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# AN OVERVIEW OF INTRAOCULAR LENS COSTS

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**OFFICE OF INSPECTOR GENERAL**  
**OFFICE OF EVALUATION AND INSPECTIONS**

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JUNE 1990

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This report is an overview of information collected during three recent OIG studies regarding intraocular lens prices.

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AN OVERVIEW OF  
INTRAOCULAR LENS COSTS

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INSPECTOR GENERAL

## **EXECUTIVE SUMMARY**

### **PURPOSE**

This report presents a summary of information collected during three recent Office of Inspector General (OIG) studies regarding intraocular lens (IOL) prices.

### **BACKGROUND**

The Medicare program funds 90 percent of the cataract surgeries performed in the United States. During cataract surgery, the natural lens in the eye is removed. In over 95 percent of the cataract surgeries an intraocular lens is implanted, replacing the removed natural lens. In addition to replacing a natural lens removed from the eye during cataract surgery, IOLs are also used to replace a natural lens missing due to disease or congenital absence.

The Medicare program approved payment for 1.1 million cataract surgeries in 1988. Medicare allowed charges for IOLs billed in connection with 25 percent of these surgeries averaged about \$324 each.

Based on OIG recommendations, Federal Regulations published February 8, 1990, established a single payment rate of \$200 for IOLs provided to Medicare patients in connection with cataract surgery performed in an ambulatory surgical center (ASC). Prior to March 12, 1990, the effective date of these regulations, Medicare reimbursement for cataract surgeries performed on an outpatient basis or in an ASC were to be reimbursed by Medicare based on charges subject to reasonable cost limitations.

### **METHODOLOGY**

The information presented in each of the reports upon which this overview is based, was gathered using three separate samples.

Information regarding the purchase of IOLs through the Federal Supply Schedule (FSS) was gathered through telephone interviews with ophthalmologists and/or procurement specialists in a sample of Veterans Administration (VA) and military hospitals nationwide. The sample consisted of 10 VA and 10 military hospitals.

Information regarding the purchase of IOLs by Indian Health Service (IHS) hospitals was gathered from the only four IHS hospitals where cataract surgery is performed. Interviews were

conducted with an ophthalmologist in each of the four hospitals, and procurement specialists in three.

Canadian IOL costs are based on information collected from a sample of Canadian hospitals. In establishing our sample, Provincial Purchasing Directors in each of the ten Canadian Provinces provided us with names of Canadian hospitals where cataract surgery was performed. We asked purchasing directors in each of those hospitals to provide information regarding hospital IOL prices and contracts. The rate of currency exchange on December 31, 1989, was used to convert Canadian prices to U.S. dollars. We also interviewed purchasing directors and ophthalmologists in 13 of the sample Canadian hospitals.

#### **FINDINGS**

**The average cost of an IOL is \$155 in IHS hospitals and \$110 in Canadian hospitals**

**The IHS hospitals purchased 47 percent of their IOLs for under \$149 and Canadian hospitals purchased 93 percent of their IOLs for under \$149**

**IOLs are available on the FSS for \$95 to \$198**

**Low IOL prices can be achieved without high volume purchases**

**The IOL manufacturers are competitive and respond to effective negotiating techniques**

#### **RECOMMENDATION**

Our findings lead us to conclude that Medicare's reimbursement rate for IOLs is considerably higher than the price established in other markets. We recommend the Health Care Financing Administration explore reducing the IOL single payment reimbursement rate to no more than \$150. At that price Medicare allowed charges would be reduced by \$55 million. At \$125 per lens savings would be \$82 million and at \$100 per lens savings would be \$110 million.

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**Intraocular Lens Costs in Canadian Hospitals**

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**No Direct Correlation Exists Between  
IOL Volume and Price**

## INTRODUCTION

### PURPOSE

This report presents a summary of information collected during three recent Office of Inspector General (OIG) studies regarding intraocular lens (IOL) prices.

### BACKGROUND

The Medicare program funds 90 percent of the cataract surgeries performed in the United States. During cataract surgery, the natural lens in the eye is removed. In over 95 percent of the cataract surgeries an intraocular lens is implanted, replacing the removed natural lens. In addition to replacing a natural lens removed from the eye during cataract surgery, IOLs are also used to replace a natural lens missing due to disease or congenital absence.

The Medicare program approved payment for 1.1 million cataract surgeries performed in ambulatory surgical centers (ASCs) and hospital outpatient departments in 1988. Data released by the Public Health Service indicates the frequency of cataract surgery continues to increase, with some moderation. Medicare allowed charges for IOLs billed in connection with 25 percent of these surgeries averaged about \$324 per lens in 1988.

