行政院所屬各機關因公出國人員出國報告書

出國類別：考察

裝

訂

線

歐洲前臨床試驗機構參訪報告

機關：經濟部技術處

出國人員：吳明機

機關：行政院國發基金管理會

出國人員：林倩如

地點：英國、德國

期間：97年2月16日- 97年2月24日

報告日期：97年4月25日

目次

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壹、本案緣起

財團法人生物技術開發中心（以下稱生技中心）吳樹民董事長等人於97年2月4日拜會經濟部及國發基金等單位，表示為籌設以非人類靈長類動物試驗為主之委託研究機構 TCRO (Taiwan Contract Research Organization)，擬組團於本（97）年2月16至24日前往英國及德國參訪三家國際CRO（Contract Research Organization）公司，並爭取國發基金之參與投資。

本案經駐英國代表處經濟組、Imperial College London 小兒外科林成龍教授及提供實驗用猴隻之香港 Vanny 集團協助，安排拜訪三家國際前臨床試驗公司於歐洲之廠區。

貳、TCRO 投資案之主要內容

一、成立目的

1. 因應高品質靈長類動物之實驗需求

2. 補足國內在前臨床生醫研發鏈的實驗動物缺口

3. 促進生醫研發能量升級

4. 建立生物防禦研究能力

5. 配合新藥發展趨勢

二、經營團隊（尚未提出特定人員）

1. 國際級 CEO

2. 國際級建置專家及合作夥伴

3. 國內外專業技術顧問團隊

三、股東結構

1. 總投資 5,000 萬美元

2. 國內投資者：國發基金、生技相關企業及創投、生技中心（技術入股）

3. 國際合作夥伴：擬爭取世界前幾大 CRO 公司、Vanny Group（靈長類實驗動物供應商）

參、參訪公司現況

本次拜訪 Huntingdon Life Science （Huntingdon, UK）、Charles River Laboratories (Edinburgh, UK)及 Covance Laboratories GmbH (Muenster, Germany)，均為該公司於英國、德國之廠區，均屬臨床試驗委託研究公司，且對非人類靈長類動物試驗專精者。

據 Huntingdon Life Science 所說明，Huntingdon Life Science、Charles River Laboratories 及 Covance Laboratories 等三家公司分別占前臨床試驗服務全球市場之 7%、16%及 13%，顯示本次參訪之三家公司在相關產業具有代表性。

該三家公司均有在前臨床試驗上下游兼營垂直整合業務，例如藥物發現、病理服務、藥物代謝、臨床試驗等。Charles River Laboratories 市值約 40 億美元，Covance Laboratories 之市值約 55 億美元，股價近年來均表現亮麗，營業獲利亦屬可觀（附件一）。

人類基金因解碼以來，基因訊息產生的大量的藥物前驅物，亟待藥物開發平台進行篩選，故前臨床試驗商機大幅成長。目前國際間將臨床試驗外包之趨勢方興未艾，無論是大型製藥公司或生技公司之委外業務均逐年成長，而生技藥物更特別需要靈長類動物試驗。Charles River Laboratories 及 Covance Laboratories 在國際市場已經成為主要的參與者（附件二）。

肆、前臨床動物試驗設施之見聞

本次參訪之前臨床動物試驗公司均位處隱密之郊區，並且門禁森嚴（如圍牆均裝置鐵絲網），在園區內亦不得拿出手機或相機，其中僅Huntingdon Life Science 允許本團參觀者進入豢養猴隻（及鼠類、狗隻及其他農場動物）之房舍參觀，其他均只得於參觀走道見到少數猴隻，說明者均強調善待動物的態度及動物保護法規之遵守。

此行所參觀之猴舍，均有現代化而嚴謹之設施與規模，建立國際標準之猴舍約需 20M 美元，目前該等廠區猴隻約在 1000-2000 隻，以Cynomogus 及 Marmoset 品種為主。而猴隻供應商 Vanny 集團則表示，其提供 18 個月大的猴隻大盤單價約為 3000 美元，其客戶再售出之價格甚至可達到 8000 美元，可見此屬高成本之試驗模式。

人類基金因解碼以來，基因訊息產生的大量的藥物前驅物，亟待藥物開發平台進行篩選，故前臨床試驗商機大幅成長。目前國際間將臨床試驗外包之趨勢方興未艾，無論是大型製藥公司或生技公司之委外業務均逐年成長，而生技藥物更特別需要靈長類動物試驗。猴隻供應商 Vanny 集團亦表示全球猴隻之需求逐年成長（目前每年約需 6 萬隻），該公司於柬普寨及越南山區進行之人工培育，另部分廠商提供之實驗動物係來自野生捕獲。

伍、投資案分析及結論

本投資案構想對於健全台灣生技產業價值鏈、提供新藥篩選之平台，具有關鍵性影響，值得政府支持與鼓勵。惟政府究竟以科技專案（或其他科技經費）支援研究機構培植相關能力，以提供國內相關領域之服務；或以投資入股之方式鼓勵建立委託研究公司，似有值得探討之空間。

國發基金以政府投資者的角色評估成立 TCRO，尚有以下問題亟待克服：

一、專業能力：目前生技中心雖有鼠類動物實驗設施及人力，並通過

AAALAC (Association for Assessment and Accreditation of Laboratory Animal Care)認證，甚至曾考慮以技術及團隊作價分割出去成立公司，但無論生技中心或國內其他公私營機構，目前尚無任何非人類靈長類動物試驗之設施與能力，即使從現在開始加速培育人才，建立動物管理與毒理試驗能力，對現階段募資成立公司，似屬緩不濟急。

二、市場競爭及進入障礙：目前 CRO 市場雖方興未艾，但國內新建立的公司欲爭取國外客戶似屬不易，例如本基金間接投資之進階生技公司（國內從事鼠類動物試驗服務之代表性公司），目前亦僅接受國內客戶委託。若成立 TCRO，恐怕主要面臨中國的激烈競爭，而且初期恐需削價競爭，以獲取規模較小之客戶。目前中國的 CRO 公司不少已經浮出檯面，並且品質已獲肯定，例如已在紐約掛牌的 WuXi Pharma Tech 及 Bridge Laboratories 等公司，營運績效已經顯現。

三、合作夥伴之技術提供：試驗服務之公司須建立嚴謹的 SOP 法規文件及良好聲望，追隨者恐非一朝一夕所能趕上。如能爭取具有國際經驗與聲譽之合作夥伴，或可加速公司相關技術與核心能力之建立。惟本次參訪的三家公司，均表示已經或計畫在中國設置立據點，其中生技中心雖對公司規模較小的 Huntingdon Life Science 提出合作的意願，但雙方尚無具體的協議。

四、相關法規：目前動物試驗在許多國家受到保育人士之反對，先進國家及歐盟等也對相關試驗方式及動物養育設施訂定嚴謹的管理法規。目前我國相關單位對靈長類試驗動物的進口檢疫及試驗規範尚不完備，相關規範尚待建立。

五、經營團隊：由於本案目前係由生技中心主導，尚無適格的專業經營團隊出線，如欲進行募資及公司設立，團隊之招募應屬刻不容緩。

六、投資架構：本次參訪尚無任何其他潛在投資人參加，如欲設立公司，亟需爭取民間投資者。但本案可能有以下技術股股東：

（一）猴隻供應商願以猴子作價方式入股新設立之公司，確保猴隻之供應無虞。如依生技中心提供之財務規劃五年達到 6000 隻猴子，如以每隻 3000 美元為作價基礎，可能需作價 18M 美元，縱能如預期募集到現金 50M，猴隻作價將達 26%之股權，價格將有待再議。

