive advantage by purchasing more of the input by increasing its price, its competi-

firms and an estimate of their response, decisions are said to be “interdependent.” Because of their mutual awareness, oligopolists’ decisions may be interdependent although arrived at independently.

See also FELDMAN, *supra* note 1, at 149 (“Oligopoly markets are dominated by a few firms and each is aware that their actions (such as the price they set) will be matched by their competitors. Because firms in oligopoly markets recognize their interdependence with their competitors, collusion is more prevalent in these types of markets.”).

¹¹³ See 2B PHILLIP E. AREEDA, ET AL., *ANTITRUST LAW* ¶ 404b, at 10–14 (3d ed. 2007) (explaining the difference between non-cooperative and price-coordinating oligopolies).

¹¹⁴ See LIPSEY & COURANT, *supra* note 32, at 243 (“The number of competitors is small enough for each firm to realize that its competitors may respond to anything it does and that it should take such possible responses into account. In other words, oligop[s]onists are aware of the interdependence among the decisions made by the various firms in the industry.”); see also ABA SECTION OF ANTITRUST LAW, *MARKET POWER HANDBOOK* 49 (2005) (“Oligop[s]onists . . . can be characterized as players in a game whose outcome depends on each player’s ability to anticipate the moves of its opponents . . . and to develop ‘winning’ strategies.”).

¹¹⁵ E.g., CARLTON & PERLOFF, *supra* note 44, at 187–88.

¹¹⁶ LIPSEY & COURANT, *supra* note 32, at 243 (explaining that “strategic behavior” in this context means that the firms “take explicit account of the impact of their decisions on competing firms and of the reactions they expect competing firms to make”).

¹¹⁷ *Merger Guidelines*, *supra* note 95, § 2.1 (“Coordinated interaction is comprised of actions by a group of firms that are profitable for each of them only as a result of the accommodating reactions of the others. This behavior includes tacit or express collusion, and may or may not be lawful in and of itself.”).

¹¹⁸ The likelihood, degree, and success of the purchasers’ coordination depend on a number of factors, discussed *infra* at text accompanying notes 242–90.

tors will match its increase. The firm will gain no advantage, and its price increase will be unprofitable¹¹⁹—the price increase will merely raise the costs of all the firms. Accordingly, none will increase the price it pays for the input.

Importantly, there is nothing artificial or inherently suspicious about this interdependence and the resulting sub-competitive input prices: “Oligop[s]ony makes interdependent behavior inevitable.”¹²⁰ Other commentators explain that “[e]ach firm knows that its optimal price is a function of the price [paid] by its rivals,” and that “[u]nder these circumstances, it would be silly to expect the firms to ignore the obvious and blithely act as though they were totally independent.”¹²¹ Another commentator describes this interdependent action as “rational individual decision [making] in light of relevant economic facts.”¹²² The most relevant economic fact is that the purchasers, given the characteristics of the market in which they find themselves, maximize profits at the oligopsonistic equilibrium—not the competitive equilibrium—and this results in their buying less of the input at a lower price than if the market were competitive.¹²³ For these reasons, even if the purchasers’ interdependent decision making were an antitrust violation, a remedial order enjoining them

¹¹⁹ See Roger D. Blair & Jill Boylston Herndon, *Inferring Collusion from Economic Evidence*, ANTITRUST, Summer 2001, at 17:

For example, in a duop[s]ony [an input market with only two purchasers], if firm A [buys its inputs] at a noncompetitive price, it may pay firm B to [increase its price for the input] in the short run. But if firm B recognizes that firm A could retaliate with [high] prices and diminish firm B’s profits in the long run, firm B may refrain from [outbidding] firm A . . . Economists therefore use the term tacit collusion to identify instances in which noncompetitive prices are charged, absent explicit collusion, i.e., without “smoke-filled rooms,” e-mail exchanges, or cell phone conferences.

See also PINDYCK & RUBINFELD, *supra* note 49, at 457 (“Although each firm might be tempted to undercut its competitors, its managers know that the resulting gains will be short lived: competitors will retaliate, and the result will be renewed warfare and lower profits over the long run.”); 2B ANTITRUST LAW, *supra* note 113, ¶ 404b2, at 14 (“Each firm . . . has an incentive to [increase] its own [wages] if it assumes that the other . . . firms will not respond in kind.”); F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE & ECONOMIC PERFORMANCE* 339 (3d ed. 1990) (“With few [buyers] each firm recognizes that aggressive actions such as [wage increases] will induce counteractions from rivals which, in the end, leave all industry members worse off.”).

¹²⁰ 6 ANTITRUST LAW, *supra* note 112, ¶ 1429, at 206.

¹²¹ ROGER D. BLAIR & DAVID L. KASERMAN, *ANTITRUST ECONOMICS* 200 (1985).

¹²² Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655, 666 (1962); see also PETER ASCH, *ECONOMIC THEORY AND THE ANTITRUST DILEMMA* 76 (1970) (“Thus collusion in the broad sense is not only a reasonable approach to oligopoly . . . it is an apparent fact of life.”).

¹²³ See BLAIR & HARRISON, *supra* note 55, at 37–42.

from considering the actions of their competitors in making their own decisions would be impractical and unenforceable.¹²⁴

B. The NWAL Wage-Fixing Agreement Claims

Count I in each of the NWAL complaints alleges a horizontal wage-fixing agreement (referred to by plaintiffs as a “conspiracy to depress wages” or conspiracy to “set compensation . . . at artificially low levels”) among the defendants and their unidentified co-conspirators.¹²⁵ The services of RNs are an input into the production of hospital or other medical services,¹²⁶ and wages are simply the price that employers pay for this input.

Agreements among competing employers on the wages they pay employees raise serious antitrust risk.¹²⁷ “Naked” price-fixing agreements (i.e., those with no plausible procompetitive justification), as opposed to “ancillary” price-fixing agreements,¹²⁸ among competing sellers in selling their output are *per se* unlawful¹²⁹ because they are almost always anticompetitive.¹³⁰ The same is true of naked price-fixing agreements among competing buyers in purchas-

¹²⁴ See, e.g., *Clamp-All Corp. v. Cast Iron Soil Pipe Inst.*, 851 F.2d 478, 484 (1st Cir. 1988) (“How does one order a firm to set its prices *without regard* to the likely reactions of its competitors?”).

¹²⁵ See, e.g., *Reed Am. Compl.*, *supra* note 63, ¶ 44.

¹²⁶ See *FELDSTEIN*, *supra* note 1, at 329 (“The health manpower professions are thus an *input* to the provision of medical services.”).

¹²⁷ See, e.g., *Law v. NCAA*, 134 F.3d 1010 (10th Cir. 1998) (holding an agreement among NCAA schools to limit compensation for entry-level coaches unlawful).

¹²⁸ A price-fixing or other type of agreement is ancillary if the participants have partially integrated their businesses through, for example, a joint venture, in ways likely to achieve efficiencies in the production or distribution of their output, and the agreement is reasonably necessary for the parties to achieve those efficiencies. See *generally* *Freeman v. San Diego Ass’n of Realtors*, 322 F.3d 1133, 1151 (9th Cir. 2003); *Fraser v. Major League Soccer, L.L.C.*, 284 F.3d 47, 53 (1st Cir. 2002); FED. TRADE COMM’N & U.S. DEP’T OF JUSTICE, *Anti-trust Guidelines for Collaborations Among Competitors* §3.2 (2000), 4 Trade Reg. Rep. (CCH) ¶ 13,161 (explaining that the challenged agreement, to be ancillary, must be “reasonably related to the integration” and “reasonably necessary to achieve its pro-competitive benefits.”).

¹²⁹ E.g., *FTC v. Superior Court Trial Lawyers Ass’n*, 493 U.S. 411 (1990); *Ariz. v. Maricopa County Med. Soc’y*, 457 U.S. 332 (1982).

¹³⁰ See, e.g., *Leegin Creative Prods., Inc. v. PSKS, Inc.*, 127 S.Ct. 2705, 2713 (2007) (“Resort to *per se* rules is confined to restraints . . . ‘that would always or almost always tend to restrict competition and decrease output.’”) (quoting *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 723 (1988)); *Texaco, Inc. v. Dagher*, 547 U.S. 1, 5 (2006) (“*Per se* liability is reserved for only those agreements that are ‘so plainly anticompetitive that no elaborate study of the industry is needed to establish their illegality.’”).

ing their inputs.¹³¹ Both are unlawful without proof of the relevant market, the defendants' market power, the agreement's actual effect on competition, the defendants' intent, or the "reasonableness" of the price (or wage).¹³² The only defenses are: (1) there was no agreement; (2) if there was an agreement, it was not a price-fixing agreement; or (3) if there was a price-fixing agreement, it was an ancillary rather than a naked restraint, and thus rule-of-reason analysis, not the per se standard, applies to determine whether it unreasonably restrained competition.¹³³

Nothing in the NWAL complaints suggests that the alleged wage-fixing agreements among the defendant hospitals might be ancillary. If not, and if the defendants actually participated in wage-fixing agreements, the per se rule will apply. Thus, the fight about Count I will center on whether there were any wage-fixing agreements at all, not on whether, if there were, they unreasonably restrained competition.

The allegations of wage-fixing agreements are, factually, very thin and conclusory. Indeed, it is not clear that Count I would survive a motion to dismiss for failure to state a claim under the Supreme Court's May 21, 2007 decision in *Twombly v. Bell Atlantic Corp.*,¹³⁴ which upheld the district court's dismissal of an antitrust conspiracy claim because it failed to adequately allege that the defendants reached an agreement, rather than engaging in parallel conduct resulting from unilateral, although perhaps interdependent, decision making. The NWAL complaints allege a number of activities by the defendants that could facilitate a wage-fixing conspiracy and thus are consistent with a wage-fixing agreement, but

¹³¹ *E.g.*, *Mandeville Island Farms v. Am. Crystal Sugar Co.*, 334 U.S. 219, 235 (1948) ("It is clear that the agreement is . . . condemned . . . even though the price-fixing was by purchasers, and the persons . . . injured . . . are sellers, not customers or consumers."); *Todd v. Exxon Corp.*, 275 F.3d 191, 201 (2d Cir. 2001) ("[A] horizontal conspiracy among buyers to stifle competition is as unlawful as one among sellers."); *Law*, 134 F.3d at 1017 ("By agreeing to limit the price which NCAA members may pay . . . coaches, the [NCAA] rule fixes the cost of one of the component items used by . . . members to produce the product of . . . basketball. As a result, the . . . [r]ule constitutes the type of naked horizontal agreement among competitive purchasers to fix prices usually found to be illegal *per se*."); *All Care Nursing Serv., Inc. v. High Tech Staffing Servs., Inc.*, 135 F.3d 740, 747 (11th Cir. 1998) ("That price fixing is equally violative of the antitrust laws whether it is done by buyers or sellers is . . . undisputed.")

¹³² *E.g.*, *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150 (1940).

¹³³ As one court put it, "The per se rule is the trump card of antitrust analysis. When the antitrust plaintiff successfully plays it, he need only tally his score." *United States v. Realty Multi-List, Inc.*, 629 F.2d 1351, 1363 (5th Cir. 1980).

¹³⁴ 127 S.Ct. 1955 (2007).

allege nothing other than conclusions that the defendants reached any agreements on wages. In *Twombly*, the Court held that, to state a conspiracy claim sufficiently, there is a “need at the pleading stage for allegations plausibly suggesting (not merely consistent with) agreement.”¹³⁵

The scope of conduct constituting a horizontal price-fixing agreement, however, is broad,¹³⁶ and the fact finder may infer the requisite agreement from circumstantial evidence, absent direct evidence of an agreement.¹³⁷ The Supreme Court stated many years ago that “[a]ny combination which tampers with price structures is engaged in an unlawful activity” and that “[u]nder the Sherman Act, a combination formed for the purpose and with the effect of raising, depressing, fixing, pegging, or stabilizing the price of a commodity . . . is illegal per se.”¹³⁸ Although these statements cannot be interpreted literally (because most business arrangements affect, and are intended to affect, prices in some way), an agreement, to constitute price fixing, need not establish a specific or ultimate price, but only directly affect some component of price.¹³⁹ For example, the Supreme Court has held that agreements among competitors not to grant discounts,¹⁴⁰ not to grant interest-free credit terms,¹⁴¹ and to reduce supply,¹⁴² constitute price-fixing agreements. Lower courts have likewise held that agreements not to advertise prices,¹⁴³ about

¹³⁵ *Id.* at 1966 (emphasis added). Only the defendants in the Memphis case filed a motion to dismiss based on the sketchiness of the allegations, and the court denied that motion shortly before *Twombly* was decided. Order Denying Defendants’ Motion to Dismiss and Deny as Moot Defendants’ Motion to Stay Discovery, *Clarke v. Baptist Mem’l Healthcare*, No. 06-2377 Ma/V (W.D. Tenn. May 17, 2007). The Memphis defendants could have filed a motion for reconsideration, and the defendants in the other cases could have filed motions for judgment on the pleadings pursuant to FED. R. CIV. P. 12(c). See generally Melanie Evans, *Higher Standard: Ruling Could Make It Tougher for Antitrust Plaintiffs*, MOD. HEALTHCARE, May 28, 2007, at 14. None chose to do so, perhaps because a comparison of the *Twombly* and NWAL complaints shows that the latter are much more suggestive of a conspiracy than the former.

¹³⁶ For a list of many of the types of conduct held to constitute price-fixing, see MILES, *supra* note 104, § 3.2, at 3-8 through 3-13 (Supp. 2007).

¹³⁷ See, e.g., *In re High Fructose Corn Syrup Antitrust Litig.*, 295 F.3d 651, 654-55 (7th Cir. 2002).

¹³⁸ *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 221-23 (1940). This rather broad and loose definition of price-fixing agreement is likely the one that plaintiffs will urge on the court. See Plaintiffs’ Memorandum, *supra* note 6, at 5 n.4 (quoting *Socony-Vacuum*).

¹³⁹ E.g., *Knevelbaard Dairies v. Kraft Foods, Inc.*, 232 F.3d 979, 990 (9th Cir. 2000).

¹⁴⁰ *Sugar Inst. v. United States*, 297 U.S. 553 (1936).

¹⁴¹ *Catalano v. Target Sales, Inc.*, 446 U.S. 643 (1980).

¹⁴² *Socony-Vacuum Oil Co.*, 310 U.S. at 150.

¹⁴³ *United States v. Gasoline Retailers Ass’n, Inc.*, 285 F.2d 688 (7th Cir. 1961).

pricing methodologies,¹⁴⁴ and on suggested or list prices, even when actual sales are made at lower and different prices,¹⁴⁵ may constitute price-fixing agreements. The line, however, between a price-fixing agreement and an agreement that merely affects price in some way is not crystal clear.

Likewise, the classic definition of an antitrust conspiracy or agreement is broad and ambiguous:¹⁴⁶ “a unity of purpose or a common design and understanding, or a meeting of the minds.”¹⁴⁷ Clearly, the agreement need not be formal or explicit and may be proved by direct, or inferred from sufficient circumstantial, evidence.¹⁴⁸ But one of the most difficult questions—still unanswered and perhaps unanswerable by the courts—is, absent direct evidence, the type and amount of circumstantial evidence sufficient to

¹⁴⁴ *Vogel v. Am. Soc’y of Appraisers*, 744 F.2d 598 (7th Cir. 1984).

¹⁴⁵ *Plymouth Dealers Ass’n v. United States*, 279 F.2d 128 (9th Cir. 1960).