Changes have occurred with the reimbursement and place of cataract surgery. Medicare reimbursement for cataract surgery performed in a hospital inpatient setting is based on Diagnosis-Related Group (DRG) rates. A DRG rate covers all services and supplies connected with a surgery, including intraocular lenses for cataract surgery patients. However, advances in medical technology have shifted the majority of cataract surgeries into hospital outpatient facilities or ASCs. Until recently, Medicare reimbursement for cataract surgeries performed on an outpatient basis or in an ASC were to be reimbursed by Medicare based on reasonable cost determinations. In these situations, intraocular lenses were to be billed and paid for separately.

Five OIG studies have been conducted regarding the reimbursement for intraocular lenses. The first study, entitled "Medicare Cataract Implant Surgery," (OAI-85-09-046), was issued in 1986. This study reported that Medicare reimbursement principles neither required nor encouraged providers to obtain lenses at the lowest available price, and that the average Medicare reasonable charge payment to an ophthalmologist or an ASC for an IOL was \$365. The inspection also found that discounts were available from major

manufacturers, and that in Canada, the same U.S. manufactured lenses averaged less than \$200. This study estimated that over \$31 million would have been saved in 1984, if Medicare lens payments had been capped at \$200. The study recommended that a national cap, based on a generic prudent buyer concept, be established for lens payments when lenses are billed separately.

The second study, entitled "Medicare Certified Ambulatory Surgical Centers," (OAI-09-88-00490), was issued in 1988. This study reported that the problems regarding lens payments discussed in the 1986 report had not been resolved. Manufacturers continued to offer discounts, incentives and rebates that were not passed on to the Medicare program, and that Medicare reimbursement policy did not provide an incentive for providers to be prudent buyers. The OIG again recommended that the Health Care Financing Administration (HCFA) establish a national Part B reimbursement cap of \$200 for any intraocular lens billed to Medicare.

More recently, we conducted three additional studies focusing on IOL prices, which are summarized in this overview report. The first was issued in the form of a Management Advisory Report (MAR), entitled "Intraocular Lenses Purchased through the Federal Supply Schedule (FSS)," (OAI-07-89-01661) in November 1989. This study, reported that quality IOLs are available on the Federal Supply Schedule. The lenses cost \$95 to \$198, and that the majority of Veterans Administration (VA) medical centers and military hospitals purchase IOLs outside the FSS for under \$200. The OIG recommended that the HCFA use the information presented in adjusting IOL reimbursement rates.

The next study, entitled "Intraocular Lenses Purchased by Indian Health Service (IHS) Hospitals," (OAI-07-89-01662) was issued January 4, 1990, in the form of a MAR. This study reported that Indian Health Service Hospitals purchased 466 IOLs for an average of \$155, and that IOL manufacturers are competitive. The OIG recommended that the HCFA consider the prices paid by IHS hospitals for IOLs in adjusting Medicare IOL reimbursement rates.

The most recent report, entitled "Intraocular Lens Costs in Canadian Hospitals," (OAI-07-89-01660) issued April 26, 1990, reported that Canadian hospitals purchase IOLs for an average of \$110 each and that low prices can be achieved even for low volume purchases. Several effective negotiating techniques used by Canadian hospitals in securing IOL contracts were also reported. The OIG again recommended that the HCFA consider the prices paid by Canadian hospitals in adjusting Medicare IOL reimbursement rates, and that the HCFA inform U.S. hospitals of the effective contracting practices noted in the report. It was noted that the Medicare program would save \$99 million

annually if Medicare reimbursed for IOLs at the average Canadian price of \$110, rather than the current Medicare reimbursement rate of \$200.

Federal Regulations published February 8, 1990, became effective March 12, 1990, establishing a single payment rate of \$200 for IOLs provided to Medicare patients in connection with cataract surgery performed in an ASC. They also serve as a base for IOL payments to hospitals for cataract surgeries performed in their outpatient departments.

We recently received information from the Audit Division for the National Health Program in London, England, that they purchase IOLs from a U.S. manufacturer for approximately 30 pounds, (\$50) each. The contract covers 15,000 one-piece posterior chamber IOLs to be purchased during a 3-year period. It also covers the purchase of necessary anterior chamber lenses at the same price.

#### **METHODOLOGY**

A different methodology was used to gather 1989 IOL price information in each of the three studies summarized in this report.