（二）如爭取前臨床試驗國際專業公司之合作或聯盟，恐需另有技術股之提供。

（三）無論生技中心是否有被肯定之技術能力，按其初步規劃，亦擬取得技術股。

故本案如何建立足以保障股東權益之投資架構，屬不容忽視的課題。

綜上所述，本案如以成立公司之型態進行，目前並未達國發基金得以評估投資之階段，將視後續發展配合辦理。另據悉行政院科技顧問組將協調國科會等機關整合國內動物試驗資源，將可協助建立國內動物試驗之基礎建設。

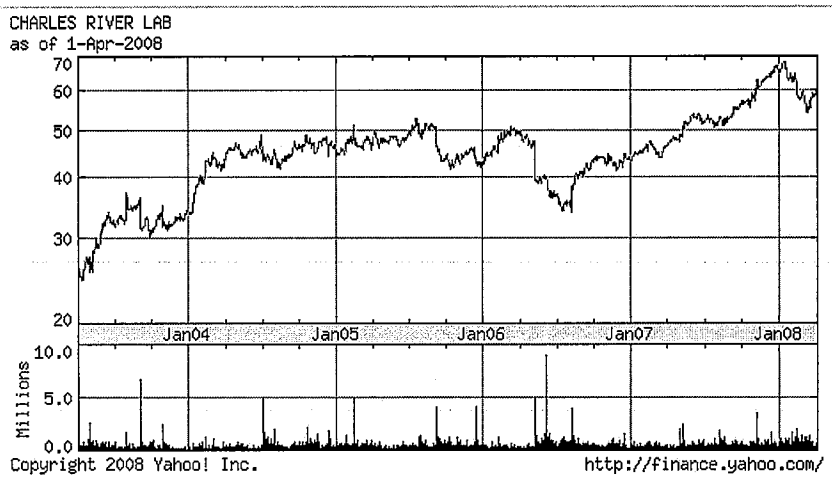
資料來源：

1. finance.yahoo.com
2. Lehman Brothers: CRO Monitor (Asia Preclinical Market) March 14, 2008
3. www.criver.com
4. www.covance.com

附件一

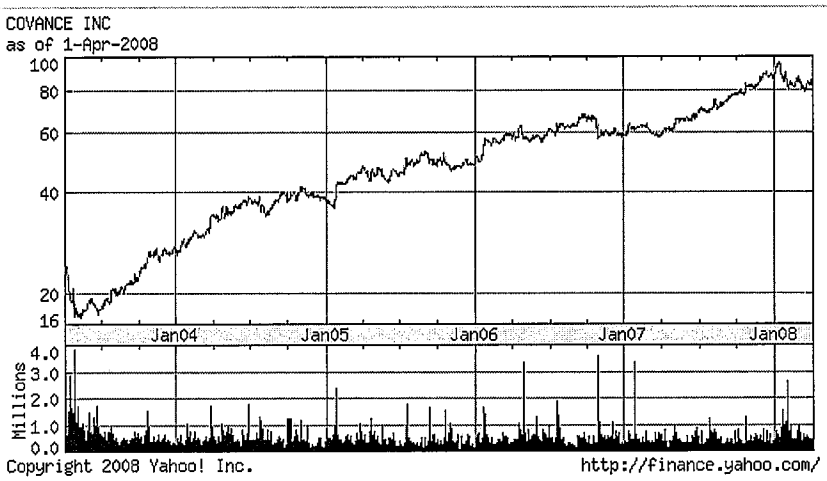
CHARLES RIVER LAB (NYSE: CRL)

Last Trade:	**60.30**	Day's Range:	N/A - N/A
Trade Time:	Apr 1	52wk Range:	45.30 - 69.04
Change:	0.00 (0.00%)	Volume:	0
Prev Close:	60.30	Avg Vol (3m):	804,044
Open:	N/A	Market Cap:	4.11B
Bid:	N/A	P/E (ttm):	26.85
Ask:	N/A	EPS (ttm):	2.25
1y Target Est:	70.67	Div & Yield:	N/A (N/A)



COVANCE INC (NYSE: CVD)

Last Trade:	**85.52**	Day's Range:	N/A - N/A
Trade Time:	Apr 1	52wk Range:	59.21 - 96.81
Change:	0.00 (0.00%)	Volume:	0
Prev Close:	85.52	Avg Vol (3m):	633,210
Open:	N/A	Market Cap:	5.48B
Bid:	N/A	P/E (ttm):	31.51
Ask:	N/A	EPS (ttm):	2.71
1y Target Est:	94.50	Div & Yield:	N/A (N/A)


COVANCE INC
as of 1-Apr-2008
100
80
60
40
20
16
Jan04
Jan05
Jan06
Jan07
Jan08
4.0
3.0
2.0
1.0
0.0
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LEHMAN BROTHERS
EQUITY RESEARCH

March 14, 2008

Health Care Distribution & Technology

Industry Overview

CRO MONITOR: ASIAN PRECLINICAL MARKET

North America
Healthcare
Health Care Distribution & Technology

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Sector View:

New: 2-Neutral
Old: 2-Neutral

Investment Conclusion

- **Focus of the Month:** We are providing our key takeaways and perspectives on the opportunity for preclinical CROs in Asia (especially India and China) following our recent participation at an industry conference. We believe the emergence of Asia as an important region for drug development, noting the significant amount of drug discovery work now taking place in the region, will translate into a good market for western CROs to offer preclinical services. We recognize important "speed bumps" for the growth of preclinical services in the region including: 1) a shortage of GLP and AAALAC-accredited labs; 2) a shortage of personnel to perform the related analytical work; and 3) concern about the quality of work being done. This market should grow more slowly than the market for outsourced discovery chemistry services and rather than off-shoring of work, we believe much of the preclinical capacity built in Asia will be used to support drug discovery work done in the region. Even though we see a slowly evolving market, we believe CRL is smart to be making investments now. We believe CRL's China initiative is going well and expect to see this effort expanded by year end. Privately-held MPI (3rd largest preclinical CRO) has begun its own initiative into China through a partnership. While not the only focus, we believe Asia will be an issue discussed at next week's Society of Toxicology meeting in Seattle, WA.

Summary

- **Focus of the Month:** Our focus on preclinical services reviews the context for the opportunity looking at current demand, current capabilities, including a review of capacity, and our views on how this market will evolve.
- **Follow up on Post-Marketing/Phase IV:** We provide some follow up comments on the post-approval market based on recent initiatives by the FDA.
- **10K Takeaways:** We provide takeaways from CVD and CRL's recently filed 10-K's as they relate to our covered companies.
- **Earnings Season Round-Up:** We provide key takeaways from our covered company's C4Q results.
- **News & Notes:** PRXL makes initial proposal to acquire UK-based clinical trials technology provider Clinphone; ICLR completes acquisiton of Phase I provider Healthcare Discoveries.
- **Valuation & Share Performance:** PRXL remains the most expensive stock in the CRO group at 27.8x our CY08 EPS estimates; CRL is the cheapest at 19.4x CY08. On an unweighted basis, the group is now trading at 24x our CY08 EPS estimates, which is down from 25.6x last month, and the group is trading at 19.7x CY09 versus 21.2x last month. The Lehman CRO Index is down 5% over the past month and down 4% year-to-date. The S&P 500 is down 4% in the past month and 10% year-to-date.