¹⁴⁶ See, e.g., Gregory Werden, *Economic Evidence on the Existence of Collusion: Reconciling Antitrust Law with Oligopoly Theory*, 71 ANTITRUST L.J. 719, 778 (2004) (“Agreement in antitrust law is a broad and ill-defined concept.”).

¹⁴⁷ *Am. Tobacco Co. v. United States*, 328 U.S. 781, 810 (1946). But this definition, too, is overbroad. For example, firms in an oligopolistic market might be said to have an “understanding” that none will reduce their prices because each knows that it is in its own economic interest not to because the others will do the same, and all will lose. This type of “tacit collusion” or “oligopolistic interdependence” does not result in an agreement sustaining the section 1 concerted-action requirement. See, e.g., *Williamson Oil Co. v. Philip Morris USA*, 346 F.3d 1299, 1310 (11th Cir. 2003).

¹⁴⁸ Direct evidence permits the conclusion in question to be drawn without the necessity for any inferences from that evidence. Circumstantial evidence, while probative of the conclusion, requires the fact-finder to draw inferences from it before the conclusion can be drawn. See generally *Champagne Metals v. Ken-Mac Metals, Inc.*, 458 F.3d 1073, 1083 (10th Cir. 2006); *InterVest, Inc. v. Bloomberg, L.P.*, 340 F.3d 144, 160 (3d Cir. 2003).

One of the most enlightening decisions exemplifying the scope of the agreement concept is *United States v. Esco Corp.*, 340 F.2d 1000, 1007 (9th Cir. 1965), where the court explained:

A knowing wink can mean more than words. Let us suppose five competitors meet on several occasions, discuss their problem, and one finally states—“I won’t fix prices with any of you, but here is what I am going to do—put the price of my gadget at X dollars; now you all do what you want.” He then leaves the meeting. Competitor number two says—“I don’t care whether number one does what he says he’s going to do or not; nor do I care what the rest of you do, but I am going to price my gadget at X dollars.” Number three makes a similar statement—“My price is X dollars.” Number four says not one word. All leave and fix “their” price at “X” dollars.

We do not say the foregoing *compels* an inference . . . that the competitors’ conduct constituted a price-fixing conspiracy . . . but neither can we say, as a matter of law, that an inference of no agreement is compelled. As in so many other instances, it remains a question for the trier of fact to consider and determine what inference appeals to it . . . as the most logical and persuasive, after it has heard all the evidence of what these competitors had done before such meeting and what actions they took thereafter, or what actions they did not take.

permit the fact-finder to infer the requisite agreement. In what circumstances, for example, might interdependent decision making or tacit collusion permit an inference of an agreement sufficient to meet section 1's concerted-action requirement? Where is the line drawn?

When the plaintiff relies on circumstantial evidence, which is inherently ambiguous, to prove an antitrust conspiracy, several important principles come into play. The range of permissible inferences from ambiguous circumstantial evidence in antitrust cases is limited, particularly where a false-positive finding of conspiracy would deter procompetitive conduct, such as cutting prices. As a result, defendants are entitled to summary judgment on the conspiracy issue if the evidence is as probative that the challenged action resulted from unilateral action as from an agreement. Rather, the plaintiff must produce some evidence tending to exclude the possibility that the conduct or its effect resulted from unilateral action.¹⁴⁹ On the other hand, in assessing the plaintiff's circumstantial evidence, the court must consider all that evidence together, rather than considering one piece at a time, determining that the piece under consideration is not sufficiently probative, and then "wiping the slate clean" before examining the next piece of evidence.¹⁵⁰

The NWAL complaints cite no direct evidence of any wage-fixing conspiracies. They do, however, allege several types of circumstantial evidence consistent with a wage-fixing agreement, including evidence of conduct that would facilitate such an agreement. These include the regular exchanges of wage information among hospitals; the hospitals' paying RNs the same, or nearly the same, wages; telephone calls among hospital officials to discuss RN compensation; participation of hospitals in wage surveys and dissemination of survey results to the hospitals; discussions of RN compensation at various professional association meetings;¹⁵¹ the failure of wages to rise in the face of a shortage; and, in most of the

¹⁴⁹ Antitrust decisions applying these principles are legion; see 1 MILES, *supra* note 104, § 2A:6, at 2A-57 through 2A-67 nn.6-12 (collecting cases). The principles flow from the Supreme Court's seminal decisions in *Matsushita Electrical Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 597-98 (1986), and *Monsanto Co. v. Spray-Rite Service Corp.*, 465 U.S. 752, 764 (1984).

¹⁵⁰ See generally *Cont'l Ore Co. v. Union Carbide & Carbon Corp.*, 370 U.S. 690, 698-99 (1962).

¹⁵¹ Reed Am. Compl., *supra* note 63, ¶¶ 1, 30, 32-38.

complaints, that few hospitals account for a large share of RN services purchased.¹⁵²

If the plaintiffs, through discovery, are unable to adduce any more evidence of wage-fixing agreements than that cited in the complaints, it seems doubtful that the Count I claims will survive summary judgment. The complaints allege that the defendants priced in a parallel fashion—i.e., that there was little disparity in the wages they paid RNs and that none increased wages in the face of an RN shortage. These facts, if proved, are probative, but likely not sufficient by themselves to permit the inference of a wage-fixing conspiracy because a number of benign causes could lead to the same result. For example, all employers would pay the same wage to RNs in a perfectly competitive market for RN services,¹⁵³ just as all sellers charge the same price in a perfectly competitive output market. Similar or identical pricing, even absent a conspiracy, also

¹⁵² Most of the complaints do allege facts suggesting that the RN markets in question might be oligopsonies. Typically, oligopsonistic labor markets are highly concentrated—that is, a small number of purchasers hire a large a large percentage of the available labor supply. The Albany complaint alleges that “[t]his market is heavily concentrated. The five named defendants employ 73 percent of the hospital RNs in the Albany area.” Second Amended Compl. ¶ 27, *Fleischman v. Albany Med. Ctr.*, No. 06-CV-0765/TJM/DRH (N.D.N.Y. Mar. 2, 2007). In the Memphis case, the two defendant hospital systems allegedly employ 68 percent of the hospital RNs. Compl. ¶25, *Clarke v. Baptist Mem’l Healthcare Corp.*, No. 2:06-CV-02377-JPM-DKV (W.D. Tenn. June 20, 2006). In San Antonio, the three defendant systems allegedly employ 56 percent. Second Amended Class Action Compl. ¶ 31, *Maderazo v. VHS San Antonio Ptrs., L.P.*, No. SA06CA0535 (W.D. Tex. Sept. 7, 2007). In the Detroit case, the eight defendant health systems allegedly employ 80 percent. Third Corrected Class Action Compl. ¶ 33, *Cason-Merenda v. Detroit Med. Ctr.*, No. 06-15601 (E.D. Mich. June 15, 2007). The Chicago complaints do not provide any market-concentration information, but one filing claims that forty-five hospital systems operate in Chicago and in Cook, DuPage, and Lake Counties surrounding Chicago. Metropolitan Chicago Area Healthcare Council’s Objections to Plaintiffs’ Subpoena for Documents and Motion To Quash or Modify the Subpoena ¶ 8, *Reed v. Advocate Health Care*, No. 06 C 3337 (N.D. Ill. Feb. 26, 2007). Assuming that this area is the relevant geographic market, that figure suggests a very unconcentrated market, which makes explicit or tacit collusion (assuming all the systems allegedly participated) much more difficult—but still possible. Cf. Bhaskar, *supra* note 48, at 156 (“Oligopsony describes a situation where employer market power persists despite competition with other employers—the number of employers does not need to be small.”).

High purchaser market-concentration figures cut both for and against the plaintiffs’ wage-fixing claims. The higher the level of concentration, the easier it is for firms to conspire because the transaction costs of operating the cartel are lower; on the other hand, the higher the level of concentration, the more likely it is that parallel pricing resulted from interdependent, but unilateral, action rather than from a conspiracy.

¹⁵³ BLAIR & KASERMAN, *supra* note 121, at 181 (“The usual competitive model predicts a single price at which all transactions will occur.”); see Bhaskar, *supra* note 48, at 1 (“One key prediction of perfectly competitive labor markets is the ‘law of one wage,’ which holds that there should be a single wage for a given quality of worker.”).

would be expected if the relevant markets for RN services are oligopsonies, in which the hospitals' decisions about wages are interdependent but unilateral. Each hospital would understand that it would gain no competitive advantage by offering a higher wage because its competitors would quickly meet its increase,¹⁵⁴ and so none increase wages. And it may be that working conditions in the hospitals are different such that even if the hospitals are paying the same nominal wage, their full-wage rates are different.

The Supreme Court and numerous lower-court decisions have held explicitly that consciously parallel pricing decisions based on interdependent decision making, by themselves, do not permit an inference of conspiracy in oligopolistic markets and thus are not unlawful.¹⁵⁵ This is precisely the expected result in such markets, even absent a conspiracy.¹⁵⁶ The same would be true of conscious parallelism resulting from interdependent decision making in oligopsonistic markets. As one court has explained, "it is often difficult to determine which of these situations—illegal price fixing or conscious parallelism—is present in a given case,"¹⁵⁷ and a tie goes to

¹⁵⁴ See *supra* text accompanying notes 111–19.

¹⁵⁵ See, e.g., *Brooke Group, Ltd. v. Brown & Williamson Tobacco Co.*, 509 U.S. 209, 227 (1993):

Tacit collusion, sometimes called oligopolistic price coordination or conscious parallelism, describes the process, *not in itself unlawful*, by which firms in a concentrated market might in effect share monopoly power, setting their prices at a profit-maximizing, supracompetitive level by recognizing their shared economic interests and their interdependence with respect to price and output decisions (emphasis added).

See also *Twombly v. Bell Atl. Corp.*, 127 S.Ct. 1955, 1964 (2007) (quoting the above language from *Brooke Group* and noting that conscious parallelism is "a common reaction of 'firms in a concentrated market'"); *Theatre Enters. Inc. v. Paramount Film Distrib. Corp.*, 346 U.S. 537, 540–41 (1954); *United States v. Int'l Harvester Co.*, 274 U.S. 693, 708–09 (1927) ("fact that competitors may see proper, in the exercise of their own judgment, to follow the prices of another" competitor does not result in violation of § 1); *Williamson Oil Co. v. Philip Morris USA*, 346 F.3d 1287, 1298–99 (11th Cir. 2002) ("[I]t is important to distinguish . . . between collusive price fixing, i.e., a 'meeting of the minds' to collusively control prices, which is prohibited under the Sherman . . . Act, and 'conscious parallelism,' which is not."); *Blomkest Fertilizer, Inc. v. Potash Corp.*, 203 F.3d 1028, 1032–33 (8th Cir. 2000); *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 121–22 (3d Cir. 1999); *Mitchael v. Intracorp, Inc.*, 179 F.3d 847, 858–59 (10th Cir. 1999).

¹⁵⁶ See, e.g., *Clamp-All Corp. v. Cast Iron Soil Pipe Inst.*, 851 F.2d 478, 484 (1st Cir. 1988) (noting that oligopolists are expected to coordinate prices without agreement and explaining that "individual pricing decisions (even when each firm rests its own decision upon its belief that competitors will do the same) do *not* constitute an unlawful agreement under section 1 of the Sherman Act."). Cf. SULLIVAN & GRIMES, *supra* note 91, § 5.6c, at 267 (2006) ("To ban interdependent pricing would be to criminalize rational market conduct without providing firms in a tight oligopoly any policy guidance about how to lawfully price their product.").

¹⁵⁷ *Williamson Oil Co.*, 346 F.3d at 1299.

the defendants because the plaintiff must present evidence tending to exclude the possibility that the defendants' decisions or actions were unilateral.

Accordingly, where a plaintiff proves consciously parallel pricing among competitors, courts, before permitting a fact finder to infer a conspiracy, require additional proof of so-called "plus factors," tending to show that the parallel prices resulted from an agreement rather than from interdependent, but unilateral, decision making.¹⁵⁸ The classic plus factors are (1) motive to enter into the alleged conspiracy;¹⁵⁹ (2) opportunity to conspire;¹⁶⁰ (3) that the defendants' action (here, allegedly not increasing wage offers to RNs in response to an RN shortage) was against their individual economic self-interests—i.e., the decisions would not be expected or profit-maximizing absent a conspiracy;¹⁶¹ and (4) that the defendants failed to present a business justification, "legitimate" reason, or procompetitive benefit for their action,¹⁶² or if they did, that the plaintiffs showed that their purported justification was a pretext.¹⁶³

Here, the defendant hospitals clearly had a motive to keep wages low because nursing costs are a major expense for hospitals, and reimbursement is no longer cost-based. But did they have a motive to conspire to do so? Every firm has a motive to decrease its input costs—and thus a motive to conspire if a conspiracy is necessary to achieve that result. Accordingly, this purported plus factor seems to be like the emperor who has no clothes. Moreover, assuming the relevant markets here are oligopsonies, the defendants would have no need, and thus no motive, to conspire to achieve their alleged objective, because lawful interdependent action would achieve the same effect—depressed wages.¹⁶⁴ Because conspiracies

¹⁵⁸ *Id.* at 1301.

¹⁵⁹ See, e.g., *InterVest, Inc. v. Bloomberg, L.P.*, 340 F.3d 144, 165 (3d Cir. 1998).

¹⁶⁰ See, e.g., *Am. Chiropractic Ass'n v. Trigon Healthcare, Inc.*, 367 F.3d 212, 226–27 (4th Cir. 2004).

¹⁶¹ See, e.g., *Nat'l Hockey League Players Ass'n v. Plymouth Whalers Hockey Club*, 419 F.3d 462, 475 (6th Cir. 2005).

¹⁶² See, e.g., *County of Tuolumne v. Sonora Cmty. Hosp.*, 236 F.3d 1148, 1156 (9th Cir. 2001); see *infra* text accompanying notes 242–90. See generally 6 ANTITRUST LAW, *supra* note 112, ¶ 1413a, at 80 ("[I]t bears repeating that the presence of an independent reason for certain conduct can defeat a claim of conspiracy based on circumstantial evidence."). Also important is whether the market exhibits characteristics conducive to explicit collusion. Many of these are the same factors suggesting that the market is conducive to interdependent decision making. See *infra* text accompanying notes 242–90.

¹⁶³ See, e.g., *Rossi v. Standard Roofing, Inc.*, 156 F.3d 452, 478 (3d Cir. 1998); *Bolt v. Halifax Hosp. Med. Ctr.*, 891 F.2d 810 (11th Cir. 1990).

¹⁶⁴ See PINDYCK & RUBINFELD, *supra* note 49, at 454.

are risky and require transaction costs to establish and operate, it would seem irrational for the defendants to hatch and participate in the alleged conspiracies. Thus, the probative value of a motive to conspire seems debatable.¹⁶⁵

The plaintiffs also allege that the hospitals had an opportunity to conspire through alleged formal and informal meetings, telephone calls, and association meetings.¹⁶⁶ But evidence only of an opportunity to conspire, absent evidence of what actually occurred during those opportunities, is weak circumstantial evidence.¹⁶⁷ Thus, it will be important for the plaintiffs to show who attended the meetings, what they said and did at the meetings, and what actions they took relating to wages during and after the meetings. That the defendants met is consistent with a conspiracy, but it is not inconsistent with later decisions about wages resulting from oligopsonistic interdependence or totally independent decision making.¹⁶⁸ Nevertheless, discovery about these meetings and communications may well uncover direct, or additional circumstantial, evidence of wage-fixing conspiracies. If, as plaintiffs claim, they interviewed meeting participants prior to filing the complaints,¹⁶⁹ they may have

Collusion, however, is illegal, and most managers prefer to stay out of jail. But if cooperation can lead to higher profits, why don't firms cooperate without explicitly colluding? In particular, if you and your competitor can both figure out the profit-maximizing price you would agree to charge if you were to collude, why not just set that price and hope your competitor will do the same? If your competitor does the same, you will both make more money.