In conducting the "Intraocular Lenses Purchased through the Federal Supply Schedule" study, we contacted VA and military hospital personnel. A list of the 166 VA medical centers nationwide was obtained from the VA. A similar list of the 141 military hospitals nationwide was also obtained. A random sample of 10 hospitals was then selected from each list, for a total of 20 hospitals where cataract surgery is performed. We conducted telephone interviews with an ophthalmologist and/or a procurement specialist in each of the 20 sample facilities.

In conducting the "Intraocular Lenses Purchased by Indian Health Service Hospitals" study, information was gathered from the only four IHS hospitals where cataract surgery is performed. We conducted telephone interviews with an ophthalmologist in each of the four hospitals. Procurement specialists in three of the four hospitals were also contacted, to obtain information the ophthalmologist was unable to provide.

In conducting the "Intraocular Lens Costs in Canadian Hospitals" study, we contacted provincial purchasing directors who provided the names of 19 Canadian hospitals where cataract surgery is performed. We then contacted the hospital purchasing director in each of the 19 hospitals to solicit information regarding contract prices for IOLs purchased by their hospitals. We requested the number of lenses purchased under their contracts, the time period covered by the contracts, the types of lenses purchased (one-piece posterior,

multi-piece posterior, or anterior chamber) and lens stock numbers. Finally, we requested information regarding any discounts, free equipment, or supplies received in conjunction with IOL purchases.

In addition to collecting IOL prices, we used discussion guides to conduct telephone interviews with 12 directors and 8 ophthalmologists in 13 of the 19 Canadian hospitals. The remaining directors or ophthalmologists refused to be interviewed or could not be contacted.

Our calculation of the average cost of an IOL in Canada is based on information received from 15 of the 19 hospitals. One of the 19 hospitals declined to participate in our study, and another's information was never received, resulting in the collection of IOL price information from only 17 hospitals. Information received from 2 of the 17 hospitals was insufficient and could not be used.

The currency rate of exchange between Canada and the United States on December 31, 1989, (.8734 U.S. dollars for each Canadian dollar) was used in calculating U.S. prices for Canadian IOLs. All Canadian IOL contract price information received, for which the contract time period is known, was in effect on that date.

## FINDINGS

The average cost of an IOL is \$155 in IHS hospitals and \$110 in Canadian hospitals

In Fiscal Year 1989, the IHS hospitals paid an average of \$155 for a total of 466 IOLs purchased from two well-known manufacturers, neither of which is listed on the FSS. The average price of an IOL in each of the IHS hospitals is shown in the chart below.

### Average IOL Prices in IHS Hospitals

Hospital	Annual Contract Volume	Average U.S. Dollars	Total Dollars
#1	218	\$134.15	\$ 29,244.70
#2	106	\$166.29	\$ 17,626.74
#3	48	\$168.31	\$ 8,078.88
#4	<u>94</u>	<u>\$186.00</u>	<u>\$ 17,484.00</u>
Total	466		\$ 72,434.32
<b>Average IHS IOL Price</b>			<b>\$ 155.44</b>

The sampled Canadian hospitals negotiated an average price of \$110 for the purchase of 10,844 IOLs under annual contracts with nine U.S. manufacturers, as shown in the following chart.

### Average IOL Prices in Canadian Hospitals

Hospital	Annual Contract Volume	Average U.S. Dollars	Total Dollars
#1	757	\$ 90.45	\$ 68,470.65
#2	1400	\$ 72.75	\$ 101,850.00
#3	326	\$109.18	\$ 35,592.68
#4	50	\$148.48	\$ 7,424.00
#5	1540	\$128.40	\$ 197,736.00
#6	990	\$ 89.96	\$ 89,060.40
#7	850	\$ 94.02	\$ 79,917.00
#8	252	\$120.41	\$ 30,343.32
#9	551	\$123.40	\$ 67,993.40
#10/11	1473	\$121.34	\$ 178,733.82

Hospital	Annual Contract Volume	Average U.S. Dollars	Total Dollars
#12	1460	\$118.81	\$ 173,462.60
#13	264	\$245.44	\$ 64,796.16
#14	450	\$112.67	\$ 50,701.50
#15	<u>481</u>	\$ 93.72	<u>\$ 45,079.32</u>
Total	10,844		\$ 1,191,160.85
Average Canadian IOL Price			\$ 109.85

Overall average prices paid by the IHS hospitals ranged from \$134 to \$196. Negotiated prices for IOLs ranged from \$125 to \$278 per lens as shown in Appendix A. Multi-piece posterior chamber lenses account for 416 (89 percent) of the lenses purchased in these hospitals. Even though one IHS hospital has negotiated to purchase one-piece posterior chamber lenses for \$175, none were purchased in 1989.