LEHMAN CRO MONITOR: ASIAN PRECLINICAL MARKET

This month's CRO Monitor focuses on issues related to patient-safety and how it might impact the CRO industry. This month, we are providing our key takeaways and perspectives on the opportunity for preclinical CROs in Asia (primarily India and China) following our recent participation at an industry conference. We believe the emergence of Asia as an important region for drug development, noting the significant amount of drug discovery work now taking place in the region, will translate into a good market for western CROs to offer preclinical services. We recognize important "speed bumps" for the growth of preclinical services in the region including: 1) a shortage of GLP and AAALAC-accredited labs; 2) a shortage of personnel to perform the related analytical work; and 3) concern about the quality of work being done. This market should grow more slowly than the market for outsourced discovery chemistry services and rather than off-shoring of work, we believe much of the preclinical capacity built in Asia will be used to support drug discovery work done in the region.

PLEASE SEE ANALYST(S) CERTIFICATION(S) ON PAGE 10 AND IMPORTANT DISCLOSURES BEGINNING ON PAGE 11

Even though we see a slowly evolving market, we believe CRL is smart to be making investments now. We believe CRL's China initiative is going well and expect to see this effort expanded by year end. Privately-held MPI (3rd largest preclinical CRO) has begun its own initiative into China through a partnership.

DETAILS AND PERSPECTIVES:

1. **CROs focused on drug discovery services in Asia, especially China and India, have experienced explosive growth as drug manufacturers try to capitalize on favorable labor costs for bench chemists.** The past two-three years has seen a rapid growth for outsourced drug discovery services in both China and India. These companies have had the greatest success in what we characterize as "commodity" aspects of discovery chemistry, such as library synthesis and high-throughput screening, and process chemistry. WuXi Pharmatech is the best known of these companies and has established service relationships with top pharmaceutical companies such as Pfizer and Merck. Some drug companies, such as Novartis, have chosen to build fully-integrated research centers (presently only focused only on discovery) in Asia to capitalize on the local talent as well as begin to establish a presence in what is a rapidly growing pharmaceutical market. Both China and India significant driver of growth has been the flood of ex-pats returning (often bringing experience with major pharmaceutical/biotech companies) which has significantly enhanced the available talent pool in drug development.

2. **There is obvious interest in preclinical outsourcing in Asia but it's not just a matter of cost, which is just one of many reasons that drug companies are exploring the options in the region.** The director of toxicology at a top 20 drug manufacturer cited the following reasons why his company has begun looking into the Asia market even though it presently has a dedicated space agreement in place with a U.S.-based CRO for services in North America:

   1) Potential cost advantages for GLP toxicology studies as well as Pharmacokinetic/Drug Metabolism studies;
   2) Sustainable and continuous supply of non-human primates;
   3) Improved understanding of and influence with China's SFDA (State Food and Drug Administration) and CDE (Center for Drug Evaluation) on the development and implementation of scientifically sound policies for the region;
   4) Capitalize on the government's alignment with business interests to initiate novel approaches for rapid development of new molecules, possibly accelerating the timeframe from testing in animals to testing in humans; and
   5) Position products for regulatory approval or clinical trial execution in the region.

3. **There are obviously some cost advantages in Asia, but the cost savings won't be as great in discovery chemistry.** Discovery chemistry services are very labor intensive (hence relationships with Asian CROs is often done on an FTE-basis) which is very different than preclinical CROs. Our interactions with sponsors indicated the savings in toxicology were half as great as those in discovery chemistry. Aspects of animal care are actually more expensive in China than North America, which will further erode the region's potential cost savings. Also, since preclinical studies are not very expensive (<$3 million for a full IND-enabling program including CMC testing), so the savings in absolute dollars aren't that great on a study-by-study basis ($500,000 at the upper end – which sounds like a lot but isn't in the context of the total investment needed to bring a drug to market), especially given the ongoing concern regarding the quality of work being done.

4. **While some might have a sense of déjà vu, given the growth in chemistry services, the analogy is far from perfect and there are several "speed bumps" for the growth of the Asian preclinical market.** The labor arbitrage is less attractive than discovery services chemistry, since GLP-based preclinical work is less labor intense, but more regulatory intense, especially for animal care and information technology systems.

   It's likely that reaching consistent GLP compliance in China will take some time. The director of toxicology at one major biopharmaceutical company noted that the U.S. FDA and China SFDA GLP standards are almost identical. However, consistent and rigorous adherence to those standards remains an evolving process. "The standards aren't the important part; making sure the standards are followed is the key," he noted. He added that China's business environment rewards speed, yet speed is not conducive to the execution of high quality lab work. He also noted that it took several years for U.S. and European to achieve GLP compliance and so it would be "unreasonable" to have a different expectation for China. In his view, understanding GLP compliance takes training, experience and auditing. Because it will take time, we believe it's worthwhile for western CROs to begin building a presence now so that they will have an infrastructure in place when the market opportunity matures.

   We heard plenty of anecdotes of "quick and nasty" work, especially in China, which we believe will give some drug companies reason to pause before outsourcing studies to support regulatory filings. While we suspect some the most egregious tales regarding lab standards in Asia might be "urban myths," we received ample evidence that the quality of preclinical work now being done in the region leaves much to be desired and needs significant improvement before reaching standards that major drug companies and, perhaps more importantly, U.S. regulators find acceptable. Two drug companies said that they sent molecules with well-characterized toxicology profiles for "test runs" in China and receiving results with significant variance from the results obtained by well-established U.S.-based labs. Some said their experience indicated that local labs needed "mentoring" on how to meet western standards.

   There was an incident at the conference that highlighted the uncertainties of doing work in the region. In providing a case study of its experience using a China-based CRO for some of its GLP work, the company noted that the vendor used Charles River rodents, which are for many the industry standard. However, it was challenged whether the animals were in fact Charles River models. In our view, whether or not the animals were in fact Charles River animals is irrelevant. Rather, for us, it highlights the risk involved in outsourcing to lower-cost CROs that lack the track record and credibility of the leading global CROs (namely Covance and Charles River and to a lesser extent Huntingdon and MPI). The risk of doing work with low-cost preclinical CROs was highlighted even further by a recent

incident involving an Eastern European-based CRO. The CRO made a mistake in execution of a long-term chronic toxicology study and delayed a program's development by six months. We believe incidents like these will discourage major drug companies from chasing small savings at the risk of having problems (either delays or low-quality data) with their programs.

