MARKET MONITOR™ Notes

CLINICAL DIAGNOSTICS LABORATORY MARKET SEGMENTATION

Information Dynamics *June 2007*

Introduction

MARKET MONITOR™ Notes are summary publications focusing on a particular issue or discipline within the clinical diagnostics industry. The 2007 edition of the Clinical Chemistry MARKET MONITOR™, published in April, 2007 provides the most recent data for this note.

This edition of MARKET MONITOR™ Notes is published as an update to the March, 2006 MARKET MONITOR™ Notes. This issue addresses the market segmentation scheme of manufacturers serving the general chemistry and immunoassay markets.

Segmenting Clinical Diagnostics

The following segmentation scheme was developed to address both the volume and test menu configurations of hospital laboratories:

General Chemistry Volume Categories (A/B/C):

A. Low Volume – Less than 250,000 general chemistry results reported per year
B. Medium Volume – 250,000 to 999,999 general chemistry results reported per year
C. High Volume – 1,000,000 or more general chemistry results reported per year

Menu Complexity Categories (1/2/3):

1. Basic Menu – Low volume and/or STAT immunoassay capability (i.e Cardiac, Thyroid, DOA, TDM)
    - Not likely to have secondary immunoassay analyzers
    - High send out volume
    - No outreach program

2. Basic+ Menu – Some non-STAT and/or low volume immunoassay capability (i.e., PSA, Fertility, Tumor Markers, Anemia)

3. Complex Menu – STAT, non-STAT, high and low volume immunoassay capability plus esoteric testing
    - Requires additional departments and more secondary analyzers
    - No send out volume
    - Capable of a large outreach program
    - Increased staffing/management requirements

TABLE 1
CONTRIBUTION TO TOTAL VOLUME BY MARKET SEGMENT
HOSPITAL MARKET ONLY

	ANNUAL GENERAL CHEMISTRY VOLUME CATEGORY								
	A-Low Volume <250,000 Tests			B-Medium Volume 250,000-999,999 Tests			C-High Volume 1,000,000+ Tests		
	MENU COMPLEXITY CATEGORY								
	1-Basic Menu	2-Basic+ Menu	3-Complex Menu	1-Basic Menu	2-Basic+ Menu	3-Complex Menu	1-Basic Menu	2-Basic+ Menu	3-Complex Menu
Segment Designation	A1	A2	A3	B1	B2	B3	C1	C2	C3
Number Of Accounts	639	1,108	138	367	864	772	121	318	825
Percent Of Accounts	12.4	21.5	2.7	7.1	16.8	15.0	2.3	6.2	16.0
Segment Total General Chemistry Requests Per Year (In 000,000)	63	142	21	206	469	503	242	586	1,677
Segment Share Of General Chemistry Volume (%)	1.6	3.6	0.5	5.3	12.0	12.9	6.2	15.0	42.9
Annual General Chemistry Volume Per Account (In 000)	99	128	153	560	543	652	2,005	1,842	2,033
Segment Total Immunoassay Requests Per Year (In 000,000)	6.9	23.7	4.7	14.6	40.3	90.7	8.0	32.5	150.3
Segment Share Of Immunoassay Volume (%)	1.9	6.4	1.3	3.9	10.8	24.4	2.2	8.8	40.4
Annual Immunoassay Volume Per Account (In 000)	11	21	34	40	47	117	66	102	182

Universe of Hospitals In Each Volume/Menu Segment

Table 1 illustrates the universe of total short-term acute care hospitals in each Volume/Menu segment. This estimate is based on the 5,153 total hospitals reported according to the *2007 American Hospital Association Hospital Statistics* and data gathered using Information Dynamics' Clinical Chemistry MARKET MONITOR™. The largest number of hospitals falls into the low volume, Basic+ menu segment (A2).

Table 1 also illustrates the relative value of each segment. The projected annual volume, as well as the share of volume contributed by each segment for both general chemistry and immunoassay testing, are presented in this table.

The largest share of both general chemistry and immunoassay volume is contributed by facilities performing a high volume of general chemistry tests, as well as providing a complex menu of immunoassay testing (C3). More than 40 percent of volume shares for both the general chemistry and immunoassay testing fall into segment C3, while this segment represents only 16 percent of the universe of total accounts.

General Chemistry Brand Performance In Each Volume/Menu Segment

Table 2 shows the rankings of brands that serve the general chemistry segment of the hospital market. In this table, rank is determined by the share of accounts using each manufacturer's products as their primary general chemistry system. Primary systems are defined as analyzers performing a majority of the laboratory's general chemistry test volume.

The data suggests that products provided by Beckman Coulter appeal to hospital laboratories running a higher volume of tests, with different menu configurations. Beckman Coulter takes first place in segments B3, C1, C2 and C3. They also hold the first or second position in all but two categories.

Dade Behring's instruments have wide appeal across all segments, holding the first or second position in all but one of the volume/menu segments. Their first place rankings are within accounts providing a Basic or Basic+ menu and performing either a low or medium general chemistry constituent request volume (A2, B1, and B2).