See also ASCH, *supra* note 122, at 86 ("There is no need for such firms to agree to refrain from competing in price. They may simply refrain 'interdependently,' as a matter of self-interest."); Craig R. Maginness, *The Exchange of Price Information as a Restraint of Trade: Reassessing Per Se Rules in Light of First Amendment Protection of Commercial Speech*, 48 *FORDHAM L. REV.* 1005, 1015 (1980) ("[F]irms in an oligopoly have no need to agree to fix prices as such.").

¹⁶⁵ Cf. Werden, *supra* note 146, at 750 ("There typically is a motive to conspire if the defendants are competitors and the alleged conspiracy is directed at eliminating some significant dimension or degree of that competition.").

¹⁶⁶ Reed Am. Compl., *supra* note 63, ¶¶ 32, 34–37.

¹⁶⁷ See *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 126 (3d Cir. 1999).

¹⁶⁸ See, e.g., *Williamson Oil Co. v. Philip Morris USA*, 346 F.3d 1287, 1319 (11th Cir. 2003) ("[T]he opportunity to fix prices without any showing that [defendants] *actually* conspired does not tend to exclude the possibility that they did not avail themselves of such opportunity or, conversely, that they actually did conspire.").

¹⁶⁹ See *supra* note 7. In the Chicago *Reed* case, plaintiffs have submitted the affidavit of a former consultant for one defendant, Advocate Health Care, who testified that he overheard conversations between Advocate's vice president of human relations, in which she exchanged RN wage information with her counterparts at other Chicago hospitals; that the vice president called her counterparts to discuss RN wages; that a friend told him that Advocate personnel were instructed to call other hospitals to discuss wage information on a regular basis "to ensure that Advocate's nurse wages were comparable to those paid by

much more information about discussions and actions at the meetings than is alleged in the complaints.

At first glance, it would seem to be in the individual economic self-interest of each defendant hospital to increase its wages to attract the RNs for which it has vacancies. But, as noted before, if the relevant market is an oligopsony, each competing hospital knows that if it raises its wages, its competitors likely will do the same, and it will gain no advantage.¹⁷⁰ Each hospital—individually—recognizes that increasing its wages may start a “wage war” that no hospital wins. Thus, given the market structure for RN services in which the hospitals find themselves, it may be in the individual economic self-interest of each not to raise its RNs’ wages, even in the face of an RN shortage.¹⁷¹ It seems just as possible, therefore, that the defendants’ failure to raise their wages results from rational and expected oligopsonistic interdependence as from a conspiracy.¹⁷² In this situation, it would not seem that the hospitals’ failure to increase wages would constitute a plus factor tending to negate the possibility of unilateral decision making.¹⁷³ Indeed, both courts and commentators have wondered whether any of these plus factors are more probative of conspiracy than of lawful interdependent, but in-

other hospital systems”; that discussions involved a “range of salaries”; that he saw Advocate charts comparing different hospitals’ wages; that he saw written wage surveys prepared by both Advocate consultants, and the Metropolitan Chicago Healthcare Council; that he “underst[ood]” that Advocate used such information “to ensure that Advocate’s nurse wages stayed comparable to those at other Chicago hospitals”; and that he attended meetings where Chicago hospital senior executives “discuss[ed] nurse compensation and exchange[d] nurse wage information.” Declaration of Brent Underwood, Exhibit C to Affidavit of Marvin A. Miller in Support of Plaintiffs’ Response to Metropolitan Chicago Healthcare Counsel’s Objections to Plaintiffs’ Subpoena for Documents, *Reed v. Advocate Health Care*, No. 06 C 3337 (N.D. Ill. Apr. 25, 2007). If the issue were whether the defendants agreed to exchange wage information, this evidence would be powerful, but it sheds little light on the question of whether the defendants entered into a wage-fixing agreement. Moreover, it suggests that the purpose for the wage exchanges was procompetitive—to permit Advocate to benchmark itself against its competitors.

¹⁷⁰ See *supra* note 119 and accompanying text.

¹⁷¹ Cf. Werden, *supra* note 146, at 748 (“The inference of an agreement may be particularly compelling when competitors simultaneously take identical actions *not explainable as normal responses to market forces.*”) (emphasis added).

¹⁷² See *id.* at 768 (noting that several courts have recognized that an oligopolist’s failure to cut prices or initiate a price increase is not against its self-interest because it simply reflects interdependence, citing cases).

¹⁷³ Cf. *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 135 (3d Cir. 1999) (“[T]o prove conspiracy, evidence of action that is against self-interest or motivated by profit must go beyond mere interdependence. Parallel pricing must be so unusual that in the absence of an advance agreement, no reasonable firm would have engaged in it.”).

dividual, decision making.¹⁷⁴ If not, they should not be sufficient to permit an inference of conspiracy.¹⁷⁵

Plaintiffs allege at least one other “plus factor” or practice that facilitates, and is probative of, a price-fixing agreement—the agreements to exchange wage information.¹⁷⁶ Agreements among competitors to exchange price information, while not price-fixing agreements themselves, can facilitate price-fixing agreements by providing relevant background information and thus easing the process of actually agreeing on prices and increasing the agreement’s effectiveness. Thus, such programs are probative of a price-fixing agreement,¹⁷⁷ but the same conduct can merely facilitate rational, procompetitive individual decision making.

Would all these factors, considered together, push plaintiffs over the summary judgment threshold? Absent more, probably not. Commentators have observed that “[t]he problem with ambiguous [circumstantial] evidence is that no matter how much of it one amasses, the collection remains ambiguous.”¹⁷⁸ None of these plus factors are inconsistent with interdependent, but unilateral, decision making, and any number times zero is still zero. The answer may depend, however, on the philosophy of the judge regarding the type and degree of evidence he or she believes is necessary to overcome a summary judgment motion on the conspiracy requirement. That judgment is necessarily somewhat subjective, and courts seem to

¹⁷⁴ *In re Flat Glass Antitrust Litig.*, 385 F.3d 350, 361 (3d Cir. 2004) (noting that since a motive to conspire and actions against self interest “often restate interdependence . . . they may not suffice—by themselves—to defeat summary judgment on a claim of horizontal price fixing among oligopolists”); *see, e.g., id.* at 122 (“The concept of ‘action against self-interest’ is ambiguous and one of its meanings could merely constitute a restatement of interdependence . . . [R]efusing to raise or lower prices unless rivals do the same could be against a firm’s self-interest but nevertheless could spring from independent behavior.”). *See generally* 6 ANTITRUST LAW, *supra* note 112, ¶¶ 1434c1-c2, at 244–47 (2d ed. 2003) (“[C]onspiratorial motivation’ and acts against self-interest often do no more than restate interdependence.”).

¹⁷⁵ *See, e.g., Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 585 (1986) (“Conduct that is as consistent with permissible competition as with illegal conspiracy does not, standing alone, support an inference of antitrust conspiracy.”).

¹⁷⁶ *Reed Am. Compl.*, *supra* note 63, ¶¶ 32–33, 36–37.

¹⁷⁷ *In re Coordinated Pretrial Proceedings*, 906 F.2d 432, 446–47 & n.13 (9th Cir. 1990); *Morton Salt Co. v. United States*, 235 F.2d 573, 576–78 (10th Cir. 1956); *see, e.g., In re Flat Glass Antitrust Litig.*, 385 F.3d 350, 369 (3d Cir. 2004); *Wallace v. Bank of Bartlett*, 55 F.3d 1166, 1168 (6th Cir. 1995); *see also* RICHARD A. POSNER, ANTITRUST LAW 69 (2d ed. 2001) (arguing that data-exchange programs may be “persuasive” evidence of collusion in markets susceptible to collusion).

¹⁷⁸ Blair & Herndon, *supra* note 119, at 19.

differ about the practical burden they place on plaintiffs.¹⁷⁹ As a legal matter, however, if the evidence probative of conspiracy and that probative of unilateral decision making are equal, summary judgment for the defendants is appropriate.¹⁸⁰

Admittedly, a plaintiff's burden in proving a price-fixing agreement among competitors in an oligopsonistic market is heavy. But this is as it should be. Because naked horizontal price-fixing agreements are per se violations (and often prosecuted criminally by the Antitrust Division),¹⁸¹ because lawful interdependent action may be as likely an explanation for the defendants' decisions as conspiracy, and because (as the next section explains) agreements that facilitate interdependent decision making are themselves subject to challenge under section 1, plaintiffs should bear a heavy burden in proving a wage-fixing agreement among oligopsonists.

C. The Exchange-of-Wage Information Claims

Although exchanges of wage information among competing employers, as alleged in Count II of the NWAL complaints, are probative of a per se unlawful price-fixing agreement,¹⁸² and might ultimately result in or facilitate such an agreement,¹⁸³ the antitrust principles relating to, and analysis of, the plaintiffs' section 1 ex-

¹⁷⁹ Compare *In re Flat Glass Antitrust Litig.*, 385 F.3d 350 (3d Cir. 2004) (seemingly lenient plaintiffs' burden) with *Williamson Oil Co. v. Philip Morris USA*, 346 F.3d 1287 (11th Cir. 2003) (seemingly stringent burden).

¹⁸⁰ See, e.g., *City of Tuscaloosa v. Harcros Chems., Inc.*, 158 F.3d 548, 569 (11th Cir. 1998) (explaining that where "plaintiff's circumstantial . . . evidence is in equipoise, and in the absence of further evidence of collusion, summary judgment against the plaintiff would be in order").

¹⁸¹ Section 1 of the Sherman Act is a criminal, as well as civil, statute. Violation is a felony, punishable, in the case of an individual, by incarceration not exceeding ten years and a fine not exceeding \$10 million per violation, and in the case of a corporation, a fine not exceeding \$100 million per violation.

¹⁸² See, e.g., *Morton Salt*, 235 F.2d at 573 (criminal price-fixing case noting that while exchanges of price information are not per se unlawful, they are relevant in determining whether a price-fixing agreement resulted).

¹⁸³ U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, *Statements of Antitrust Enforcement Policy in Health Care* Statement 6 (1993, as amended 1996), 4 Trade Reg. Rep. (CCH) ¶ 13,153 [hereinafter *Health Care Statement*] ("If an exchange among competing providers of . . . cost information results in an agreement among competitors as to the . . . wages to be paid to health care employees, that agreement will be considered unlawful per se."); HOVENKAMP, *supra* note 8, § 5.3b, at 219 ("Exchanges of price information continue to be risky for participants for one additional reason: many courts hold that the exchanges create a fact issue as to whether the firms were really fixing prices, particularly if they are accompanied by any other suspicious circumstances . . ."); see, e.g., *Todd v. Exxon Corp.*, 275 F.3d 191, 198 (2d Cir. 2001) ("Information exchange is an example of a facilitating practice that can help support an inference of a price-fixing agreement.").

change-of-wage-information claims are very different than those of their wage-fixing claims.¹⁸⁴ Although oligopsonistic interdependence or tacit collusion itself does not constitute an agreement or conspiracy for purposes of section 1, agreements among competing buyers or sellers that result in, or facilitate, tacit collusion may themselves violate section 1.¹⁸⁵ This seems precisely what Count II alleges. The focus under Count II will not be, as under Count I, on whether the plaintiffs can prove the concerted-action element of a section 1 claim, but rather whether, if the defendants exchanged wage information, that action unreasonably restrained competition.

Interdependent decision making can have the same adverse wealth-transfer and resource-misallocation effects as price-fixing agreements.¹⁸⁶ The antitrust laws treat them differently, not because of any difference in the adverse effects they generate, but because it is impossible, as a practical matter, to prevent the former¹⁸⁷ but not the latter. It follows that the antitrust laws should prohibit preventable conduct resulting in interdependent decision making, absent offsetting procompetitive benefits.

When firms exchange price or wage information, section 1's concerted-action requirement is almost always met.¹⁸⁸ It is difficult

¹⁸⁴ See, e.g., *Todd*, 275 F.3d at 198:

If the plaintiff . . . could allege that defendants actually formed an agreement to fix . . . salaries, this *per se* rule would likely apply.

There is a closely related but analytically distinct type of claim, also based on § 1 of the Sherman Act, where the violation lies in the information exchange itself—as opposed to merely using the information exchange as evidence upon which to infer a price-fixing agreement. This exchange of information is not illegal *per se*, but can be found unlawful under a rule of reason analysis.

¹⁸⁵ SULLIVAN & GRIMES, *supra* note 91, § 5.6c, at 267 (“In instances of interdependent pricing in which the oligopolists act concertedly to bring about or maintain the industry conditions which make interdependent pricing feasible, there is no inhibition to the application of Section 1.”); Note, *Liability for an Exchange of Price Information: What Ever Happened to Container Corporation?*, 63 VA. L. REV. 639, 647 (1977) [hereinafter *Liability for an Exchange*] (explaining that section 1 reaches oligopolies indirectly by addressing practices that facilitate coordinated pricing); see, e.g., 13 HERBERT HOVENKAMP, ANTITRUST LAW ¶ 2111c, at 52–53 (2d ed. 2005) (“Information exchanges acquire substantive significance when they facilitate forms of price and output coordination that are not independently reachable under the Sherman Act Sherman § 1 permits a challenge to an actual agreement to employ a facilitating device designed to make coordination of prices easier to achieve, even if the coordination itself is unreachable.”).

¹⁸⁶ See *supra* note 118 and accompanying text.

¹⁸⁷ See *supra* note 124 and accompanying text.

¹⁸⁸ “Clearly, if two firms reach an understanding in advance that each will provide pricing information on the other’s request, an agreement exists for purposes of Sherman Act § 1.” 13 ANTITRUST LAW, *supra* note 185, ¶ 2113f, at 98. The conclusion may be different where there is no exchange of information—where, for example, a firm merely disseminates its

to conceive of an exchange without an agreement to do so, and thus if the defendant hospitals exchanged RN wage information as the complaints allege, it would seem clear that there was an agreement to do so.¹⁸⁹ Therefore, the overriding question raised by Count II is whether the alleged agreements to exchange wage information unreasonably restrained competition by resulting in interdependent action among the defendants that depressed RN wages below the competitive level.

Unlike naked price-fixing agreements, agreements among competitors to exchange price or wage information can generate significant procompetitive effects as well as anticompetitive effects.¹⁹⁰ Indeed, buyers' and sellers' having complete information about the market, including price information, is a necessary condition for the

price information to competitors or merely responds to a competitor's request for information. *Id.*

¹⁸⁹ See, e.g., *United States v. Container Corp. of Am.*, 393 U.S. 333, 335 (1969) ("Each defendant on receiving that request [for pricing information] usually furnished the data with the expectation that it would be furnished reciprocal information when it wanted it. That concerted action is of course sufficient to establish the . . . conspiracy, the initial ingredient of a violation of § 1 of the Sherman Act. . . . [T]he essence of the agreement was to furnish price information whenever requested."). That the wage surveys alleged by plaintiffs in the NWAL may have been conducted through third-party professional associations of which the defendant hospitals are members, rather than by the hospitals' exchanging the information directly among themselves, does not affect this conclusion.