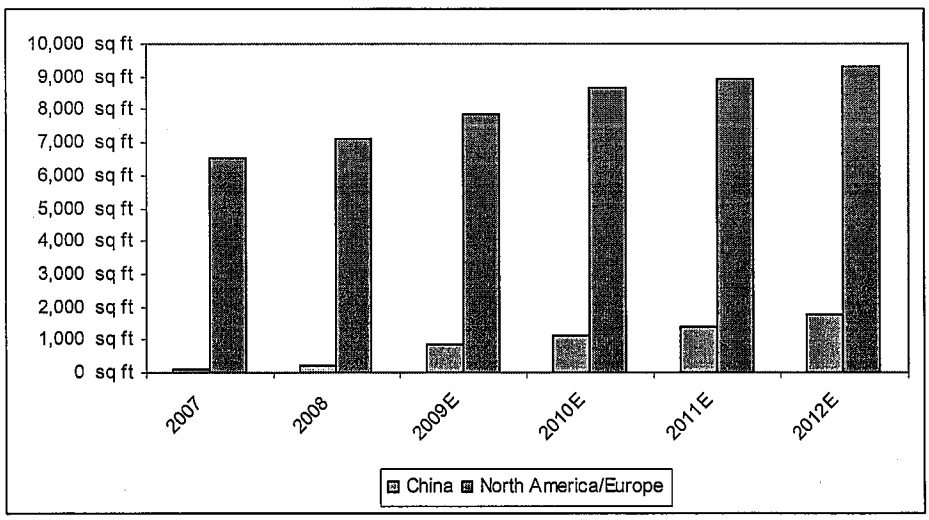
5. **Perhaps most importantly, despite all the talk and some construction, there are very few GLP-certified or AAALAC-accredited labs in China; it is still impossible to conduct work in large animal models in India.** Our interactions with the director of tox outsourcing at one top 20 pharmaceutical company indicated that his company only intended to work with the top western-based CROs or those CROs' local partners. We estimate there is presently less than 300,000 ft^2 of GLP compliant space now operating in China. We expect that to increase dramatically with expansions by Charles River, Wuxi, Bridge, and others (both western and domestic CROs). Land is getting more expensive, although facilities can still be built more cheaply. We note WuXi Pharmatech is constructing its new 267,000 ft^2 facility for just $40 million, which is significantly less than Covance and Charles River Labs investments for new preclinical labs (recognizing those labs are larger) given the attractive cost for "bricks and mortar." However, even at an aggressive rate of construction, we believe the available capacity will continue to lag increases in demand and there won't be enough capacity in China to influence pricing in the near future or even support significant amounts of off-shoring since we believe much of the capacity in China will tied up testing molecules developed in Asia.

CAPACITY GROWING BUT REMAINS SMALL RELATIVE TO U.S. AND WESTERN EUROPE

	2008 Capacity	2009 Additions (Lehman estimate)	2010 Total	AAALAC Accredidated?	North America/Europe Capacity
Charles River Labs	50,000 sq ft	100,000 sq ft	150,000 sq ft	Expected	1,930,000 sq ft
Bridge Pharmaceuticals	72,000 sq ft	300,000 sq ft	372,000 sq ft	Yes	84,000 sq ft
MPI Research	50,000 sq ft	0 sq ft	50,000 sq ft	Expected	900,000 sq ft
WuXi Pharmatech	0 sq ft	267,000 sq ft	267,000 sq ft	Unknown	63,000 sq ft
TOTAL	172,000 sq ft	667,000 sq ft	839,000 sq ft		

Source: Lehman Brothers, company reports

GLP-COMPLIANT PRECLINICAL CAPACITY NORTH AMERICA/EUROPE & CHINA



Note: square feet in 000s
Source: Lehman Brothers estimates, company reports

6. **Capacity shouldn't only be measured in terms of square footage or animal rooms: there is a shortage of pathologists in China to perform important analytical work.** While China and India have large populations of chemists, the available pool of pathologists is much smaller, which presents challenges for the development of the preclinical market. The need for pathologists was cited by one drug company as the biggest "supply-chain shortage" from a human resources standpoint. The shortage of this personnel highlights that offering comprehensive toxicology services is not simply a matter of building labs. CROs must also staff those labs with the appropriate scientific personnel.

7. **In the near-term, we expect to see drug makers test the waters by using Asian CROs for drug discovery, non-GLP animal testing.** We suspect there will be increasing "noise" coming from China about increasing amounts of preclinical activity in the region, but believe most of this work will be focused on discovery (DMPK/ADME) studies. These are not important parts of either Covance or Charles River's book of business. We note one biopharmaceutical company has begun outsourcing significant amounts of ADME work to CROs in India but the company indicated to us that it will have no impact on its outsourcing levels with U.S.-based CROs.

Even though WuXi and other discovery-focused CROs have also begun offering more animal testing services we suspect much of its capacity will be tied up in non-GLP work in the early stages. Even though some of these labs will claim to be GLP-compliant certified, we believe drug companies will want to gain assurances through repeated successes with non-GLP work before relying on them to do work that will be part of regulatory submissions to the U.S. FDA.

While India has a more mature drug industry (largely based on generics, but increasingly focused on ethical drugs), China is seen as having a better infrastructure and a better regulatory environment. There are significant tradeoffs between India and China. India has a more mature drug industry through its experience with generics which suggests that the adoption of GLP standards would occur more quickly. Communication is also less problematic in India since English is commonly spoken as a second language. Despite these advantages, India does not allow toxicology testing in large animal models (canines and non-human primates) and we believe this constitutes a "deal-breaker." It is believed these laws are under review and testing in large animals could be allowed in two-to-three years which would obviously jump-start preclinical activity in the region. Our interaction with one top 10 pharmaceutical company indicated a preference for India, given the maturity of drug development infrastructure, but the prohibition on testing in large animal models is driving it to work with U.S.-based CROs in China (Charles River and privately-held MPI). China is viewed as having better biology capabilities as well as infrastructure in the major urban centers. China is also seen as having better government alignment with industry.

In our opinion, both China and India are more attractive than other potential lower-cost regions. Unlike other possible low-cost/off-shore opportunities, such as Eastern Europe, we believe China and India will emerge as important centers for drug development by both domestic and multinational drug manufacturers. As a result, we expect much of the preclinical capacity in both countries to be used testing molecules discovered there. While we believe there are potential opportunities to build operations in region like Eastern Europe, we suspect these would be largely efforts to create lower-cost service options for Western European drug companies.

8. **We believe the western-based CROs have important competitive advantages.** While perhaps some small biotech/mid-size pharmaceutical companies might be attracted to low-cost providers, most major drug companies place a greater emphasis on the quality of the work that will be done. Quality will be measured by many measures including performance in audits measuring GLP adherence, IT systems, animal husbandry, quality of animal models used, pathology and bioanalytical work, and report writing. We believe the standardization of these systems across CROs' North American and Asian platforms will be important.

   In our view, Wuxi's acquisition of App-Tec, a very small U.S. CRO offering preclinical services (capacity of less than 70,000 sq. ft), proves the value of a U.S.-based partner in winning business from U.S./European pharmaceutical companies. We note Bridge Pharmaceuticals, the first CRO to offer preclinical services in China, found the same thing which led them to acquire Genelogic's preclinical toxicology business at the end of 2006.

   Charles River entered the market through its partnership with BioExplorer (Charles River is majority owner of the joint venture) which is related to ChemExplorer. ChemExplorer is known for its close relationship with Eli Lilly on drug discovery. Privately-held MPI Research has a joint-venture with Chinese CRO Shanghai Medicilon to open a 50,000 ft^2 facility in Shanghai. Medicilon was founded in 2004 with an initial focus on discovery services including medicinal chemistry, custom synthesis and non-GLP animal toxicology (ADME/DMPK) work. Similar to Bridge, Medicilon also saw the value in partnering with a U.S.-based CRO.

   Covance and Huntingdon are staying on the sidelines for now, which we don't believe is crippling for their eventual entry into the Asia market, but we do believe Charles River will get a first-mover advantage. Covance CEO Joe Herring has said that he prefers to let the market mature before entering. Rather than a statement on the opportunity, or lack there of, in China, we believe Herring's decision to wait is based on his desire to focus his company's efforts on the opportunities at hand in the United States and Western Europe. While we agree that the opportunities in North America and Europe are better than in Asia in the near-term we do believe that there is some advantage in starting early. In addition, to building customer relationships, we also believe early-movers will gain by getting up the learning curve more quickly (as we noted, achieving consistent GLP compliance in China will not be an overnight process). We also believe early-movers will have the benefit of tying down important scientific talent, which is in short-supply locally for some positions. For example, Charles River's initiative is being led by Kewen Jin, a very well-respected "elder statesman" in the Shanghai life sciences community. We had the chance to interact with Kewen Jin and took away a very favorable impression.