Under their current contracts, overall average IOL prices in the sampled Canadian hospitals ranged from \$73 to \$245. Negotiated prices for IOLs ranged from \$68 to \$279 per lens, with only one Canadian hospital paying more than \$200 for an IOL as shown in Appendix B. These contracts cover a variety of lens types, and represent over 10 percent of approximately 100,000 IOLs implanted annually in Canada.

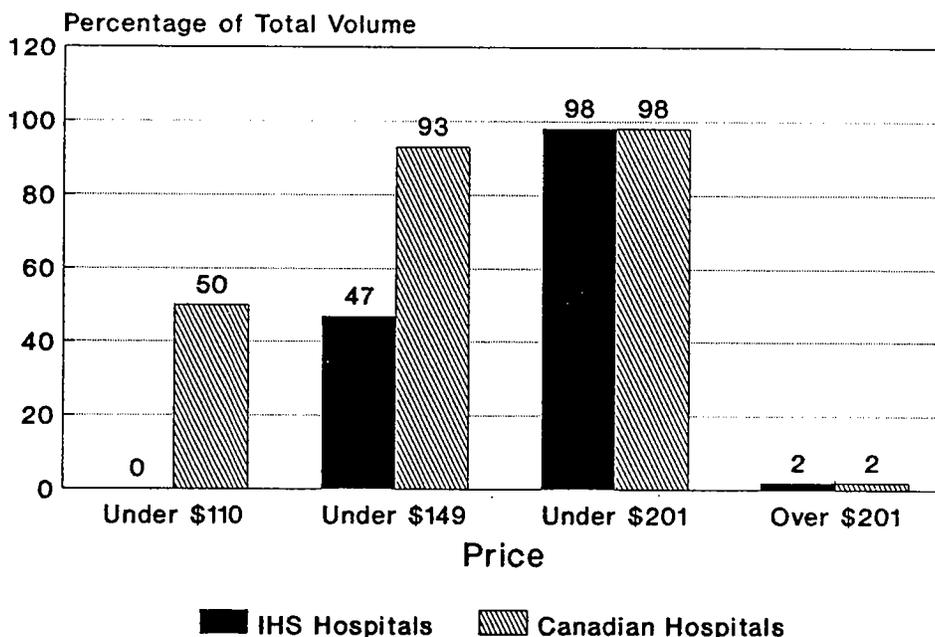
It should be noted that the average Canadian IOL price of \$110 includes the purchase of one-piece posterior chamber lenses, generally considered to be more expensive. The ophthalmologists interviewed indicated approximately 55 percent of the IOLs they purchase are one-piece lenses. Forty percent of the IOLs purchased are multi-piece posterior chamber lenses, and the remaining five percent are anterior chamber lenses.

Eleven of the twelve Canadian purchasing directors interviewed indicated they purchase the contract IOLs on a consignment basis. In such arrangements, the IOL manufacturer(s) provide the hospitals with an inventory consisting of a variety of lens styles and sizes. This inventory is provided to the hospital at no additional charge, and allows the hospital to pay for lenses as they are used.

The IHS hospitals purchased 47 percent of their IOLs for under \$149 and Canadian hospitals purchased 93 percent of their IOLs for under \$149

The IHS hospitals purchased 47 percent of their IOLs for under \$149. The Canadian hospitals purchase 93 percent of their IOLs for under \$149. Collectively, the IHS and Canadian hospitals purchase 91 percent of their IOLs for under \$149.

## Percentage of IOLs by Price



Medicare reimbursement for most medical items is based on the 50th percentile for customary charges and the 75th percentile as a prevailing charge, rather than a fixed amount (i.e., \$200 for an IOL). The sampled Canadian hospitals purchase 50 percent of their IOLs for under \$110, and the IHS hospitals purchase nearly 50 percent (47 percent) for under \$149. Both the IHS and sampled Canadian hospitals purchase 98 percent of their IOLs for less than \$200. Only two percent of the IOLs purchased by IHS or Canadian hospitals cost in excess of the current Medicare reimbursement rate of \$200 per lens. Appendices A and B display complete lists of IOL costs in the IHS and Canadian hospitals.