¹⁹⁰ For example, to paraphrase Blair and Kaserman:

When [wage] data are exchanged among rival [employers], two effects are possible: (1) the average [wage] could [fall], and/or (2) the dispersion of [wages] could fall. If the average [wage] was to [fall], that would be an undesirable result. If, however, the dispersion of [wages] was to narrow, that would not be undesirable. In fact, it would be beneficial, as the actual [wages] would be closer to [the] ideal [wage] of perfect competition. Accordingly, exchanges of [wage] information should serve only as circumstantial evidence of a Section 1 violation. The burden would still be on the plaintiff to show that the average [wage fell] as a result of the information exchange.

BLAIR & KASERMAN, *supra* note 121, at 188; *see also id.* at 181–83; FELDSTEIN, *supra* note 1, at 405 ("Better information to hospitals and prospective nursing students about nurse labor market conditions would improve performance of both the RN labor market and the [nursing] education market and dampen the severity of the recurrent RN shortages."); 13 ANTITRUST LAW, *supra* note 185, ¶ 2111b, at 48–51; *id.* ¶ 2114c, at 108 (opining that the exchange of cost information is usually beneficial by "enabl[ing] firms to check the efficiency of their own operations against a relevant benchmark—the efficiency of their rivals"); POSNER, *supra* note 177, at 160 ("Information is thus a two-edged sword: it is necessary if the competitive process is to work properly, but it can also facilitate collusion. It can do both at once."); SULLIVAN & GRIMES, *supra* note 91, § 5.6a, at 261–63 (2006); Richard A. Posner, *Antitrust and Information: Reflections on the Gypsum and Engineers Decisions*, 67 GEO. L.J. 1187, 1194 (1979).

economics-textbook model of a perfectly competitive market.¹⁹¹ Accordingly, the *per se* rule does not apply to such agreements because they are not a type of conduct that “always or almost always tends to restrict competition” rather than conduct “designed to increase economic efficiency and thus make markets more competitive.”¹⁹² Thus, courts apply the rule of reason to determine whether agreements among competitors to exchange price or wage information unreasonably restrain competition.¹⁹³

In past years, beginning with the Supreme Court’s 1969 decision in *United States v. Container Corporation of America*,¹⁹⁴ courts appeared to apply a relatively simple test to assess the effect of competitor agreements to exchange price information on competition. The agreement would be presumed unlawful if the market were highly concentrated (i.e., in the case of wage exchanges, the number of employers in the market was small), the exchange were of current or future wage information, and the information were transaction-specific and not aggregated into a more general statistic, such as the mean, median, mode, or range.¹⁹⁵ Each of these charac-

¹⁹¹ *Liability for an Exchange*, *supra* note 185, at 641 (explaining that the competitive model assumes perfect buyer and seller information because when buyers know all prices, they can find the lowest prices, and when sellers know all prices, they can act as necessary to attract buyers); see CARLTON & PERLOFF, *supra* note 44, at 87 (noting that a main assumption of a perfectly competitive market is “[p]erfect information”—that “[b]uyers and sellers have all relevant information about the market including the price and quality of the product”).

¹⁹² *Broad. Music, Inc. v. Columbia Broad. Sys., Inc.*, 441 U.S. 1, 19–20 (1979).

¹⁹³ See *United States v. U.S. Gypsum Co.*, 438 U.S. 422, 441 n.16 (1978) (“The exchange of price data . . . among competitors does not invariably have anticompetitive effects; indeed, such practices can . . . increase economic efficiency and render markets more, rather than less, competitive. For this reason, we have held that such exchanges of information do not constitute a *per se* violation of the Sherman Act.”); *United States v. Citizens & S. Nat’l Bank*, 422 U.S. 86, 113 (1975) (“But the dissemination of price information is not itself a *per se* violation of the Sherman Act.”); *United States v. Container Corp. of Am.*, 393 U.S. 333, 338 (1969) (Fortas, J., concurring) (“I do not understand the Court’s opinion to hold that the exchange of specific information among sellers as to prices charged to individual customers, pursuant to mutual arrangement, is a *per se* violation of the Sherman Act.”); *In re Flat Glass Antitrust Litig.*, 385 F.3d 350, 369 (3d Cir. 2004); *Todd v. Exxon Corp.*, 275 F.3d 191, 198 (2d Cir. 2001) (“This exchange of [wage] information is not illegal *per se*, but can be found unlawful under a rule of reason analysis.”); *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 118 (3d Cir. 1999); *Mitchael v. Intracorp, Inc.*, 179 F.3d 847, 859 (10th Cir. 1999); *Wallace v. Bank of Bartlett*, 55 F.3d 1166, 1169 (6th Cir. 1995); *Wilcox v. First Interstate Bank*, 815 F.2d 522, 526–27 (9th Cir. 1987); *Cont’l Cablevision, Inc. v. Am. Elec. Power Co.*, 715 F.2d 1115, 1118–19 (6th Cir. 1983); *Greenhaw v. Lubbock County Beverage Ass’n*, 721 F.2d 1019, 1030–31 (5th Cir. 1983); *Jung v. Ass’n of Am. Med. Colls.*, 300 F. Supp.2d 119, 167–68 (D.D.C. 2004); *Five Smiths, Inc. v. NFL*, 788 F. Supp. 1042, 1047 (D. Minn. 1992).

¹⁹⁴ *Container Corp.*, 393 U.S. at 333.

¹⁹⁵ The Court’s decision in *Container Corp.*, for example, struck down an exchange of price information, absent any price-fixing agreement, among corrugated-container manufactur-

teristics facilitates the ability of sellers (or purchasers in the case of input buyers) to collude effectively on prices, whether explicitly or tacitly.

More recent decisions raise the question whether a more in-depth examination may be necessary, including whether a plaintiff may have to prove that the agreement had an actual detrimental effect on prices.¹⁹⁶ Traditionally, courts apply a “burden-shifting approach” in implementing rule-of-reason analysis.¹⁹⁷ The plaintiff has an initial burden to show that the challenged agreement resulted in significant anticompetitive effects. Usually, this requires proof, at a minimum, that the participants in the agreement together have mar-

ers, where the participating firms held some ninety percent of the market, their products were identical, the exchanged information was of current prices and was transaction-specific, and the firms could identify the prices of specific competitors. *Container Corp.*, 393 U.S. at 393–94; see also *United States Gypsum Co.*, 438 U.S. at 441 n.16 (“A number of factors including most prominently the structure of the industry involved and the nature of the information exchanged are generally considered in divining the procompetitive or anticompetitive effects of this type of interseller communication.”).

Until the Supreme Court’s decision in *Container Corp.*, its decisions appeared to hold that exchanges of price information among competitors were not unlawful unless there was some indication of an actual price-fixing agreement as well. *Maple Flooring Mfrs. Ass’n v. United States*, 268 U.S. 563, 567 (1925) (noting that defendants did not reach, or attempt to reach, any agreement about prices); *American Column & Lumber Co. v. United States*, 257 U.S. 377, 399 (1921) (holding that although there was no definite agreement as to prices, that element was supplied by “the disposition of men ‘to follow their most intelligent competitors’”); see, e.g., *Sugar Inst., Inc. v. United States*, 297 U.S. 553, 598–99 (1936) (noting, in finding no violation, that “the dissemination of information is normally an aid to commerce” and that the problem arises when there is an agreement regarding prices or production). *But cf.* *United States v. American Linseed Oil Co.*, 262 U.S. 371, 389–90 (1922) (striking down an information-exchange program absent a price-fixing agreement). See generally *Liability for an Exchange*, *supra* note 185, at 649–50 (“[T]he law . . . was considered well-settled. A program to exchange price information was illegal only if . . . the defendants agreed to fix prices. After *Maple Flooring* in 1925, no consideration was given to the possibility that an exchange could be anticompetitive when the participants did not have a purpose to fix prices.”).

One economist has suggested simply looking at the reason for the exchange to determine lawfulness: “Is it designed to promote informed but *independent* decisions by trade rivals and their customers in order that they may adjust their operations more intelligently to the vagaries of the market, or is it designed to achieve a common judgment among business rivals about their business policies and a common pattern of behavior which will bring security to all of them?” George W. Stocking, *The Rule of Reason, Workable Competition, and the Legality of Trade Association Activities*, 21 U. CHI. L. REV. 527, 543 (1954).

¹⁹⁶ E.g., *Todd v. Exxon Corp.*, 275 F.3d 191, 213 (2d Cir. 2001). Cf. *Container Corp.*, 393 U.S. at 339 (Fortas, J. concurring) (noting that plaintiff showed an “actual effect on pricing”). *Id.* at 344–45 (Marshall, Harlan & Stewart, JJ., dissenting) (“Nor do I believe that the Government has proved that the exchange of price information had the necessary effect of restraining price competition.”).

¹⁹⁷ *Nat’l Hockey League Players Ass’n v. Plymouth Whalers Hockey Club*, 419 F.3d 462, 469 (6th Cir. 2005). See generally ANTITRUST LAW DEVELOPMENTS, *supra* note 74, at 57–58.

ket power; absent market power, they cannot adversely affect competition in the market.¹⁹⁸ If the plaintiff meets this burden, the burden of going forward then shifts to the defendants to show a procompetitive justification for the agreement, such as the efficiencies, if any, it generates.¹⁹⁹ If the defendants meet this burden, the burden shifts back to the plaintiff to negate the justification by, for example, proof that the purported justification is illusory or a pretext, or proof that the same benefits could be achieved by a means less restrictive of competition than the challenged agreement.²⁰⁰ Ultimately, the plaintiff has the burden of persuasion to show that, on balance, the agreement's anticompetitive effects significantly outweigh its procompetitive effects.²⁰¹

The plaintiff can sustain its initial burden of proving that the defendants have market power in one of two ways. First, if the issue is seller market power, the plaintiff may show that power "directly" by evidence that the agreement actually resulted in supracompetitive prices (or prevented prices from falling as they otherwise would) or in sub-competitive output or quality.²⁰² Analogously, if the question, as in a challenge to an exchange of wage information among competing employers, is buyer market power, the plaintiff's direct evidence might consist of evidence of sub-competitive wages or, more persuasively, a sub-competitive level of hiring.²⁰³ Of

¹⁹⁸ See, e.g., *Menasha Corp. v. News Am. Mktg. In-Store, Inc.*, 354 F.3d 661, 663 (7th Cir. 2004) ("The first requirement in every suit based on the Rule of Reason is market power, without which the practice cannot cause those injuries (lower output and the associated welfare losses) that matter under the federal antitrust laws.").

¹⁹⁹ See, e.g., *Expert Masonry, Inc. v. Boone County*, 440 F.3d 336, 343 (6th Cir. 2006).

²⁰⁰ See, e.g., *Gregory v. Fort Bridger Rendezvous Ass'n*, 448 F.3d 1195, 1205 (10th Cir. 2006).

²⁰¹ See, e.g., *Expert Masonry*, 440 F.3d at 343; *Schering-Plough Corp. v. FTC*, 402 F.3d 1056, 1064-65 (11th Cir. 2005), *cert. denied*, 126 S.Ct. 2929 (2006).

²⁰² See, e.g., *Geneva Pharms. Tech. Corp. v. Barr Labs., Inc.*, 386 F.3d 485, 500 (2d Cir. 2004); *Coastal Fuels v. Caribbean Petrol. Corp.*, 79 F.3d 182, 196 (1st Cir. 1996). In some circuits, the plaintiff must also prove the relevant market, while in others, it need not. Compare *Heerwagen v. Clear Channel Commc'n*, 435 F.3d 219, 229 (2d Cir. 2006) (holding plaintiff must prove relevant market) with *Schering-Plough Corp. v. FTC*, 402 F.3d 1056, 1064 n.11 (11th Cir. 2005) (indicating plaintiff need not prove relevant market when adverse competitive effects can be proved directly).

The NWAL complaints do allege, in somewhat conclusory fashion, direct proof of market power: "Defendants collectively have substantial market power . . . including the power jointly to set hospital RN compensation below competitive levels. This joint power clearly exists because it in fact has been used to pay class members sub-competitive compensation." *Reed Am. Compl.*, *supra* note 63, ¶ 54.

²⁰³ See Pauly, *supra* note 98, at 1445 (explaining that the test for determining monopsony power is whether, when the price of an input falls, the equilibrium quantity of the input purchased falls).

course, the plaintiff must prove that the exchange of wage information caused the prohibited adverse effect on competition.²⁰⁴ Second, the plaintiff can prove the requisite market power “circumstantially” by defining the relevant market, showing that the defendants have a dominant share of that market; and showing that, in the case of buyer-side market-power analysis, new purchasers would not enter the market and increase total purchases, and incumbent purchasers would not increase the amount of their purchases, in quantities sufficient to replace the decrease in the defendants’ purchases.²⁰⁵

The plaintiffs in the Nurse Wages Antitrust Litigation will probably attempt to show the requisite anticompetitive effect under both the direct and circumstantial approaches. The complaints allege, for example, that the defendants’ exchange of wage information actually depressed hospital-employed RN compensation below competitive levels and artificially restricted the number of RNs hired.²⁰⁶ It will be interesting to see how the plaintiffs attempt to prove these allegations. It is possible to estimate the “competitive” wage level by econometric tools and then compare that level to the prevailing wage level,²⁰⁷ but a number of problems complicate the effort—particularly controlling for all the non-monetary variables that affect the wage level or comprise the full-wage rate.²⁰⁸ For example, if RN working-conditions at Hospital A are significantly more pleasant than those at Hospital B, the full-wage rate at Hospital A may be significantly higher than that at Hospital B, even if Hospital A pays its RNs a significantly lower nominal wage. Such a scenario would not suggest that Hospital B has any monopsony power. The important variable for comparison is not merely the nominal wage rate but the full-wage rate, and that is a very difficult variable to measure.

The plaintiffs also might attempt to estimate the wage-elasticity of supply for hospital-employed RN services. All else equal, the lower the elasticity of supply (that is, the more inelastic the supply curve), the greater the degree of buyer market power.²⁰⁹

²⁰⁴ See, e.g., *J.B.D.L. Corp. v. Wyeth-Ayerst Labs.*, 485 F.3d 880 (6th Cir. 2007).

²⁰⁵ *United States v. VISA U.S.A., Inc.*, 344 F.3d 229, 239 (2d Cir. 2003); *Rebel Oil Co. v. Atl. Richfield Co.*, 51 F.3d 1421, 1434 (9th Cir. 1995) (seller-side market-power cases); see also *Gordon v. Lewistown Hosp.*, 423 F.3d 184, 210 (3d Cir. 2005).

²⁰⁶ See *Reed Am. Compl.*, *supra* note 63, ¶ 54.

²⁰⁷ Indeed, it appears that plaintiffs may have already estimated the difference between the competitive wage rate and the wage that RNs were actually paid. See *supra* note 66.

²⁰⁸ See *supra* note 30 and accompanying text.

²⁰⁹ See *infra* notes 279–80 and accompanying text.

It also might be possible for an economic expert to compare RN wages in the relevant geographic markets with those in other geographic markets where, by assumption or proof, competing hospitals do not share wage information or collude, and the market for hospital-employed RNs is “competitive.” However, finding such an area and controlling for all relevant variables that affect the wage level (for example, market structure, degree of unionization, working conditions, and attractiveness of location) may be difficult. In addition, the plaintiffs might rely on time-series data comparisons of vacancy rates and relative wage rates, hospital-employed RN wages and nonhospital-employed RN wages, and RN wage rates and wage rates in arguably comparable professions, such as teaching. They might also compare changes in RN wages over time to inflation rates or other relevant indices.