9. **We believe Phase I of Charles River's China initiative is going well, and we expect them to proceed with Phase II (the addition of more capacity) by the end of 2008.** Our conversations with sponsors indicated that Charles River's initiative is being very well received and generating significant interest. We expect the company to proceed with Phase II – the construction of a second lab – by the end of 2008 with it ready to conduct studies within 24 months. We believe this lab will be much larger than the first Shanghai lab, but will be modest in scope compared to the company's ongoing expansions in North America (perhaps 100,000 to 150,000 ft^2). Given the still cost advantages of building in China, we don't believe the construction of this lab will represent a significant CAPEX commitment (less than $30-$35 million). We expect the second facility to have modular construction, similar to what the company is building in Quebec, which would make further expansion easy. As we noted, we don't believe Charles River will build an insurmountable lead, but we believe the company is smart to get started in Asia. We will provide additional perspectives on Charles River's Asia strategy after attending the Society of Toxicology Annual Meeting in Seattle next week as well as Lehman Brothers Global Healthcare Conference in Miami.

   We also gained additional insight into Charles River's operational plans for the first phase of its China initiative. As a reminder, Charles River's initial move into Shanghai is limited to a 50,000 sq. foot retro-fitted facility that is expected to open mid-year with GLP testing upon the lab's opening. This lab will house 38 animal rooms and other supporting functions required for GLP testing. Pathologists for the Shanghai facility will receive 3 months training in Montreal to ensure consistent quality across Charles River's

global platform. Additionally, the company will continue to leverage the Montreal facility by using "telepathology" technology to review slides prepared in Shanghai. We believe the quality of the pathology work and ability to leverage North American counterparts will be an important competitive differentiator versus local competitors. Animal models will be obtained by the same suppliers as Charles River's facilities (rodents will obviously be supplied by Charles River itself). We believe the quality of Charles River's animals, especially access to Charles River rodents, will also be an important competitive differentiator for the company. We believe western-drug companies will want to use comparable (ideally the same) animal models as they use in studies conducted in North America in order to gain comparability.

We provide additional details on the preclinical market opportunity in Asia after attending the Society of Toxicology Annual Meeting in Seattle next week.

FOLLOW UP ON DRUG SAFETY

On February 26, the FDA provided additional details on its efforts to improve drug safety. Among the changes, the FDA announced it will create a new database listing possible side effects of drugs, along with clear schedules for following up on questions about them. Also, the FDA plans to make changes to its procedures for making certain regulatory decisions, particularly those based on emerging safety worries. Also of note, the FDA created a new division within the Office of Surveillance and Epidemiology (formerly the office of Drug Safety) that will be responsible for epidemiological analysis. The new Division of Surveillance, Research, and Communication Support (SRCS) will handle data resources, risk communication, and outcomes and effectiveness research components of drug safety risk management programs. SRCS will also manage the expansion in the use and number of safety and epidemiologic data resources.

We continue to believe FDA initiatives on drug safety will place great emphasis on epidemiological analysis, especially with the increasing prevalence of electronic health records and other information data sets (IMS, Versipan). While we recognize the temptation to see a big opportunity in post-marketing studies especially since the FDA has been given new powers, our interactions with senior FDA officials suggests they intend to take a judicious approach because they recognize the expensive nature of mandating safety studies. Moreover, if the FDA had so much concern about a drug's safety that it would require a major Phase IV clinical trial, it seems unlikely they would approve it in the first place. Rather these officials told us that dug safety initiatives would focus more on electronic data sources. We note the FDA has signed contracts with Kaiser Permanente, Vanderbilt University, Harvard Pilgrim Healthcare and Ingenix (United Health) to collect data on adverse events and help pickup safety signals. Electronic health records, for example, can provide much richer data on a drug's "real world" safety and efficacy since they show how the drug is being used by doctors and patients in the real world (i.e. away from the confines of a clinical trial that has strict protocols as well as inclusion/exclusion criteria). See our report "Deep Dive into Phase IV" from February 6th for additional details.

10K TAKEAWAYS

CHARLES RIVER LABS

1. **Charles River Labs reported an increase to its backlog, which we believe is largely related to the company's dedicated capacity agreements.** Charles River stopped disclosing the size of its backlog on a quarterly when it divested its Phase II/IV business to Kendle International in 2006. We estimate Charles River generated roughly $700 million in new orders for its Preclinical segment during 2006, yielding a book-to-bill of roughly 1.10. Given the short-term nature of most preclinical projects, this business operates at a book-to-bill of between 1-1.10, so Charles River's performance in 2007 was robust. We believe a portion of Charles River's preclinical backlog, although not a majority, is associated with the company's dedicated capacity agreements for toxicology/preclinical services.

CHARLES RIVER LABS BACKLOG DATA

	2006	2007
Beginning of Year Backlog	$277,200	$341,000
+ Net Orders	$607,186	$705,395
- Recognized Revenue	$543,386	$653,395
BACKLOG	$341,000	$393,000

Source: Lehman Brothers

2. **We also note significant headcount additions, especially in its growing preclinical services franchise.** We believe the headcount additions to the Preclinical segment were made primarily to staff the company's new facility in Shrewsbury, MA and Reno, NV which both recently came online.

CHARLES RIVER HEADCOUNT ADDITIONS

	2005	2006	2007
Research Models	**3,290**	**3,360**	**3,485**
% of total	*42%*	*42%*	*41%*
Preclinical Services	**4,200**	**4,400**	**4,760**
% of total	*55%*	*55%*	*56%*
General Corporate	**320**	**240**	**255**
% of total	*4%*	*3%*	*3%*
TOTAL	7,810	8,000	8,500

Adjusted for discontinued/divested operations
Source: Lehman Brothers, company reports

3. **We also noted an increase in the number of barrier rooms going to "approximately" 170 (we estimate the exact number to be 167) which is up from last year's 160 (we estimate roughly 164).** The company recently brought online three new barrier rooms at its Hollister, CA location. Shipment began from two of the rooms in 4Q and inventory is being bred in the final room. Shipments from that room should be ready by mid-year.

COVANCE

1. **We received confirmation of the strength in Preclinical Services performance with the company's disclosures in the 10K and got more accurate data regarding the Central Lab's performance for the full-year.** Covance provides more detail regarding business unit performance in its 10K than is provided on a quarterly basis. For example, the company discloses the specific performance of the Central Lab rather than inclusion of other business units in the Central Lab revenues provided in its quarterly presentation.

COVANCE REVENUE DISCLOSURES

	Preclinical (Toxicology and Related Analytical)	Y/Y Growth	Central Lab	Y/Y Growth	Phase II/III Clinical Development	Y/Y Growth	All Other Services	Y/Y Growth
2004	$388,080	13%	$235,003	1%	$175,606	5%	$221,740	7%
2005	$445,502	15%	$305,065	30%	$177,862	1%	$264,521	19%
2006	$496,575	11%	$358,351	17%	$197,533	11%	$287,744	9%
2007	$601,413	21%	$376,090	5%	$255,345	29%	$313,571	9%

Source: Lehman Brothers, Covance 2008 10-K

OTHER EARLY DEVELOPMENT BUSINESSES

	Phase I	Y/Y Growth	Covance Research Products	Y/Y Growth
2004	$34,290	38%	$67,806	48%
2005	$39,500	15%	$78,165	15%
2006	$59,668	51%	$78,436	0%
2007	$93,702	57%	$89,273	14%

Source: Lehman Brothers estimates

2. **The company provided disclosures on the respective geographic revenues.** We note that Covance's revenues in Switzerland and the United Kingdom concentrated in the company's preclinical business in Harrogate and central lab business in Geneva. We believe the growth in "Other" (primarily Latin America and Asia) is a reflection that these are two of the fastest growing regions for late-stage clinical development.