**IOLs are available on the FSS for \$95 to \$198**

Four IOL manufacturers have negotiated contracts with the VA to offer several different lenses on the FSS, all for under \$200. The FSS prices for IOLs range from \$95 to \$198. A one-piece lens is available on the FSS for \$198.

The Food and Drug Administration approves all of the lenses on the FSS. We found nothing which indicated that ophthalmologists perceived lenses listed on the FSS as being lower quality. The two ophthalmologists we contacted who use IOLs listed on the FSS reported satisfaction with the quality of the lenses.

**Low IOL prices can be achieved without high volume purchases**

No direct correlation exists between price and the number of IOLs purchased by either the IHS or Canadian hospitals. The average prices paid by the IHS hospitals ranged from \$134 to \$186 for volumes ranging from 48 to 218. The average prices paid by Canadian hospitals ranged from \$73 to \$245 for volumes ranging from 50 to 1540. There was no significant correlation between volume and price in either case, as indicated in the charts in Appendix C.

**The IOL manufacturers are competitive and respond to effective negotiating techniques**

Ophthalmologists interviewed in all four of the IHS hospitals indicated that IOL manufacturers are competitive and willing to lower prices to acquire more business. In two of the four facilities, the ophthalmologists indicated that price was a deciding factor in their decision to purchase IOLs outside the FSS.

All 12 of the Canadian purchasing directors interviewed stated they had effectively reduced IOL prices over the last couple of years. They attribute these price reductions to their negotiations and bidding processes for IOL contracts. All 15 Canadian hospitals purchase their IOLs under negotiated contracts. These contracts vary in terms of bid solicitation, selection of lens types, information required from IOL companies and contract approval. On the average, four IOL manufacturers compete for the IOL contracts in each hospital.

We found that:

**Canadian hospitals solicit bids from several manufacturers when negotiating IOL contracts.**

The number of manufacturers competing for the IOL contract(s) in each Canadian hospital ranged from

three to seven, and averaged four per hospital. Purchasing directors hold the opinion that broader bidding holds down costs.

**Canadian hospitals contracting with more than one manufacturer purchase IOLs for less**

The seven Canadian hospitals contracting with more than one IOL manufacturer pay an average of \$90 per lens. Hospitals contracting with one manufacturer exclusively pay an average of \$102. Even though the average price difference is only \$12, applying a per lens savings of \$12 to the total volume of 5169 lenses purchased by hospitals currently contracting with only one company would result in a \$62,028 savings to Canadian hospitals.

**Contracts of 24 months or less produce lower average IOL prices**

Canadian IOL contract periods averaged 21 months, ranging from 12 to 40 months. Canadian hospitals purchasing under contracts of 24 months or less paid an average of \$105 for each IOL. Hospitals purchasing under contracts in excess of 24 months paid an average of \$122 per IOL, over \$17 more per lens.

**RECOMMENDATION**

Our findings lead us to conclude that Medicare's reimbursement rate for IOLs is considerably higher than the price established in other markets. We recommend the Health Care Financing Administration explore reducing the IOL single payment reimbursement rate to no more than \$150. At that price Medicare allowed charges would be reduced by \$55 million. At \$125 per lens savings would be \$82 million and at \$100 per lens savings would be \$110 million.

Intraocular Lens Costs  
in  
IHS Hospitals

Manufacturer	Contract Volume	U.S. Price
Company F	177	\$125.00
Company E/G/H	3	\$143.00
Company E/G/H	39	\$143.00
***** 47 Percent Under \$149 (219) *****		
Company E/G/H	50	\$158.00
Company E/G/H	42	\$169.00
Company F	2	\$170.00
Company F	29	\$170.00
Company F	10	\$185.00
Company F	93	\$186.00
Company F	1	\$186.00
Company E/G/H	11	\$200.00
***** 98 Percent Under \$201 (457) *****		
Company E/G/H	9	\$278.00