These difficulties suggest that the plaintiffs may put more stock in attempting to prove market power by circumstantial evidence. A first question is the scope of the relevant product market. The complaints allege that the relevant product markets include only RN “services provided to hospitals,”²¹⁰ thus excluding purchases of RN services by other types of employers and similar services provided to hospitals by other types of health care personnel.

Generally speaking, the relevant market includes the alternatives available to parties whom the challenged conduct would adversely affect.²¹¹ For example, if the issue is seller-market power, the relevant product market consists of the alternatives available to buyers—the seller’s product or service plus, if any, the smallest group of additional products or services to which buyers would turn, because of their “reasonable interchangeability”²¹² with the seller’s product, in sufficient numbers to prevent the seller from profitably raising its price.²¹³ When the issue is employer market power vis-a-vis employees, the analysis is analytically similar but reversed: the relevant product market consists of the employment alternatives available to employees—for example, other employers with substitutable employment opportunities to which employees

²¹⁰ Reed Am. Compl., *supra* note 63, ¶ 49 (emphasis added).

²¹¹ See, e.g., *Harrison Aire, Inc. v. Aerostar Int’l, Inc.*, 423 F.3d 374, 383 (3d Cir. 2005) (“Relevant market definition is a function of reasonably available product substitutes.”), *cert. denied*, 126 S.Ct. 1581 (2006).

²¹² See *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 482 (1992).

²¹³ 2B ANTITRUST LAW, *supra* note 113, ¶ 536, at 284–86. See generally *Merger Guidelines*, *supra* note 95, § 1.1; *United States v. Oracle Corp.*, 331 F. Supp.2d 1098, 1111–12 (N.D. Cal. 2004).

would turn if the employer or employers in question attempted to exercise monopsony power by lowering the “price” for the employees’ services.²¹⁴ As one court explained, when the issue is the market power of buyers rather than sellers, the relevant “market is comprised of buyers who are seen by sellers as reasonably good substitutes.”²¹⁵

That employers other than hospitals hire RNs does not mean that their jobs are included in the relevant product market. If hospitals were able to decrease wages by five or ten percent without losing so many RNs that they had to rescind the wage decrease (because, for example, the other jobs paid significantly less or were otherwise quite unattractive), the relevant market would be limited to RN services provided only to hospitals, as the plaintiffs allege. It would not include other employment opportunities, even though they might constitute some small constraint on the wage decisions of the hospitals, because too few RNs would switch from hospital to non-hospital employment to prevent the hospitals from decreasing wages.²¹⁶

²¹⁴ See, e.g., Nat’l Hockey League Players Ass’n v. Plymouth Whalers Hockey Club, 419 F.3d 462, 471–73 (6th Cir. 2005). As the Federal Trade Commission and Antitrust Division have explained:

Defining a buyer-side market involves reversing the standard seller-side formula to ask about the extent to which at-risk suppliers will substitute other outlets for their products or services in response to a small but significant and non-transitory *decrease* in price. The crucial consideration in defining monopsony product and geographic markets, therefore, is whether the buyers of the input in the putative market successfully would be able to lower the price they pay for the input or whether, instead, the sellers have sufficient realistic alternatives to allow them to circumvent the price decrease.

FED. TRADE COMM’N & U.S. DEP’T OF JUSTICE, IMPROVING HEALTH CARE: A DOSE OF COMPETITION, Ch. 6, at 13 (2004).

²¹⁵ Todd v. Exxon Corp., 275 F.3d 191, 202 (2d Cir. 2001) (quoting Blair & Harrison, *supra* note 95, at 324); see also BLAIR & HARRISON, *supra* note 55, at 55–56 (“One must adopt the seller’s point of view. The ‘product’ market is composed of competing uses for the seller’s output.”).

²¹⁶ If plaintiffs can prove that defendants are *already* paying sub-competitive wages, market-definition analysis arguably becomes superfluous. All hospital-employed nurses willing to switch to other types of employers because of low wages presumably will have already done so without forcing the defendants to raise wages to the competitive level, indicating that alternative sources of employment do not constrain the ability of the defendants to exercise monopsony power. This would mean that the relevant product market was no larger than that alleged by plaintiffs. See generally 2B ANTITRUST LAW, *supra* note 113, ¶ 539, at 299–303 (discussing the so-called “cellophane fallacy”); see also Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129, 159–65 (2007) (same). Of course, it would also indicate that plaintiffs had proved the market-power element of a section 1 claim directly.

The product-market allegations of the NWAL complaints track the Second Circuit's analysis in *Todd v. Exxon Corp.*,²¹⁷ the leading decision analyzing the antitrust ramifications of agreements among competing employers to exchange wage information. There, the plaintiffs, a class of employees of petrochemical companies, alleged that several of their employers unlawfully exchanged compensation information, resulting in the stabilization of their wages at sub-competitive levels.²¹⁸ Over the defendants' objection, the court held that the plaintiffs' alleged relevant product market, "services of experienced, salaried, non-union . . . employees in the oil and petrochemical industry" alleged a relevant product market sufficiently plausible to escape a motion to dismiss for failure to state a claim.²¹⁹

A major question was whether the relevant product market could plausibly be limited to employment opportunities with petrochemical companies or whether it so obviously included employment opportunities in other industries that the complaint failed to state a claim.²²⁰ For example, why would employment by a financial institution or other type of non-petrochemical company not be as attractive an alternative as a position with another petrochemical company and thus in the relevant product market? If the market included all employment opportunities, the defendants' market share as purchasers of the plaintiffs' services would be quite small; if the market were limited to employment opportunities in the petrochemical industry, however, their aggregate share would approach ninety percent.²²¹

The court held that the market might be limited to services provided to petrochemical companies because, as the employees alleged, they might have industry-specific knowledge and experience in the petrochemical industry that made them significantly more valuable (and thus more highly paid) in that industry than in other industries.²²² Accordingly, if the defendants colluded to reduce the plaintiffs' wages, it could be that too few plaintiffs would seek employment in other industries—at lower wages—to prevent the defendants from sustaining the wage decrease.²²³ If so, employment opportunities outside the petrochemical industry would not signifi-

²¹⁷ *Todd*, 275 F.3d at 191.

²¹⁸ *Id.* at 195.

²¹⁹ *Id.* at 199 (emphasis added).

²²⁰ *See id.* at 202–06.

²²¹ *Todd v. Exxon Corp.*, 275 F.3d 191, 199 (2d Cir. 2001).

²²² *Id.* at 203.

²²³ *Id.* at 204.

cantly constrain the ability of the defendants to lower wages because those jobs would not be reasonably interchangeable with jobs within the petrochemical industry. Thus, jobs outside the industry would not be included in the relevant product market.²²⁴ The mere fact that other outlets exist for the employees' services does not mean that those outlets are necessarily in the relevant product market.

Similarly, the NWAL complaints allege that, for the same reason, a relatively small decrease in compensation paid to hospital-employed RNs by the defendants would not cause a significant number of RNs working at the hospitals to seek non-hospital employment. According to plaintiffs, hospital-employed RNs have particular skills and experience for which hospitals will pay a higher wage than other RN employers are willing to pay. Thus, a small but significant wage decrease by hospitals would not induce enough of their RNs to seek employment with non-hospital employers to force the hospitals to rescind their wage decrease. If true, the relevant product market would include only RN services sold to hospitals (although not just those sold to the defendants), because non-hospital employment opportunities would not be reasonably interchangeable alternatives.²²⁵

²²⁴ *Id.* at 191.

²²⁵ As the Reed Am. Compl., *supra* note 63, ¶ 52, alleges:

Hospital RNs possess unique skill sets and gain industry-specific experience as they work, which renders them more valuable to hospitals than to non-hospital RN employers. As they gain experience, hospitals become the only practical outlets for hospital RNs to sell their services at an amount reflecting their skill and knowledge. Other potential employers, such as doctors' offices, nursing homes and outpatient clinics, offer RNs compensation substantially below that offered by hospitals.

In a recent government enforcement action challenging the alleged price fixing of temporary nursing services by a hospital association, the Antitrust Division alleged even narrower relevant product markets—a first relevant product market consisting of the purchases of temporary per diem RN services by hospitals and a second product market consisting of the purchases of temporary traveling nursing services by hospitals. Compl., *United States v. Ariz. Hosp. and Healthcare Ass'n*, No. CV07-1030-PHX (D. Ariz. May 22, 2007) (consent decree reported at 2007-2 Trade Cas. (CCH) ¶ 75, 869 (D. Ariz. 2007)). According to the Antitrust Division, "Positions as regularly employed RNs at hospitals are not generally attractive alternatives for per diem nurses because they do not offer the scheduling flexibility or pay attractive to per diem nurses," and thus full-time RN positions were not in the relevant product market. *Id.* ¶ 39. With regard to non-hospital positions, the Antitrust Division alleged that "[n]ursing positions in non-hospital settings tend to pay even lower wages, are generally less prestigious, and usually offer less professionally challenging work . . . than RN positions in hospitals," and thus would not constrain the ability of hospitals to decrease the wage level of per diem RNs working at hospitals. Accordingly, non-hospital positions were excluded from the relevant product market. *Id.*

In addition, the court in *Todd* explained that the defendants allegedly surveyed only wages in their own industry, not in others, suggesting that they believed they competed for employees only among themselves and other petrochemical companies and not against employers in other industries.²²⁶ The plaintiffs in the NWAL allege the same: that the defendant hospitals limited the wage information they gathered and exchanged to wages paid by hospitals and did not include the wage information of other types of RN employers.²²⁷ Thus, the plaintiffs allege a plausible relevant product market.²²⁸

The same general methodology applies in defining the relevant geographic market. The goal is to delineate the geographic area that includes geographically substitutable employment opportunities to which RNs working at defendants would turn if the hospitals decreased wages by a small but significant amount.²²⁹ If, in light of a decrease in the wage level by hospitals within an alleged relevant geographic market, a sufficient number of hospital-employed RNs would turn to more distant employers for jobs so that the defendants were forced to rescind their wage decrease to keep the number of RNs they needed, the relevant geographic market would include at least some of those more distant areas and the employers located therein.²³⁰ The complaints allege that RNs “are constrained from

¶40, 45. For a discussion of the case and its settlement, see Gregg Blesch, *Settlement in Temp Pay Case*, MOD. HEALTHCARE, May 28, 2007, at 14.

²²⁶ *Todd*, 275 F.3d at 205-06.

²²⁷ See Reed Am. Compl., *supra* note 63, ¶ 53.

²²⁸ Although there are different types of RNs rendering different types of services, see *supra* text accompanying notes 14, 18, even within hospitals, Plaintiffs allege that “within a few basic categories of experience and specialization,” RNs are “fungible.” Reed Am. Compl., *supra* note 63, at ¶ 55(b). The defendants claim, however, that the services of nurses are not homogeneous. See Defendants’ Opposition to Plaintiffs’ Motion for Class Certification at 1-2, *Maderazo v. VHS San Antonio Partners, L.P.*, No. 5:06-CV-00535 (W.D. Tex. Nov. 10, 2006) (“There is not just one kind of nurse in the San Antonio area—there are many, serving needs in a variety of positions, including chief nursing officers, nurse vice presidents, nurse directors, managers and assistant managers, charge nurses, pool nurses . . . and staff nurses.”). If the employment alternatives available to different types of nurses are substantially different, the services of the different nurses could constitute separate, smaller relevant product markets. Cf. *id.* at 11 (“The options available, for example, to an ICU nurse will be different than the options available to a part-time nurse In other words, no single marketplace exists within which to assess any claimed impact to nurses.”).

²²⁹ See *Merger Guidelines*, *supra* note 95, § 1.21. Very generally, the relevant geographic market is the “area in which the [defendants] operate[], and to which the [plaintiffs] can practically turn for [employment].” *Tampa Elec. Co. v. Nashville Coal Co.*, 365 U.S. 320, 327 (1961).

²³⁰ See BLAIR & HARRISON, *supra* note 55, at 56 (“Geographic market definition . . . requires a search for outlets that could be regarded as reasonable substitutes [to the sellers]. The

moving to another geographic area because of region-specific licensing requirements, as well as other professional and familial obligations,”²³¹ and thus the more distant employers are not interchangeable employment opportunities.²³² In addition, they allege that the defendant’s wage-information exchanges covered the RN compensation only of hospitals in the areas alleged as relevant geographic markets, suggesting that the defendants believe that they do not compete against more distant hospitals for the plaintiffs’ services.²³³ Thus, the plaintiffs allege a plausible relevant geographic market.²³⁴

Most of the NWAL complaints allege “heavily concentrated” markets²³⁵ for the purchase of hospital-employed RN services.²³⁶ The

relevant question is whether sellers can ship [their services] to users outside the local geographic area when prices are depressed [within the local geographic area].”). As in the case of product-market definition, this step is superfluous if the defendants are already exercising monopsony power because this would mean that not enough RNs switched to more distant hospitals in light of low wages to prevent the defendants from successfully decreasing wages and sustaining that wage decrease. This would indicate that they have market power, and determining this is the reason for defining relevant markets. Also worth noting is that the ultimate objective in defining a relevant geographic market is not to delineate a geographical *area* as such, but to identify those more distant *employers* that present reasonably interchangeable employment alternatives to the employers attempting to exercise monopsony power.

²³¹ Reed Am. Compl., *supra* note 63, ¶ 51.

²³² Similarly, in *United States v. Ariz. Hosp. and Healthcare Ass’n*, No. CV07-1030-PHX (D. Ariz. filed May 22, 2007), the Antitrust Division alleged that the relevant geographic markets for temporary per diem RN services were limited to the Tucson and Phoenix markets because per diem nurses must live “within a reasonable commute of the hospitals where they work” and thus “[m]ore distant hospitals are not good substitutes.” Compl., *id.* ¶ 43.

²³³ Reed Am. Compl., *supra* note 63, ¶ 53.

²³⁴ See also Hurd, *supra* note 59, at 234 (“Because nurses lack geographic mobility, the geographic scope of the market is local rather than regional or national.”).

Just as it might be possible for the different services of different types of RNs to constitute separate relevant product markets, it is possible that different types of nurses have different relevant geographic markets. Every relevant product market has its own relevant geographic market. For example, high-level nursing administrators may consider more distant opportunities reasonable alternatives while floor nurses might not because there are fewer available RN administrative positions than floor-nurse positions.