COVANCE GEOGRAPHIC SEGMENTATION OF REVENUES

	U.S.	Y/Y Growth	U.K.	Y/Y Growth	Switzerland	Y/Y Growth	Other	Y/Y Growth
2004	$671,883		$156,946		$92,754		$98,846	
2005	$758,220	13%	$166,062	6%	$132,964	43%	$135,704	37%
2006	$850,554	12%	$180,236	9%	$147,321	11%	$162,092	19%
2007	$958,706	13%	$224,236	24%	$161,754	10%	$201,723	24%

Source: company reports

We note Quest Diagnostics provided disclosures regarding its Central Labs business. Quest Diagnostics reports results from its Central Lab business; the company reported of an extension of its agreement with GlaxoSmithkline, although the new deal drops exclusivity, allowing Covance and others to begin bidding on the business. As part of the new deal, Quest committed to opening a Central Lab in India by the end of 2Q 2008 to support GSK's off-shore operations. Quest joins Quintiles and

MDS in offering Central Lab services in India. Covance provides coverage for India through its Singapore lab. Below we present Quests' revenues in the central lab business and the size of the GlaxoSmithkline opportunity. We expect Covance to take some share of GlaxoSmithkline's volume but believe it will take occur over several years.

QUEST DIAGNOSTICS CENTRAL LAB REVENUES

	2004	2005	2006	2007
GSK Central Lab revenues	$74,000	$69,000	$87,000	$79,000
Central Lab revenues excluding GSK	$61,000	$69,000	$77,000	$96,000
Quest total Central Lab	**$135,000**	**$138,000**	**$164,000**	**$175,000**
Covance Central Lab	**$235,779**	**$305,103**	**$358,241**	**$370,321**

Source: Lehman Brothers, company reports

EARNINGS SEASON ROUND-UP

CHARLES RIVER LABORATORIES

On February 11, Charles River Labs reported 4Q EPS of $0.65 which was $0.01 our estimate and $0.02 ahead of consensus. This finished off a strong year for Charles River that demonstrated improved execution and robust demand for the company's products and services. Revenues for both the preclinical and research models segments came in just above our estimates. Margins were below our expectations in both segments, although this was more than offset with reduced corporate overhead spending/SG&A spending. We expected margins in the PCS segment to be down from 3Q since the company was finishing its move into the Shrewsbury facility and beginning in earnest the move into the new Reno facility. While this quarter's earnings release was not flawless, we believe the strength of revenue growth showed that the company remains on track to meet its 2008 guidance, which was confirmed.

While we don't want to suggest that 4Q's results were meaningless, we do not believe investors should place too much emphasis on the quarter's results. We suspect management accelerated the move into the Reno facility (pushing costs into 4Q from 2008) when the company got ahead of its 2007 guidance mid-year believing there was no need to "run up the score" in 2007 and wanted to hold something back for 2008. The top-line performance in the PCS segment shows that the company was able to do this without impacting its market share or that there is a problem in the business. While the decline in segment operating margin was greater than the 50 bps we had modeled, it was not unreasonable, given the transitions in Reno and Shrewsbury as well as F/X headwind related to the Montreal facility (revenues are contracted in U.S. dollars, but costs are incurred in Canadian dollars). We also note management confirmed that the Q/Q decrease in operating margins in the RMS segment were related to normal seasonal patterns (customers normally don't take shipment of models during the year-end holidays although costs are incurred) and, while perhaps larger than what we have seen in recent years, the decrease in margins was not without precedent. We do not believe pricing was an issue, since we believe the pricing environment in the models business remains good given limited competition and high switching costs. This will be an important point of focus for us on this morning's conference call with company management.

COVANCE

On January 31, Covance reported 4Q EPS of $0.72 which was in-line with our estimate and consensus. Unlike 2Q and 3Q, which were notable for their tidiness, this quarter came with blemishes, most notably, a problem with a clinical development project which impacted margins in the company's Late Stage segment by roughly 170 bps. The company made up for this hit by controlling its corporate expense. Covance also reported new bookings of $502 million for the quarter which was in-line with our expectations and reflected continued strength. Covance's backlog grew to $2.683 billion. Management noted that the Late-Stage businesses recorded a book to bill of 1.45, so both the Central Lab and Clinical Development businesses continue to have good momentum.

We believe an overlooked point from the quarter was that the Central Lab reported a record quarter and is clearly past the headwinds seen at the end of 2006. We estimate Covance's Central Lab reported revenues of $101.8 million – up 11% sequentially from 3Q and represented a meaningful acceleration from 3Q's modest 1% sequential growth. Given continued strength in new business wins, we expect this business to be an important driver of earnings growth in 2008. This business has very high incremental margins and it can be scaled very easily. We note the company has actually grown Central Lab revenues by over 55% since 2004 yet lowered headcount from 1,600 to less than 1,200.

The quarter's big blemish was the problem related to a large clinical development project. Of Covance's primary franchises, Clinical Development is the smallest at $255 million in 2007 (trailing Preclinical at $595 million and Central Labs at $369 million). Its size leaves it vulnerable to missteps having a meaningful impact on results. Year-on-year growth in the clinical development business was very good, up 25%, although, at $66 million, the business came in below our expectations of $69 million. Without this problem, we believe Clinical Development's revenues would have largely been in-line with our expectations and up roughly 30% year-on-year. We doubt the problem seen this quarter will have long-term repercussions.

ICON plc

On February 21, Icon reported 4Q EPS of $0.53 which was $0.03 better than our estimate and consensus at $0.50. in thinking about 4Q's implications for 2008, we believe the biggest takeaways from the quarter were the very strong new business wins ($344 million for a book to bill of 1.9) and revenue growth seen in the quarter. Even after the very strong bookings posted by PPDI, PRXL and CVD in 4Q, we did not imagine they would come in above $300 million. Revenue growth was also very strong and ticked back above 40% - more than enough to

offset modest margin compression. We continue to believe management is making an appropriate tradeoff between growth and boosting margins. We note margins would have been consistent with 3Q's levels without the headwinds created by F/X. Given our expectation that revenue growth will remain very robust, and above management's guidance, we suspect ICLR operating margins will come in at the low end of management's forecast for 2008. Nevertheless, we believe the company will finish ahead of its present EPS guidance and see further upside from our $2.37 estimate ($0.01 above management's guidance) and see still $2.37-$2.44 as the relevant range for investors to consider.

KENDLE INTERNATIONAL

On February 27, Kendle reported adjusted EPS came of $0.47 for 4Q, which was below our $0.49 estimate and consensus at $0.50. 4Q results were hurt by an unexpected spike in the tax rate which went to 48% due to a "flood" of income in high-tax jurisdictions. Also muddying the waters, net new business wins were hurt by $32 million in cancellations in 4Q and Kendle's book-to-bill of 1.36 trailed its peers, notably ICLR (1.9), PRXL, (1.8) and PPDI (1.45), for C4Q. Investors were probably most anxious to receive management's outlook for 2008 which calls for EPS to come in at $1.90-$2.07 (GAAP basis) on revenues of $450-$460 million. This was below consensus, although roughly in-line with our estimates. We believe the market was discounting some "miss" versus consensus and was focused on getting a credible outlook after a 2007 that came with more than its fair share of surprises. We still harbor concerns regarding management's forecasting and financial management, especially given the width of the EPS guidance range. While by itself this quarter's tax problem isn't overly worrisome, it fits the recent pattern of issues popping up to mar what would otherwise be good, if not very good, results.