TABLE 2
BRAND RANKING
BASED ON SHARE OF PRIMARY GENERAL CHEMISTRY ACCOUNTS
HOSPITAL MARKET ONLY

	ANNUAL GENERAL CHEMISTRY VOLUME CATEGORY								
	A-Low Volume (<250,000)			B-Medium Volume (250,000-999,999)			C-High Volume (1,000,000)		
	MENU COMPLEXITY CATEGORY								
	1-Basic Menu	2-Basic+ Menu	3-Complex Menu	1-Basic Menu	2-Basic+ Menu	3-Complex Menu	1-Basic Menu	2-Basic+ Menu	3-Complex Menu
	VOCL SEGMENT DESIGNATION								
Brand Ranking	**A1**	**A2**	**A3**	**B1**	**B2**	**B3**	**C1**	**C2**	**C3**
1st	Ortho	Dade Behring	Roche	Dade Behring	Dade Behring	Beckman Coulter	Beckman Coulter	Beckman Coulter	Beckman Coulter
2nd	Dade Behring	Ortho	Beckman Coulter	Beckman Coulter	Beckman Coulter	Dade Behring	Dade Behring	Dade Behring	Dade Behring
3rd	Beckman Coulter	Beckman Coulter	Dade Behring	Ortho Roche	Ortho	Roche	Roche	Roche	Roche
4th	Roche	Roche	Ortho	Abbott	Roche	Ortho	Ortho	Ortho	Ortho
5th	Olympus	Olympus	Abbott	Siemens	Olympus	Siemens	Olympus Siemens	Siemens	Siemens

***If more than one brand appears, multiple brands received the same ranking and are listed in alphabetical order.**

The third and fourth ranking levels are dominated by Ortho and Roche. Ortho's strongest position is first place for accounts performing a low volume of general chemistry constituent requests and providing only a basic immunoassay menu (A1). Roche's only first place ranking is segment A3. Institutions falling into this segment include laboratories that have an annual general chemistry volume of less than 250,000 tests per year, but maintain a complex in-house immunoassay menu capability. There are only a projected total of 138 hospitals in this category.

Other brands appearing in the "Top 5" ranking, but not holding a leadership position include Abbott, Olympus and Siemens.

Immunoassay Brand Performance In Each Volume/Menu Segment

Table 3 shows the ranking of brands serving the immunoassay segment of the hospital market. In this table, rank is determined by the share of accounts using each manufacturer's products as their primary immunoassay system. Primary systems are defined as analyzers performing a majority of a laboratory's immunoassay test volume.

Please note that the Clinical Chemistry MARKET MONITOR™ includes Drugs of Abuse and TDM in the immunoassay category. A high proportion of these tests are run on a general chemistry analyzer which may contribute, at least in part, to these brand rankings.

With the exception of Siemens holding the top ranking in segment C3, both Beckman Coulter and Dade Behring dominate the number one rankings across all volume/menu segments. Dade Behring's lowest rankings occur in segments with a complex immunoassay menu, while Beckman Coulter's lowest ranking is among those institutions performing a low volume/basic menu. Even though Siemens ranks the highest in only one segment (C3), it generates more than 40 percent of the hospital based immunoassay request volume.

Abbott and Roche each appear six times in the third or fourth ranking level. Both brands are spread across nearly all volume segments and menu complexities. The diversity of their appearance suggests a widespread appeal for both brands. Ortho and Tosoh round out the "Top Five" brand rankings, but do not hold a dominant position.

TABLE 3
BRAND RANKING
BASED ON SHARE OF PRIMARY IMMUNOASSAY ACCOUNTS
HOSPITAL MARKET ONLY

	ANNUAL GENERAL CHEMISTRY VOLUME CATEGORY								
	A-Low Volume (<250,000)			B-Medium Volume (250,000-999,999)			C-High Volume (1,000,000)		
	MENU COMPLEXITY CATEGORY								
	1-Basic Menu	2-Basic+ Menu	3-Complex Menu	1-Basic Menu	2-Basic+ Menu	3-Complex Menu	1-Basic Menu	2-Basic+ Menu	3-Complex Menu
	VOCL SEGMENT DESIGNATION								
Brand Ranking	**A1**	**A2**	**A3**	**B1**	**B2**	**B3**	**C1**	**C2**	**C3**
1st	Dade Behring	Dade Behring	Beckman Coulter	Dade Behring	Dade Behring	Beckman Coulter	Beckman Coulter	Beckman Coulter	Siemens
2nd	Biosite	Beckman Coulter	Ortho	Beckman Coulter	Beckman Coulter	Siemens	Dade Behring	Dade Behring	Beckman Coulter
3rd	Beckman Coulter	Abbott	Dade Behring	Abbott	Roche Abbott Siemens	Dade Behring	Abbott	Ortho	Dade Behring
4th	Tosoh	Roche Tosoh	Abbott Roche	Roche	Ortho	Ortho	Siemens	Roche	Abbott Roche
5th	Abbott	Ortho	-	Siemens	Tosoh	Roche	Roche	Siemens	Ortho

Conclusion

Combining annual general chemistry request volume with menu complexity offers a unique slant in segmenting the market for general chemistry and immunoassay analyzers. General chemistry test volume directly influences (1) the number of analyzers used, (2) analyzer throughput requirements, (3) staffing issues, and (4) automation/processing. Menu complexity addresses (1) the selection of immunoassay analyzers, (2) integration of general chemistry and immunoassay testing capabilities, (3) test menu, and (4) outreach and other management issues.

Rather than basic segmentation according to hospital bed size, volume/menu categories offer the manufacturer a glimpse of their performance among laboratories with similar needs. Additionally, the potential for product offerings can be estimated by measuring the success of current lines within each category.

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