²³⁵ See, e.g., Third Corrected Class Action Compl. ¶ 33, *Cason-Merenda v. Detroit Med. Ctr.*, No. 06-15601 (E.D. Mich. June 15, 2007). “Market concentration” is a function of the number and size of firms in a market—the fewer the number of firms and the larger and disparate their market shares, the higher the level of market concentration. Economic theory predicts an inverse relationship between the level of market concentration and market performance, and, related, that the higher the level of concentration, the more likely is either explicit or tacit collusion among firms in the market. See generally SCHERER & ROSS, *supra* note 119, at 4, 277–79. Market concentration is often measured or assessed by N/firm concentration ratios (for example, the four-firm concentration ratio (CR4) is the aggregate market share of the largest four firms in the market) or, more frequently today, by the

level of market concentration is an extremely important variable in determining whether an exchange of wage information will have, or has had, an anticompetitive effect. High market concentration is not sufficient by itself, however, to show any effect on competition or that an exchange of wage information is unlawful.²³⁷ Rather, there must be a close examination of a number of factors that shed light on whether the relevant markets are conducive to interdependent decision making and on the likely effect of interdependent decision making if it occurs—whether tacit collusion would be feasible, effective, and profitable,²³⁸ and thus whether market conditions in the relevant markets are favorable or unfavorable for successful oligopsonistic interdependent action.²³⁹ Complicating the analysis is that

Herfindahl-Hirschman Index (HHI), which is calculated by squaring and then summing the market shares of the individual firms in the market. A rough rule of thumb is that a market with a CR4 of fifty percent or less is deemed “unconcentrated,” while a market with a CR4 of between fifty and seventy percent is “moderately concentrated,” and one with a CR4 above seventy percent is “highly concentrated.” The *Merger Guidelines*, *supra* note 95, § 1.51, posit that a market is “unconcentrated” if the HHI is less than 1000; “moderately concentrated” if between 1000 and 1800, and “highly concentrated” if above 1800. The HHI in a market with ten equal-size firms is 1000 ($10^2 \times 10$), and that in a market with five equal-size firms is 2000 ($20^2 \times 5$).

²³⁶ The complaints do not allege sufficient information from which the HHIs for the various alleged markets can be calculated. The Chicago complaints allege no information helpful in examining that market’s structure. Assuming the defendants in each of the other cases are the largest employers of RNs in the alleged relevant markets, the Albany complaint alleges that the CR5 is seventy-three percent; the Memphis complaint alleges that the CR2 is sixty-eight percent; the San Antonio complaint alleges that the CR3 is fifty-six percent; and the Detroit complaint alleges that the CR8 is eighty percent.

²³⁷ See *Todd vs. Exxon Corp.*, 275 F.3d 191, 202 (2d Cir. 2001) (“A greater availability of substitute buyers [i.e., lower buyer market concentration] indicates a smaller quantum of market power on the part of the buyers in question.”); *id.* at 208 (“Generally speaking, the possibility of anticompetitive collusive practices is most realistic in concentrated industries.”); POSNER, *supra* note 177, at 168 (“[T]he more highly concentrated a market is, the likelier it is that an exchange of information will foster collusion rather than simply help to equilibrate demand and supply.”).

²³⁸ Many of these factors are the same variables that are relevant in predicting whether a merger is likely to result in coordinated interaction and thus may be unlawful under section 7 of the Clayton Act, 15 U.S.C. § 18 (2000). One purpose of section 7 is to prevent mergers that may result in oligopolistic or oligopsonistic tacit collusion among sellers or purchasers. Again, however, if the plaintiffs in the Nurse Wages Antitrust Litigation can show “directly” that the wage-exchange agreements resulted in sub-competitive wages and purchases, they and the court need not enter the thicket of examining these factors. See, e.g., *Todd*, 275 F.3d at 206 (“If a plaintiff can show that a defendant’s conduct exerted an actual adverse effect on competition, this is a strong indicator of market power [A] threshold showing of market share is not a prerequisite for bringing a § 1 claim.”).

²³⁹ As one commentator has noted, “in a market in which conditions are favorable to collusion, an exchange of price information may be persuasive evidence of collusive pricing, while in a market in which conditions are unfavorable, [it] may be no evidence of collusive behavior at all—may be, in fact, . . . procompetitive.” POSNER, *supra* note 177, at 69.

all these factors must be considered together rather than in isolation.²⁴⁰ Relevant factors in determining the likely effect on competition of an agreement among competing employers to exchange wage information include the following:²⁴¹

²⁴⁰ Relevant here is Statement 6 of the federal antitrust enforcement agencies' health care enforcement statements discussing "Provider Participation in Exchanges of Price and Cost Information." *Health Care Statements*, *supra* note 183, Statement 6. In addition, the Federal Trade Commission and Antitrust Division have issued many advisory opinions and business review letters discussing price exchange and dissemination programs. Many of those focusing on such programs involving health care are cited in 2 MILES, *supra* note 104, § 15:4 nn.6 & 7, and are reprinted at 3 & 4, *id.* Apps. C & D. Statement 6 explains that exchanges of wage and price information can have procompetitive or anticompetitive effects, depending on the circumstances. Regarding wages, for example, the statement notes that "[p]roviders can use information derived from . . . compensation surveys to . . . offer compensation that attracts highly qualified personnel." On the other hand, "information exchanges among competing providers may facilitate collusion or otherwise reduce competition on . . . compensation, resulting in . . . reduced quality or availability of health care services. A collusive restriction on the compensation paid to health care employees, for example, could adversely affect the availability of health care personnel."

Statement 6 establishes an "antitrust safety zone" for wage-survey programs meeting its requirements, meaning that the agencies would challenge such programs only in "extraordinary circumstances." For safety-zone protection, (1) a third-party must conduct the wage survey; (2) the information provided or exchanged must be at least three-months old; (3) there must be at least five providers participating in the program, and no single provider's data can account for more than twenty-five percent of the statistics disseminated (on a weighted basis); and (4) the data must be aggregated in a way such that participants cannot identify specific prices or the specific data of any participant. Interestingly, if there were only five providers in the market with equal market shares, the HHI would be 2000, which the agencies' *Merger Guidelines* posit is a "highly concentrated" market; see *supra* note 235. Professor Hovenkamp argues that, absent substantial consumer benefits, an exchange of price information should be condemned if the HHI exceeds 1000. 13 ANTITRUST LAW, *supra* note 185, ¶ 2111g, at 61–62. Professor Feldstein suggests that hospital markets are "highly concentrated" if they include less than four hospitals and "quite concentrated" if they contain four or five hospitals. FELDSTEIN, *supra* note 1, at 267.

All the NWAL complaints allege that the challenged wage exchanges "fall outside [Statement 6's] antitrust safety zone," *e.g.*, Reed Am. Compl., *supra* note 63, ¶ 2, but, even if true, that does not mean they are unlawful.

²⁴¹ Many antitrust law and economics books and articles identify the relevant factors and provide more in-depth discussions than that here. See, *e.g.*, 2B ANTITRUST LAW, *supra* note 113, ¶ 404c, at 15–20; 6 ANTITRUST LAW, *supra* note 112, ¶ 1430, at 209–213; 13 ANTITRUST LAW, *supra* note 185, ¶ 2111c, at 53; BLAIR & HARRISON, *supra* note 55, at 43–44; CARLTON & PERLOFF, *supra* note 44, at 186–88; ROGER LEROY MILLER, INTERMEDIATE MICROECONOMICS 344 (1978); POSNER, *supra* note 177, at 69–80; SCHERER & ROSS, *supra* note 119, at 277–94; *Merger Guidelines*, *supra* note 95, §§ 2.11–.12; *Liability for an Exchange*, *supra* note 185, at 644; Werden, *supra* note 146, at 746–51; McCarthy & Thomas, *supra* note 95, at 11–14; ANTITRUST LAW DEVELOPMENTS, *supra* note 74, at 93–98.

These factors go to the questions of how susceptible a market is to collusion and how effective the collusion would be if it occurred. Thus, they are relevant not only to whether interdependent decision making is likely, but also to whether market conditions are favorable for explicit collusion, as Count I alleges.

1. *Market concentration, including the number of competing purchasers participating in the wage information-exchange agreement and, assuming interdependent action, their market power*—The level of market concentration is probably the most important single factor in determining the susceptibility of a market to interdependent decision making and, if it occurs, its likely effect. The fewer the number of purchasers participating in the agreement, the easier and less costly it is for them to react interdependently and coordinate their decision-making.²⁴² The aggregate market share of the interdependent decision makers is important in assessing the likely effect of their interdependent decisions because it is an indicator of their market power.²⁴³ Even if acting interdependently, their decisions will have little or no effect on competition if, in the aggregate, they lack significant market power.²⁴⁴

The complaints in the Albany, Memphis, and San Antonio cases cite concentration figures suggesting that those markets are somewhat or highly concentrated. The Chicago complaints provide no figures,²⁴⁵ and the Detroit complaint provides a figure suggesting that the market is not highly concentrated.²⁴⁶

2. *Age of the exchanged information*—In general, the older the information exchanged among the parties, the less likely the exchange will affect current or future wages anticompetitively, as long as wages change periodically. Old information usually provides little

²⁴² Accordingly, Statement 6 of the *Health Care Statements*, *supra* note 183, requires, for safety-zone protection, that at least five firms participate in the data program. *See also* Bergmann, CHALLENGE, *supra* note 4, at 98 (noting that the relatively small number of hospitals in many markets “facilitates anticompetitive behavior through agreements—some explicit and some tacit—to refrain from unilateral increases in nurse wages”).

²⁴³ *See* 13 ANTITRUST LAW, *supra* note 185, ¶ 2114, at 105 (noting that in the case of collusion among buyers, “[a]nticompetitive effects would generally require that the firms collectively control a significant percentage of the market in which they buy.”).

²⁴⁴ *See Liability for an Exchange*, *supra* note 185, at 642.

²⁴⁵ According to a subpoena recipient in *Reed*, *supra* note 6, “in Chicago, Cook County, DuPage County and Lake County, Illinois, there are forty-five hospital systems operating sixty-nine general, medical, and surgical acute care hospitals, with a total of 19,642 staff beds.” Metro. Chicago Healthcare Council’s Objections to Plaintiffs’ Subpoena for Documents and Motion to Quash or to Modify Subpoena ¶ 8, at 4, *Reed v. Advocate Health Care*, No. 06 C 3337 (N.D. Ill. Feb. 26, 2007). All else equal and assuming this area constitutes the relevant geographic market, a market with forty-five competitors would be very unconcentrated. But worth remembering is that the number of competitors is relevant merely because it sheds light on the difficulty of coordinated action. Other market factors could permit competitors, even in an unconcentrated market, to behave interdependently, which is the ultimate question. *See* Bhaskar, *supra* note 48, at 156 (“Oligopsony describes a situation where employer market power persists despite competition with other employers—the number of employers does not need to be small.”).

²⁴⁶ *See supra* note 236.

insight into current or future market conditions, including how employers might react to one another's increase in wages. The exchange of information about current and future wages, however, may affect wages anticompetitively because it provides competitors with the best insight into what others are doing (and likely will do) with respect to current and future wages.²⁴⁷ This is why Statement 6 of the *Health Care Statements* mandates that, for antitrust safety-zone protection, relevant price or wage data collected for a price or wage survey be at least three-months old.²⁴⁸ The six NWAL complaints allege that the defendants exchanged both current and future wage information but provide no specific allegations about the age of the exchanged information.²⁴⁹

3. *Detail of the exchanged information regarding specific wages, identified employers, and specific transactions*—The more specific the information exchanged is (e.g., specific wages or the wages of specifically identified competing employers), the greater the risk of interdependent action because employers can more accurately synchronize their competitive responses to the actions of their closest competitors and detect any cheating on the group's interdependent decision making.²⁵⁰ Thus, Statement 6 of the *Health Care Statements*, for safety-zone protection, requires that the information be “masked” or “aggregated” into statistics, such as the mean, mode, median, percentile, or range, “such that it would not allow recipients to identify the . . . compensation paid by any individual provider.”²⁵¹ Numerous decisions²⁵² and commentators²⁵³ emphasize

²⁴⁷ See, e.g., *United States v. U.S. Gypsum Co.*, 438 U.S. 422, 441 n.16 (1978) (“Exchanges of current price information, of course, have the greatest potential for generating anticompetitive effects and although not *per se* unlawful have consistently been held to violate the Sherman Act.”); *Todd v. Exxon Corp.*, 275 F.3d 191, 211 (2d Cir. 2001) (“The exchange of past price data is greatly preferred because current data have greater potential to affect future prices and facilitate price conspiracies. By the same reasoning, exchanges of future price information are considered especially anticompetitive.”); *Health Care Statements*, *supra* note 183, Statement 6 (“Exchanges of future prices for . . . compensation of employees are very likely to be considered anticompetitive.”).

²⁴⁸ *Health Care Statements*, *supra* note 183, Statement 6. Of course, the information may be three-months old and still current.

²⁴⁹ See, e.g., *Reed Am. Compl.*, *supra* note 63, ¶ 55(a).

²⁵⁰ 13 ANTITRUST LAW, *supra* note 185, ¶ 2112e, at 83 (“Particularly suspicious . . . is detailed information from which one firm can determine the price[s] being charged by ‘adjacent’ rivals to a particular customer or class of customers.”); see, e.g., *Todd*, 275 F.3d at 212 (“Price exchanges that identify particular parties, transactions, and prices are seen as potentially anticompetitive because they may be used to police a secret or tacit conspiracy to stabilize prices Courts prefer that information be aggregated, in the form of industry averages, thus avoiding transaction specificity.”).

²⁵¹ *Health Care Statements*, *supra* note 183, Statement 6.

the importance of this variable. Commentators also point out that the information exchanged need not be specific to generate the types of procompetitive benefits that information exchanges can foster.²⁵⁴

The NWAL complaints include no allegations about the specificity of the wage information allegedly exchanged among the defendant hospitals other than claiming that it is “detailed.”²⁵⁵ In addition, the plaintiffs do allege that “[t]he resulting data, though ostensibly blinded, can be disaggregated on a hospital-by-hospital basis due to other identifying and descriptive information,” such as the participating hospitals’ number of beds and revenues.²⁵⁶

4. *Homogeneity of the relevant services*—The more differentiated (i.e., less fungible or heterogeneous) the services of RNs are, the more difficult it is for employers to collude tacitly over their wages, assuming RNs providing different services are paid different amounts.²⁵⁷ Accordingly, this variable is relevant in determining the susceptibility of the market to interdependent action.²⁵⁸ To the extent that the services of various types of hospital-employed RNs and their wages differ, the hospitals must tacitly collude on a larger number of wage rates (or find some common denominator for all wage rates).²⁵⁹ It becomes more difficult for hospitals to compare jobs and wage rates and thus more difficult to police any cheating by participants in the tacit collusion. The NWAL complaints allege that “[h]ospitals view RNs, within a few basic categories of experi-

²⁵² See, e.g., *United States v. Container Corp. of Am.*, 393 U.S. 334, 335 (1969) (“[T]here was here an exchange of information concerning specific sales to identified customers, not a statistical report on the average cost to all members.”).

²⁵³ 13 ANTITRUST LAW, *supra* note 185, ¶ 2112e, at 83; see also *Health Care Statements*, *supra* note 183, Statement 6.

²⁵⁴ See 13 ANTITRUST LAW, *supra* note 185, ¶ 2111b, at 48 (noting with regard to an exchange of price information among sellers that most benefits can be achieved without disclosure of prices charged specific customers); *Stocking*, *supra* note 195, at 544:

What businessmen need for intelligent decisions in competitive markets is general information which reveals the strength of market forces and the direction of their movement. Detailed information mutually exchanged by rival sellers, identifying each seller, each buyer, . . . and the price and terms of sale, is more essential for cooperative than for independent decision-making.

²⁵⁵ *Reed Am. Compl.*, *supra* note 63, ¶ 55(a).

²⁵⁶ *Id.* ¶ 36.

²⁵⁷ See, e.g., *Todd v. Exxon Corp.*, 275 F.3d 191, 209 (2d Cir. 2001) (“Fungibility is relevant . . . because it is less realistic for a cartel to establish and police a price conspiracy where it is difficult to compare the products being sold.”).