PAREXEL

On January 23, Parexel reported F2Q EPS of $0.40 versus our $0.38 estimate and consensus at $0.39. The strength was driven by very good revenue growth across all three of the company's segments. Only a very high tax rate prevented the 2Q result from being even better (we reckon $0.43). Coming into last night's release, we felt the biggest point of focus for investors would be the volume of new business wins after the company's lackluster performance in 1Q. We certainly expected improvement since the industry backdrop remains very good, but the magnitude of the improvement was impressive. The strength of the result settled for now any concerns about the company's competitive positioning after F1Q's disappointing new business wins. We recognize Parexel continues to make progress on many fronts, including margins, revenue growth, and its good market position in Asia, a region of growing importance for clinical trials. While we note improvement in the U.S. business revenues, the tax rate suggests profitability did not follow suit. Still, the rest of the business is performing very nicely which leads us to boost our EPS estimates – modestly for FY08 although substantially for FY09 with our estimate going from $2.01 to $2.16.

Revenue growth for F2Q was strong very strong at $238 million driven by strength in the Clinical Research segment with contributions from PCMS and Perceptive; there was no evidence of a hangover related to 1Q's new business wins disappointment. Clinical Research revenues were $13 million better than we expected and were up almost 38% Y/Y. We estimate organic revenues in the segment were up 31% Y/Y (excluding contributions from Apex and a partial quarter contribution from CCT). Results were very strong in the company's Perceptive segment. The company did benefit this quarter from some delayed contract signings that pushed some revenues out of F1Q into this quarter, but we believe this accounted for only $1 million of the Q/Q improvement. Historically, 2Q has been Perceptive's strongest quarter and we believe benefits from customers' year-end "use it or lose it" budget cycles.

PPD INC

On February 6, PPDI reported 4Q EPS of $0.34 which was inline with consensus, although $0.01 below our estimate. Revenues were below our expectations (again) and at the bottom end of management's updated guidance from January. However, perhaps the bigger news from the quarter was the very strong new business wins (a record for commercial wins) and PPDI's announcement that it signed an agreement to purchase InnoPharm, a privately-held CRO with offices in Russia and Ukraine. PPDI did not disclose how much it paid for InnoPharm or the size of the business (we estimate roughly $30-$40 million, although management deferred providing additional details until the deal is closed sometime in 2Q). We believe this acquisition will help PPDI jump start the growth of PPDI's international operations, which has emerged as the company's weakness over the past 18 months given the rapid migration of clinical development work away from the United States and Western Europe.

This completes what has obviously been a challenging year for PPDI and this quarter's results clearly indicated that the company isn't completely past them. However, with the management team solidified, we believe the company is making progress. New business wins were very strong – and showed no signs of a "let down" after 3Q's push to rebound from 2Q's disappointment. Revenues again failed to meet expectations, but they did move in the right direction. Sequential growth of $11 million in development segment revenues is respectable and represented a pickup from the prior quarter. Additionally we suspect that there was some residual impact in 4Q from 2Q's missteps in business development which should fade with the passage of time.

NEWS AND NOTES

1. **Parexel discloses its bid to acquire ClinPhone.** On February 15th, Parexel disclosed that it made a preliminary proposal to ClinPhone's board of directors for Parexel to acquire ClinPhone, a provider of EDC and IVRS technologies. While that preliminary proposal was rejected by the Board of ClinPhone, Parexel is continuing to evaluate its options. Parexel noted that any offer, if made, is likely to be solely in cash. We believe Parexel is motivated to bolster its IVRS offering, which our channel checks indicate only receives middling reviews by clients, whereas ClinPhone is very well regarded. ClinPhone would also give Parexel an entry into the EDC market, although we do not believe ClinPhone has a leading offering in that market. We see Phase Forward and Medidata as the leaders in the EDC market.

2. **Omnicare Clinical Research opens its first two offices in China.** The firm's president and CEO Dr Dale Evans said that the two new locations in Shanghai and Beijing "represent a vital component of our Asia Pacific business strategy". CROs and sponsors are attracted to China because it offers a huge pool of patients. Omnicare has already had a business presence in China since 2001, but its new offices, which will conduct project management, clinical trial services, regulatory affairs and business development, significantly enhance its operations in the country.

3. **Covance saw a victory in court related to its construction of a new preclinical facility in Chandler, AZ, although the issue refuses to go away completely.** On February 23, a Maricopa County Superior Court judge on Friday tossed out the final piece of a lawsuit accusing Chandler of breaking public meetings laws to make way for Covance's controversial animal testing lab. Late last month, Judge Paul McMurdie dismissed four of the five charges in the suit filed by the Washington D.C.-based Physicians Committee for Responsible Medicine and a group of Chandler residents. Construction of the facility remains ongoing and we expect it to open in early 2009.

   We note, however, on March 12, it was reported in the *Mesa Tribune* that the Arizona Attorney General's Office is investigating accusations that the Chandler City Council violated the "open meetings" laws by not giving the public enough notice before it voted to rezone the site on which Covance is now constructing its new preclinical lab. The Attorney General's Office would only confirm that it received the complaint from the Washington, D.C.-based Physicians Committee for Responsible Medicine. Last year, the Physicians Committee for Responsible Medicine asked the attorney general's office to look into allegations the council violated the meetings laws by not giving the public enough notice before holding its vote. The attorney general refused to pursue the complaint after the physicians group and a group of Chandler residents filed a lawsuit against the City Council in Maricopa County Superior Court. We believe it is very unlikely that Covance's plans to open the lab in Chandler will be delayed by these complaints.

4. **ICON plc finally acquires a U.S.-based Phase I business.** On February 11, Icon finally acquired a U.S.-based Phase I presence. The acquisition of Healthcare Discoveries, a U.S.-based Phase I business with 110 bed capacity, meets an often-cited strategic objective of company management. Icon expects the acquisition to contribute between $10-15 million in revenues in 2008 and be neutral to EPS (modestly accretive to EBITDA). We believe the closing of the deal is significant beyond the financial contributions because we believe Phase I can help feed ICLR's Phase II/III business. Icon paid $12 million upfront, although the deal includes up to $10 million in earnouts if financial targets are achieved. Even if the earnout is paid, we believe this is a reasonable price, since other deals were executed at roughly 2x revenues. The company expressed interest in adding a bioanalytical lab in U.S. which would complement the company's new facility (the company already has a bioanalytical lab in the UK).

   The 110-bed clinic is based in San Antonio, TX and more than doubles ICLR's Phase I capabilities. The company currently operates a Phase I business in Manchester, UK. This business has experienced some challenges, although management changes made in 2006 have begun to bear fruit and the Manchester unit was finally breakeven in 3Q 07. We believe Healthcare Discoveries is a good acquisition for the company, although not without risks since Phase I clinics can be "lumpy" on a quarter to quarter basis and has become increasingly competitive with many global CROs (including Covance, Charles River Labs, Parexel, and PharmaNet) adding capacity through acquisition or organically in the past year.

   See our note from 2/12, "Finally: Management Meeting, P1 Acquisition Takeaways," for additional details.