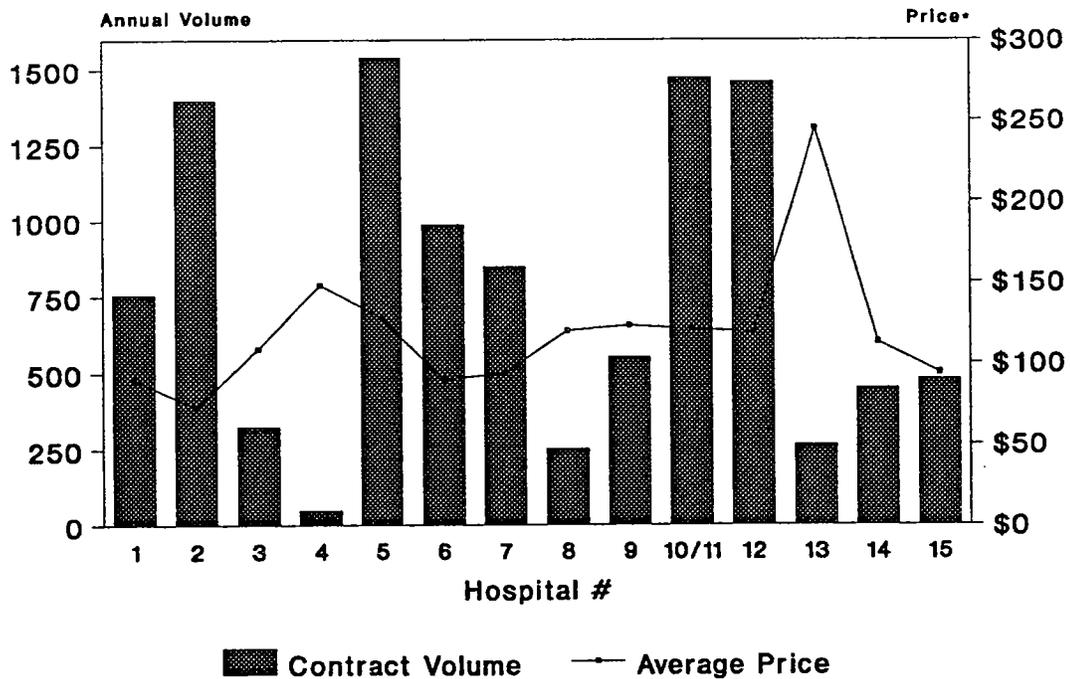
Intraocular Lens Costs  
in  
Canadian Hospitals

Manufacturer	Contract Volume	U.S. Price
Company A	200	\$68.13
Company A	200	\$69.87
Company A	1000	\$74.24
Company A	700	\$78.61
Company A	412	\$87.34
Company A	219	\$87.34
Company E	2	\$89.09
Company E	2	\$89.09
Company E	268	\$89.09
Company E	148	\$89.09
Company E	25	\$89.09
Company E	10	\$89.09
Company E	113	\$89.96
Company E	877	\$89.96
Company D	150	\$91.71
Company D	60	\$91.71
Company G	395	\$96.07
Company C	76	\$100.44
Company B	27	\$100.44
Company F	240	\$104.81
Company F	300	\$109.18
*****50th Percentile***** (5,422)*****		
Company F	26	\$109.18
Unknown	50	\$112.67
Unknown	400	\$112.67
Company E	127	\$113.54
Company H	1400	\$117.91
Company H	52	\$120.41
Company H	200	\$120.41
Company E	292	\$122.28
Company G	60	\$122.28
Company G	108	\$122.28
*****75th Percentile***** (8,133)*****		
Company G	2	\$122.28
Company G	165	\$122.28
Company G	2	\$122.28
Company G	2	\$122.28
Company G	7	\$122.28
Company G	32	\$122.28
Company G	7	\$122.28
Company G	25	\$122.28

Manufacturer	Contract Volume	U.S. Price
Company G	6	\$122.28
Company G	2	\$122.28
Company A	122	\$131.01
Company A	23	\$131.01
Company F	1300	\$132.76
Company E	132	\$135.38
Company H	60	\$139.74
Company C	50	\$148.48
*****93 Percent Under \$149 (10,076)*****		
Company F	16	\$165.95
Company E	150	\$165.95
Company F	312	\$165.95
Company A	26	\$174.68
Company E	1	\$196.52
Company E	43	\$196.52
Company E	4	\$196.52
*****98 Percent Under \$200 (10,728)*****		
Company F	42	\$222.72
Company I	12	\$240.19
Company E	4	\$257.65
Company E	28	\$257.65
Company E	34	\$257.65
Company E	17	\$257.65
Company E	22	\$275.12
Company E	6	\$275.12
Company E	2	\$275.12
Company F	47	\$275.12
Company E	<u>2</u>	\$278.61
Total Volume	10,844	

# No Direct Correlation Exists Between Annual IOL Volume and Price

## Canadian Hospitals



•Prices shown have been converted to U.S. dollars for comparison purposes

## IHS Hospitals