²⁵⁸ *Id.*

²⁵⁹ See *id.* at 210 (explaining the “common denominator” for different jobs that the *Todd* plaintiffs alleged that defendants created).

ence and specialization, as fungible, permitting hospitals readily to compare and match each other's compensation."²⁶⁰

5. *Degree to which competition is based on wages*—Tacit collusion is easier and more effective to the extent that employees base their choice of employers primarily on wages as opposed to other factors, such as the many different characteristics of the working environment. If other variables are important to employees in choosing jobs, employers will have to find some way to collude explicitly or tacitly on those variables, as well as on the level of wages, for collusion to be effective.²⁶¹ Collusion on variables other than wages would seem difficult because they are subjective rather than objective and because it would be impossible for hospitals to eliminate all the non-wage differences among them. Wages clearly are an important competitive variable in the RN job-choice calculus;²⁶² there is a direct relationship between the level of wages and the number of employed nurses.²⁶³ Much of the literature, however, indicates that subjective working-condition factors are more important considerations.²⁶⁴ The NWAL complaints include no allegations about the relative importance of wage and non-monetary variables to RNs in making job choices.

6. *Employee access to exchanged information*—For perfect competition in any market, both sellers and buyers—not just buyers—must have complete information about all competitive variables.²⁶⁵ Where, for example, employees lack the same wage data that employers exchange, their search costs in attempting to compare offers

²⁶⁰ Reed Am. Compl., *supra* note 63, ¶ 55(b).

²⁶¹ POSNER, *supra* note 177, at 76 (noting that markets are more conducive to collusion where “[p]rice competition [is] more important than other forms of competition”). Cf. LIPSEY & COURANT, *supra* note 32, at 250-51 (“When firms seek to suppress their basic rivalry by avoiding price competition, rivalry will tend to break out in other forms unless it is expressly curtailed.”).

²⁶² See, e.g., SOLVING THE NURSING SHORTAGE, *supra* note 1, at 11 (noting that in 2001, “more nurses took jobs in hospitals as soon as wages began to increase”). This simply means the supply curve has some upward slope.

²⁶³ *Id.* at 11, 12 Fig. 1.

²⁶⁴ See *supra* text accompanying notes 28–29. See generally KAMERSCHEN & VALENTINE, *supra* note 34, at 458 (“Nonmonetary considerations are more important in the case of labor than any other factor [of production] due to the inseparability of the factor owner and the factor services.”).

²⁶⁵ CARLTON & PERLOFF, *supra* note 44, at 87 (“Perfect [i]nformation” is required for a perfectly competitive market: “Buyers and sellers have all relevant information about the market including the price and quality of the product.”).

increase, if they can obtain comparative data at all.²⁶⁶ Comparing the different employment opportunities, and thus making a welfare-maximizing, rational, informed decision becomes difficult, if not impossible.²⁶⁷ Employee lack of access to information about wages decreases the wage-elasticity of supply,²⁶⁸ which increases the market power of employers.²⁶⁹ In addition, depriving employees of the wage information makes it more difficult for employees to uncover any collusion that might be occurring.

The NWAL complaints address this variable, alleging that RNs have little, if any, access to the wage information exchanged among the hospitals and that the information is “non-public.”²⁷⁰ According to the complaints, RNs not having access to the wage information “increases the relative bargaining power of hospitals in setting RN wages” because “[w]ith such information, hospitals know what others are paying their RN employees, while RN employee applicants who lack access to most or all of such (non-public) information, know much less about the competitive landscape.”²⁷¹

7. *Communications among wage-exchange-agreement participants—form, frequency, substance, participants, and results*—Depending on the justification for the exchange (and thus the need for communications among the participating competitors), suspicions increase to the extent that communications or meetings among competing purchasers are formal, regular, frequent, and involve high-level officials of the employers with decision-making authority.²⁷² Such communications can both facilitate collusion and affect its effectiveness.

²⁶⁶ See 13 ANTITRUST LAW, *supra* note 185, ¶ 2111b2, at 51 (“[W]hile good market information does reduce search costs, the principal benefits occur when consumers as well as producers have the information”), ¶ 2111g, at 61-62 (noting that information exchanges among sellers are highly suspicious if purchasers lack access to the information).

²⁶⁷ See, e.g., *Todd v. Exxon Corp.*, 275 F.3d 191, 213 (2d Cir. 2001):

Public dissemination is a primary way for data exchange to realize its procompetitive potential. For example, in the traditional oligopoly (seller-side) context, access to information may better equip buyers to compare products, rendering the market more efficient while diminishing the anticompetitive effects of the exchange A court is therefore more likely to approve a data exchange where the information is made public.

²⁶⁸ Bhaskar, *supra* note 48, at 160 (“The absence of perfect information on alternative possible jobs . . . is one reason” [the labor supply might be less than perfectly elastic]).

²⁶⁹ See *id.*; see also *infra* notes 278–79 and accompanying text.

²⁷⁰ Reed Am. Compl., *supra* note 63, ¶¶ 2, 47.

²⁷¹ *Id.* ¶ 55(c).

²⁷² See, e.g., *Todd*, 275 F.3d at 213 (citations omitted):

A final troubling aspect of the arrangement . . . is the fact that the defendants allegedly participated in frequent meetings to discuss the salary information . . .

A one-time conversation about wages between employees of two competing hospitals is less likely to lead to interdependent action by their hospitals than are frequent, regularly scheduled meetings at which wages are discussed. Similarly, an exchange of information among relatively low-level employer representatives is not as likely, all else being equal, to affect wages as the same exchange of information among actual decision-makers.²⁷³

The NWAL complaints include a number of allegations relevant to this factor. For example, they allege that the exchanges were “regular[]”; that hospital officials frequently telephoned one another to exchange wage data, “including any scheduled increases in RN compensation”; that the frequency of meetings increased during the time budgets were prepared; that RN compensation was an agenda item at some meetings; that several professional association meetings and job fairs served as forums at which exchanges and discussions occurred; and that “hospital administrators”—high-level employees—exchanged and used the information in determining wages.²⁷⁴

8. *Wage-elasticity of supply*—As noted before, the wage-elasticity of supply measures the degree to which the quantity of labor supplied responds to a given percentage change in wages.²⁷⁵ The RN wage-elasticity of supply depends in large part on the degree of job alternatives available to RNs, which itself depends in large part on the substitutability of non-hospital positions and, geographically, on the RNs’ mobility.²⁷⁶

If supply is inelastic, employers can decrease wages with relatively little loss in the quantity of labor supplied;²⁷⁷ thus (all else

accompanied by assurances that the participants would primarily use the exchanged data in setting their . . . salaries . . . Meetings, of course, are not inherently unlawful but in this context they have the potential to enhance the anticompetitive effects and ‘likelihood of . . . uniformity’ caused by information exchange Meanwhile, the frequency of the meetings is itself problematic for the same reason that the exchange of current [information] is suspect: It tends to facilitate the policing of price conspiracies.

²⁷³ See *In re Baby Food Antitrust Litig.*, 166 F.3d 112, 135 (3d Cir. 1999) (noting difference in relevance between “chit chat” of sales representatives and the “concerted reciprocal exchange of important pricing . . . information by the officers of major companies, particularly an exchange pursuant to an agreement”).

²⁷⁴ Reed Am. Compl., *supra* note 63, ¶¶ 30, 32–37.

²⁷⁵ See *supra* note 44 and accompanying text.

²⁷⁶ See generally KAMERSCHEN & VALENTINE, *supra* note 34, at 457.

²⁷⁷ FELDSTEIN, *supra* note 1, at 400 (The hospitals’ belief is that “the short-run supply of nurses was relatively inelastic (i.e., increasing the wage would result in small, if any, increases in the number of nurses seeking work, either through a change in their status from inactive

being equal), it is more profitable for employers to reduce wages (or keep them low) when employee supply is inelastic than when it is elastic. Accordingly, wage-supply inelasticity increases the employers' incentive to depress wages and thus their incentive to enter into arrangements, tacit or explicit, that will help them do so.²⁷⁸ The more inelastic supply is, the more buyer-market power a purchaser has.²⁷⁹ Indeed, an index of buyer-market power is the reciprocal of supply elasticity.²⁸⁰

All else being equal, the supply of labor, including the labor of RNs, tends to be inelastic, particularly in the short-run, in part because workers cannot withhold their inventory of labor—or store their services—until wages increase. Thus they must take the wage that is offered at a given time.²⁸¹ The NWAL complaints specifically allege that “RNs, like most laborers, generally cannot withhold their services until a later date as a means of negotiating for a higher compensation rate.”²⁸² That RNs appear more concerned about competitive variables other than wages, such as working conditions,²⁸³

to active or from in-migration from other areas.”); PINDYCK & RUBINFELD, *supra* note 49, at 368 (explaining that the extent to which monopsony power can decrease wages depends on the elasticity of supply facing employers).

²⁷⁸ BLAIR & HARRISON, *supra* note 55, at 44:

When supply is relatively inelastic, the collusive buyers need not restrict their purchases much in order to achieve a significant price reduction. Consequently, the profits that flow from collusive monopsony will be larger the less elastic supply is at the competitive price. The greater the rewards to successful collusion, the more likely such collusion is likely to occur.

²⁷⁹ See PINDYCK & RUBINFELD, *supra* note 49, at 369 (“The less elastic the supply curve, the greater the difference between marginal expenditure and average expenditure and the more monopsony power the buyer enjoys. If only one buyer is in the market—a pure monopsonist—its monopsony power is completely determined by the elasticity of market supply.”).

²⁸⁰ Staiger, *supra* note 48, at 10 (“[T]he inverse elasticity of labor supply is a measure of the ‘exploitation’ . . . [T]he own-wage elasticity of labor supply is the key to measuring monopsony power, and summarizes the extent to which a firm may reduce wages below the competitive level.”); see also BLAIR & HARRISON, *supra* note 55, at 48–51 (explaining that the reciprocal of supply elasticity can be used to construct an index of the degree of monopsony power); Sullivan, *supra* note 48, at S137–39 (measuring employer market power by the inverse of labor-supply elasticity).

²⁸¹ See generally *Todd v. Exxon Corp.*, 275 F.3d 191, 211 (2d Cir. 2001) (“Sellers’ supply could be elastic if, for example, they have ‘the option of withholding some output from the market in hopes of higher prices in future years.’ . . . ‘Labor is an extremely perishable commodity—an hour not worked today can never be recovered.’” (quoting Blair & Harrison, *supra* note 95, at 313–14)).

²⁸² E.g., Reed Am. Compl., *supra* note 63, ¶ 54. Most studies indicate that the wage-elasticity of supply for RNs is inelastic. See, e.g., Bhaskar, *supra* note 48, at 170–72; see also *supra* notes 48–50 and accompanying text.

²⁸³ See *supra* notes 28–29 and accompanying text.

suggests the wage-elasticity of supply is lower than if wages were the RNs' primary consideration. The alleged lack of information RNs have about wages offered in the alleged relevant markets also suggests that wage-elasticity of supply is lower than if this information were available to them. Even if numerous job opportunities exist outside of hospitals, if wages in those positions are significantly lower than in jobs at hospitals, then (all else being equal) the wage-elasticity of supply for RN services provided to hospitals would be low because positions outside the hospital would not constitute realistic alternatives. The NWAL complaints mention several factors suggesting that the RN wage-elasticity of supply is low but do not address the issue directly.

9. *Ability to detect "cheating"*—The reason oligopsonist employers might fail to compete by raising wages is that each knows that if it raises its wages, its competitors will do the same and thus it will gain no competitive advantage. Thus, none "cheats" on the interdependent action not to increase wages by increasing its wages if it believes its competitors will discover its "cheating."²⁸⁴ If one employer could increase its wages without discovery by others—cheat without getting caught—it might do so (depending on other factors), and the interdependent action would break down. Accordingly, the ability of employers to detect wage-increasing cheating by their competitors is an extremely important consideration in determining whether the market is conducive to interdependence and the effectiveness of interdependence in preventing wages from increasing.²⁸⁵

Uncertainty about its competitors' competitive actions or lack of information about how its competitors will react or did react to its input-purchasing decisions is the oligopsonist's worst enemy be-

²⁸⁴ See FELDSTEIN, *supra* note 1, at 406.

²⁸⁵ With respect to possible hospital collusion about RN wages prior to 1966, Feldstein explains:

With relatively few hospitals in an area, it was relatively easy for them to collude in setting RN wages and to monitor whether each hospital was adhering to the agreement.

When there are many small firms in a competitive industry, it is both difficult to organize a cartel and, if successful, for the cartel to monitor firms to ensure that they do not violate the collective agreement. It is in each firm's interest to cheat because they can attract nurses from other hospitals by slightly raising their RN wages. Hospitals, however, can quickly find out whether or not another hospital in the area has changed its wage policy. Also, because hospitals employ almost all the active nurses, it is difficult to attract nurses from other, non-hospital firms.

FELDSTEIN, *supra* note 1, at 400.

cause it facilitates cheating.²⁸⁶ Competitors often have strong incentive to cheat if they can do so without discovery. Exchanges of wage information, however, decrease the purchasers' uncertainty about their competitors' actions, permitting them to discover cheating (unless the purchasers provide one another with false information). Assuming the exchanges of wage information are sufficiently frequent and the information is current, they permit employers to "police" compliance with their tacit arrangement by quickly discovering if someone is cheating by increasing its wages. Indeed, facilitating this policing function is the primary way in which wage exchanges can facilitate oligopsonistic interdependence.²⁸⁷

The six NWAL complaints recognize this and include allegations claiming that cheating by the hospitals would not go undetected.²⁸⁸ Any other factors that help the hospitals predict the competitive reactions of their competitors would also be relevant.

10. *Entry and expansion barriers*—The effectiveness of tacit collusion and the market power of employers depend in large part on the alternative employment opportunities available to employees and potential employees. Thus, if depressed wages would attract new employers into the market or increase the hiring of RNs by employers already in the market, interdependent decision making likely

²⁸⁶ See 6 ANTITRUST LAW, *supra* note 112, ¶ 1435a, at 251 ("Tacit coordination is obstructed by any characteristics of the product, the sellers, the buyers, or the transactions that reduce each [purchaser's] confidence in predicting or monitoring rivals' present or future behavior. Such uncertainty stands in the way of oligop[s]onists' achieving cartel-like results through recognized interdependence.").

²⁸⁷ Bergmann, "Mystery Paper," *supra* note 4, at 6 ("One aspect of enforcing and policing such an agreement would be passing around current information on pay grade, by hospital. Then other hospitals would know if any of them have stepped out of line. So the presence of an organization that collected and then distributed such information would be good evidence of collusive behavior."); see HOVENKAMP, *supra* note 8, § 4.6b, at 180 ("Nothing makes monitoring of market prices easier than an agreement that every firm will disclose its [purchase] prices to competitors.").

²⁸⁸ *E.g.*, Reed Am. Compl., *supra* note 63, ¶ 55(a):

An agreement to exchange information of this type eliminates a major incentive of hospitals to increase RN compensation. The advantage of raising RN compensation is to attract more and better RN candidates by exceeding the compensation . . . paid by competing hospitals. But if a hospital knows that it cannot keep its superior compensation confidential from competitors, it will not offer such compensation in the first place. Without confidentiality, a hospital knows that most or all competing hospitals will match its higher compensation levels. The result is higher labor costs with no competitive advantage. An agreement to regularly exchange detailed and non-public information about current and prospective RN compensation assures that superior compensation will be timely and specifically known by competitors. Such an agreement, therefore, eliminates the incentive of hospitals to outbid their competitors.

would be ineffective in sustaining a wage decrease, just as, on the seller side, sellers could not sustain a price increase if it attracted new entry or expanded output by incumbent sellers.²⁸⁹ Of course, these new employment positions would have to be “reasonably interchangeable” with the RNs’ current positions (i.e., comprise part of the relevant product market because they are as attractive, or almost as attractive, as existing opportunities).²⁹⁰ Then, assuming these employers did not join in the interdependent decision making, they might bid the wage level and quantity of RN services purchased up to the competitive-equilibrium level.