LEHMAN BROTHERS SURVEY OF PHASE I CAPACITY

	NORTH AMERICA	EUROPE	REST OF WORLD	TOTAL BED CAPACITY
MDS Inc.	932	196		**1,128**
Covance	492	72		**564**
Parexel	217	205	140	**562**
Pharmanet	510			**510**
Charles River Labs	250	62		**312**
PPD Inc.	300			**300**
Quintiles	150	105		**255**
PRA Int'l	50	170		**220**
Icon PLC	110	80		**190**
Kendle International	118	43		**161**
TOTAL	3129	890	140	**3,851**

Source: Lehman Brothers, company reports

5. **Kendle executives adopt 10b-5-1 trading plans to sell company shares.** On March 7, Kendle announced that CEO Candace Kendle and President and COO Chris Bergen established prearranged trading plans to sell shares of the company's common stock over a designated period. Under the trading plans, during a six-month period commencing March 20, 2008, and ending Sept. 30, 2008, Dr. Kendle and Mr. Bergen plan to sell up to 550,715 and 302,136 shares of KNDL common stock, respectively, in open market transactions. Kendle and Bergen are married.

VALUATION

PRXL remains the most expensive stock at 27.8x our CY08 EPS estimates; CRL is the cheapest at 19.4x CY08. On an unweighted basis, the group is now trading at 24x our CY08 EPS estimates, which is down from 25.6x last month, and the group is trading at 19.7x CY09 versus 21.2x last month. The Lehman CRO Index is down 5% over the past month and down 4% year-to-date. The S&P 500 is down 4% in the past month and 10% year-to-date.

EPS VALUATION METRICS

	Price	Mkt Cap	EPS CY08E	EPS CY09E	CY07/08 EPS Growth	CY08/09 EPS Growth	PE on CY08E EPS	PE on CY09E EPS
CHARLES RIVER LABS (CRL)	$57.23	$3,899.4	$2.95	$3.28	13%	14%	19.4x	17.4x
COVANCE (CVD)	$81.34	$5,192.3	$3.19	$3.81	20%	19%	25.5x	21.3x
ICON (ICLR)	$65.59	$1,887.9	$2.37	$2.93	28%	24%	27.7x	22.4x
KENDLE INT'L (KNDL)	$41.69	$601.3	$1.97	$2.43	45%	20%	21.2x	17.2x
PPD INC (PPDI)	$41.73	$4,969.8	$1.87	$2.33	37%	25%	22.3x	17.9x
PAREXEL (PRXL)	$26.67	$1,488.3	$0.96	$1.20	31%	25%	27.8x	22.2x
PHARMANET (PDGI)**	$27.49	$522.8	$1.54	$1.92	134%	25%	17.9x	14.3x
TOTAL MARKET CAPITALIZATION		**$18,562**		**Average**	**44%**	**22%**	**24.0x**	**19.7x**
				Median	**31%**	**24%**	**22.3x**	**17.9x**
				LEH HCD&T	**16%**	**18%**	**21.1x**	**17.7x**
				S&P 500	**6%**	**7%**		

EBITDA AND REVENUE VALUATION METRICS

	Enterprise Value	CY08 EBITDA	EV/EBITDA C08E	CY08 Rev's	CY07/08 Rev's Growth	Price-to-Sales (CY08)
CHARLES RIVER LABS (CRL)	$4,249.37	$365.9	11.6x	$1,356.9	10%	2.9x
COVANCE (CVD)	$5,017.26	$357.8	14.0x	$1,804.5	17%	2.9x
ICON (ICLR)	$1,787.88	$115.8	15.4x	$786.1	23%	2.4x
KENDLE INT'L (KNDL)	$771.25	$79.9	9.7x	$454.9	15%	1.3x
PPD INC (PPDI)	$4,609.83	$384.9	12.0x	$1,550.2	19%	3.2x
PAREXEL (PRXL)	$1,464.35	$133.3	11.0x	$1,032.0	22%	1.4x
PHARMANET (PDGI)**	$545.00	NA	NA	$404.0	13%	1.3x
TOTAL ENTERPRISE VALUE	**$18,445**	**Average**	**12.3x**		**17%**	**2.2x**
		Median	**11.8x**		**17%**	**2.4x**

*** Not covered by Lehman Brothers, represents First Call consensus estimates, not in averages*
Source: Lehman Brothers, First Call, company reports

Analyst Certification:

We, Douglas D. Tsao and Lawrence C. Marsh, CFA, hereby certify (1) that the views expressed in this research Industry Note accurately reflect our personal views about any or all of the subject securities or issuers referred to in this Industry Note and (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Industry Note.

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The analysts responsible for preparing this report have received compensation based upon various factors including the firm's total revenues, a portion of which is generated by investment banking activities

Company Name	Ticker	Price (11-Mar-2008)	Stock / Sector Rating
Charles River Laboratories	CRL	US$ 53.95	1-Overweight / 2-Neutral
Covance Inc.	CVD	US$ 81.67	1-Overweight / 2-Neutral
ICON plc	ICLR	US$ 64.77	1-Overweight / 2-Neutral
Kendle International Inc.	KNDL	US$ 41.05	2-Equal weight / 2-Neutral
PAREXEL International	PRXL	US$ 26.19	2-Equal weight / 2-Neutral
PPD Inc.	PPDI	US$ 43.96	1-Overweight / 2-Neutral

Other Material Conflicts

PPDI: We note that Frederick Frank, an executive of Lehman Brothers serves on the Board of Directors of PPD and chairs its Finance & Audit committee.

Guide to Lehman Brothers Equity Research Rating System:
Our coverage analysts use a relative rating system in which they rate stocks as 1-Overweight, 2-Equal weight or 3-Underweight (see definitions below) relative to other companies covered by the analyst or a team of analysts that are deemed to be in the same industry sector (the "sector coverage universe"). Below is the list of companies that constitute the sector coverage universe:

Allscripts Healthcare Solutions (MDRX)
Cardinal Health (CAH)
Covance Inc. (CVD)
Express Scripts (ESRX)
HealthExtras Inc. (HLEX)
ICON plc (ICLR)
inVentiv Health (VTIV)
McKesson Corp (MCK)
Medco Health Solutions (MHS)
Owens & Minor (OMI)
Patterson Companies (PDCO)
PSS World Medical (PSSI)
West Pharmaceutical Svcs (WST)
AmerisourceBergen (ABC)
Charles River Laboratories (CRL)
Dentsply International (XRAY)
Gentiva Health Services (GTIV)
Henry Schein (HSIC)
IMS Health (RX)
Kendle International Inc. (KNDL)
MedAssets Inc. (MDAS)
National Medical Health Card (NMHC)
PAREXEL International (PRXL)
PPD Inc. (PPDI)
Sirona Dental Systems Inc. (SIRO)

In addition to the stock rating, we provide sector views which rate the outlook for the sector coverage universe as 1-Positive, 2-Neutral or 3-Negative (see definitions below). A rating system using terms such as buy, hold and sell is not the equivalent of our rating system. Investors should carefully read the entire research report including the definitions of all ratings and not infer its contents from ratings alone.

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1-Overweight - The stock is expected to outperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
2-Equal weight - The stock is expected to perform in line with the unweighted expected total return of the sector coverage universe over a 12- month investment horizon.
3-Underweight - The stock is expected to underperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
RS-Rating Suspended - The rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Lehman Brothers is acting in an advisory capacity in a merger or strategic transaction involving the company.

Sector View
1-Positive - sector coverage universe fundamentals/valuations are improving.
2-Neutral - sector coverage universe fundamentals/valuations are steady, neither improving nor deteriorating.
3-Negative - sector coverage universe fundamentals/valuations are deteriorating.

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46% have been assigned a 2-Equal weight rating which, for purposes of mandatory regulatory disclosures, is classified as Hold rating, 35% of companies with this rating are investment banking clients of the Firm.
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