All else being equal, it seems unlikely that a small, but significant, decrease in wages by RN employers would induce the entry of new buyers or a significant increase in hiring by incumbent employers of RN services. New entry would seem unlikely because RN wages would be but one of many costs of entering the market. New entry as a result of a decrease in wages would seem particularly unlikely in the Nurse Wages Antitrust Litigation scenario where, if the plaintiffs’ product-market definition is correct—RN services purchased only by hospitals—new entry would require the construction and operation of new hospitals.

. . . .

All these factors, considered together, indicate whether a market is susceptible to interdependent action and whether, if interdependent action occurs, it likely would depress wages below the competitive level—the plaintiffs’ initial burden in a rule-of-reason case to show a significant anticompetitive effect. Based on the NWAL plaintiffs’ allegations about these factors, it is not difficult to see that the alleged agreements to exchange wage information could be a material facilitator of interdependent decisions by the defendants, depressing wages anticompetitively. What the evidence will actually show after discovery, of course, is a different question. As a practical matter, if the plaintiffs show a substantial and long-standing RN shortage, a reasonably intelligent fact-finder will want an explanation from the defendants of why RN wages have not risen to obviate the shortage, and an explanation from the plaintiffs of the

²⁸⁹ Cf. POSNER, *supra* note 177, at 70–75 (noting that “fringe firms” and new entry may prevent tacit collusion by expanding output if other firms attempt to exercise market power by raising prices); *Merger Guidelines*, *supra* note 95, § 3.0 (noting that easy entry into the relevant market prevents the exercise of market power because sellers would be unable to sustain a price increase).

²⁹⁰ See *supra* text accompanying notes 215–227, discussing relevant product market definition.

cause-and-effect relationship, if any, between the shortage and the defendants' exchanges of wage information.

Interestingly, if the markets for the plaintiffs' services are oligopsonies, the defendants are on the horns of a dilemma. As to Count I, that fact provides a perfectly antitrust-benign explanation for the wage effects plaintiffs allege. But as to Count II, that fact could be fatal if the plaintiffs show that the wage exchanges were a material cause of the defendants' oligopsonistic interdependence and the adverse effects on wages that plaintiffs allege. So the defendants need to adduce another explanation for the failure of wages to rise to the level necessary to alleviate or obviate the shortage.

Assuming the plaintiffs show that the alleged agreements to exchange wage information resulted in, or materially facilitated, interdependent decisions depressing wages below, or preventing them from rising to, the competitive level, the burden of going forward in rule-of-reason analysis shifts to the defendants to adduce evidence of the agreements' procompetitive effects. This requires explaining the purpose for the wage exchanges and identifying and assessing any efficiencies they generate. Reasons such as ensuring survival, generating a profit, reducing input costs, or reducing health care costs are not acceptable or cognizable procompetitive justifications.²⁹¹ Nor is it a defense that most of the defendants are nonprofit entities.²⁹² Exchanges of wage information can generate efficiencies²⁹³ or have no effect on competition at all, but as of this writing, the cases have not progressed to the point of the defendants' identifying the procompetitive effects they might assert. A fact-finder will want to know why, if not to depress wages, the defendants participated in the alleged wage-exchange agreements.²⁹⁴

If the defendants adduce procompetitive justifications, the burden shifts back to the plaintiffs to show that comparable benefits could have been achieved by less anticompetitive means. Absent this showing, the final question, and one that, fortunately, few

²⁹¹ *E.g.*, *Freeman v. San Diego Ass'n of Realtors*, 322 F.3d 1133, 1154 (9th Cir. 2003) (rejecting the defense that some firms could survive only if they engaged in a price-fixing agreement with their competitors). *See generally* *Nat'l Soc'y of Prof'l Eng'rs v. United States*, 435 U.S. 679, 695-96 (1978) (explaining that defenses based on the concept that competition itself is harmful are not cognizable in antitrust cases).

²⁹² *See, e.g.*, *NCAA v. Bd. of Regents*, 468 U.S. 85, 101 n.22 (1984) ("There is no doubt that the sweeping language of § 1 applies to nonprofit entities.").

²⁹³ *See supra* notes 190-91 and accompanying text.

²⁹⁴ *Cf. Stocking, supra* note 195.

courts have had to confront,²⁹⁵ is whether, on balance, the agreements result in a substantial anticompetitive effect.²⁹⁶ Because procompetitive effects and anticompetitive effects are difficult, if not impossible, to measure empirically and compare quantitatively, the result is often based on a subjective judgment by the fact-finder, about which reasonable people can disagree.²⁹⁷ This is one of the scary aspects of antitrust cases, particularly those tried to lay juries.²⁹⁸

V. CONCLUSION

Different forms of price- and wage-information exchanges among competitors (and particularly among health care providers) are ubiquitous in the United States—from chit-chats on the golf course, to conversations among hospital CEOs over lunch or at charity events, to discussions among physicians about reimbursement at medical-staff and medical-society meetings, to sporadic telephone calls, to the more formal data-gathering and dissemination programs or surveys of trade and professional associations, and to the less formal discussions at association meetings. Indeed, the Nurse Wages Antitrust Litigation is not the first or only challenge to al-

²⁹⁵ See Alexander, *supra* note 95, at 1626 (“There are very few published cases where the court conducts a complete rule of reason analysis.”).

²⁹⁶ Roy B. Taylor Sales, Inc. v. Hollymatic Corp., 28 F.3d 1379, 1386 (5th Cir. 1994) (agreement must have a “substantially adverse” impact on competition); see, e.g., Dickson v. Microsoft Corp., 309 F.3d 193, 207, 208 (4th Cir. 2002) (adverse competitive effect must be “significant”).

²⁹⁷ See 13 ANTITRUST LAW, *supra* note 185, ¶ 2111c, at 54 (“[T]here is no way that a court can ‘balance’ the competitive benefits of apparently valuable information exchanges with the magnitude of the competitive threat.”); HOVENKAMP, *supra* note 8, § 5.6b, at 259:

When one expected consequence is zero and the other positive, the court may reach a reasoned decision. But if both consequences are positive, the court is unlikely to be able to assign weights that will permit balancing. We sometimes hear the deceptively simple proposition that all the court needs to do is balance efficiency effects against anticompetitive effects and see which way the scale tips. But courts are not capable of measuring either efficiency or power over price with anything approaching scientific accuracy. Most such judicial measurements are simply hunches, based on several presumptions about the nature and effects of certain practices.

²⁹⁸ Cf. HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 4 (2005):

Jury trials in front of intelligent but nonspecialist judges is a truly miserable way to make economic policy, but federal courts do it all the time in the guise of enforcing the antitrust laws. The current phenomenon of greatly overused private enforcement leads to the closely related problem of unprincipled experts whose skills at persuading an untutored jury are often much greater than the quality of their economic or market analysis.

leged wage fixing or unlawful exchanges of wage information among hospitals²⁹⁹ or to wage surveys or wage-fixing agreements by others.³⁰⁰

Given that discovery in the Nurse Wages Antitrust Litigation has only begun, it is too early even to guess what the ultimate outcomes in those cases may be. Based on the NWAL complaints, the plaintiffs will need more facts than they allege to prove the requisite agreement to fix wages alleged in Count I. If they discover these, however, most remaining complications (other than proving amount of damages) disappear: plaintiffs win. Count II, based on the complaints' factual allegations, appears stronger. But proving the requisite anticompetitive effect and that the violation caused that effect is no slam-dunk.

There would be no excuse for agreements among competing hospitals fixing RN wages³⁰¹ outside of a bona-fide collective-bargaining process. Naked wage-fixing agreements misallocate resources, adversely affecting economic efficiency not only in the market for RN services but in other connected markets, such as

²⁹⁹ See *All Care Nursing Serv., Inc. v. High Tech Staffing Servs., Inc.*, 135 F.3d 740 (11th Cir. 1998) (alleged price-fixing agreement among hospitals for temporary nursing services); *United States v. Ariz. Hosp. and Healthcare Ass'n*, 2007-2 Trade Cas. (CCH) ¶ 75,869 (D. Ariz. 2007) (consent order and competitive impact statement) (settling Antitrust Division allegations that defendants fixed the prices for temporary nursing services); *United States v. Utah Soc'y for Healthcare Human Res. Admin.*, 1994-2 Trade Cas. (CCH) ¶ 70,795 (D. Utah 1994) (consent decree settling allegation that hospitals engaged in unlawful exchange of nurse wage information); see also *PC Healthcare Enters., Inc. v. Ariz. Hosp. & Healthcare Ass'n*, No. CV-05-1793: PHX NVW (D. Ariz. June 14, 2005) (private treble-damage complaint alleging price-fixing agreement among Arizona hospitals for nursing services). For a discussion of the last case, see Mark Taylor, *Nurse Agency Sues State Group*, MOD. HEALTHCARE, July 11, 2005, at 18. In *Jung v. Ass'n of Am. Med. Colls.*, a class of medical residents alleged that almost every graduate medical education program in the country conspired to fix the price of medical-resident stipends, in part through an exchange among the programs of the stipends paid residents. 300 F. Supp.2d 119 (D.D.C. 2004). The case was dismissed based on a statute providing an antitrust exemption for the primary conduct on which plaintiffs relied for their price-fixing claim (that is, the medical residents' "match," the process that assigns medical-school students to their residencies based on their and the residency programs' preferences). 339 F. Supp.2d 26 (D.D.C. 2004), *aff'd per curiam*, 184 Fed. Appx. 9 (D.C. Cir. 2006), *cert. denied*, 127 S.Ct. 1041 (2007).

³⁰⁰ *Todd v. Exxon Corp.*, 275 F.3d 191 (2d Cir. 2001) (alleged unlawful wage surveys by petrochemical manufacturers); *Law v. NCAA*, 134 F.3d 1010 (10th Cir. 1998) (NCAA limitation on compensation of entry-level basketball coaches); *Debes Corp.*, 115 F.T.C. 701 (1992) (consent order prohibiting agreement among nursing homes fixing prices paid for nursing services); *In re Boston Survey Group*, No. 56431, 1982 WL 11279 (Mass. Super. Ct. Aug. 2, 1982) (consent judgment placing conditions on wage-survey methodology).

³⁰¹ *Cf. Freeman v. San Diego Ass'n of Realtors*, 322 F.3d 1133, 1144 (9th Cir. 2003) ("No antitrust violation is more abominated than the agreement to fix prices.").

nursing education, as well.³⁰² In addition, they cheat RNs out of compensation the market says is due them, amounting to a form of white-collar theft.³⁰³ Depending on the specific facts, however, exchanges of price and wage information among competitors can be procompetitive, efficiency-enhancing, and legal, or, at the other end of the spectrum, anticompetitive and part of a per se, even criminal, antitrust violation if outright wage-fixing agreements result. The Supreme Court recognized this conundrum in *United States v. United States Gypsum Co.*,³⁰⁴ a criminal prosecution of a price-verification program among competing sellers, in which the Court characterized the price-information exchange there as “difficult to distinguish from the gray zone of socially acceptable and economically justifiable business conduct.”³⁰⁵

The broader questions are whether low wages are a substantial cause of the RN shortage and, if so, whether unlawful collusion is the cause of those low wages. As to the first question, it is certainly true that higher wages would increase the quantity of RN services supplied to some extent. The literature suggests that, although low wages may be one cause of the shortage, other causes are more significant. The level of wages may be a part of the problem,³⁰⁶ but increasing wages would seem far from a panacea.

If RN wages are “low”—that is, below the competitive equilibrium—it is difficult to pinpoint a single, or even a primary, cause. The literature fails to provide a cogent explanation or cogent solution for the RN shortage, perhaps because the causes are numerous and the effects of each impossible to quantify. That the RN shortage is a national, if not international, problem suggests that collusion over wages is not a primary cause unless collusion is occurring in

³⁰² See FELDMAN, *supra* note 1, at 329 (“Since the various sub-markets are interrelated and feed into the market for medical services, the efficiency with which the health manpower market performs will affect prices and outputs in each of the other markets . . .”).

³⁰³ *Cf.* *Law v. NCAA* 134 F.3d 1010, 1022 (10th Cir. 1998) (“Lower prices cannot justify a [buyer] cartel’s control of prices charged by suppliers, because the cartel ultimately robs the suppliers of the normal fruits of their enterprises.”).

³⁰⁴ 438 U.S. 422 (1978).

³⁰⁵ *Id.* at 441.

³⁰⁶ *Cf.* Buerhaus, *Recent Trends*, *supra* note 1, at 66 (“If RN wages increase, this would counter (to some unknown extent) the negative effect of falling unemployment rates on participation and hours worked. If wages do not increase, the likely result will be . . . a further decline in RN employment during 2006.”); Buerhaus, *Dynamic Shortages*, *supra* note 19, at 317 (“[R]aising wages of currently employed registered nurses . . . would result in modest short-run increases in hours worked, thereby helping reduce dynamic shortages of RNs.”).

most or all relevant geographic markets in the United States³⁰⁷ and perhaps the world. That there are shortages of other types of health care professionals, but apparently no suggestion of collusion as a cause of those shortages, also suggests that collusion may not be the primary cause of the RN shortage.³⁰⁸ Perhaps, as the hospitals defend themselves, the Nurse Wages Antitrust Litigation will shed light on a number of facts relating to these questions of aid to policymakers in addressing solutions to the RN-shortage problem.

The NWAL cases do serve to highlight the antitrust dangers from price- and wage-exchange programs among competitors, a danger that many health care providers appear not to understand or to disregard. Especially because price is “the central nervous system of the economy”³⁰⁹ and the Supreme Court has emphasized that “[n]o antitrust offense is more pernicious than price fixing,”³¹⁰ firms, whether in selling their services or in purchasing their inputs, should be particularly careful about discussing or exchanging price or wage information with competitors. This is particularly true in highly concentrated markets (which many hospital output and some input markets are) and when the participants cannot present and prove procompetitive reasons for, and effects from, the exchanges. If nothing else, the Nurse Wages Antitrust Litigation shows that the specter of class actions, treble damages, and substantial litigation time and costs warrants caution.

³⁰⁷ The NWAL plaintiffs appear to recognize that the shortage is a nationwide problem—not one limited to specific areas of the country. *See, e.g.*, Reed Am. Compl., *supra* note 63, ¶ 3 (“Defendants’ conspiratorial conduct has occurred in the context of a national nursing shortage.”); Plaintiffs’ Memorandum, *supra* note 6, at 1 (“For years, hospitals in San Antonio and nationwide have operated with significant unfilled nursing vacancies . . .”).

³⁰⁸ Of course, that wage collusion may not be the primary cause of the RN shortage is no antitrust defense to a claim alleging a wage-fixing agreement.

³⁰⁹ *United States v. Socony-Vacuum Oil Co.*, 310 U.S. 150, 224 n.59 (1940).

³¹⁰ *FTC v. Tico Title Ins. Co.*, 504 U.S. 621, 639 (1992).