

Capitation Rates & Data™

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Web-based software helps predict and manage risk

Tool allows capped groups to forecast resource consumption

When physicians talk about taking capitation, they want assurance that their PMPM rates will be based not only on case mix-adjusted but also on severity-adjusted data. Until recent years, payers couldn't provide reliable severity-adjusted data, but newer generation predictive modeling allows both HMOs and capitated providers to validate both their population case mix and the severity of illness for those members.

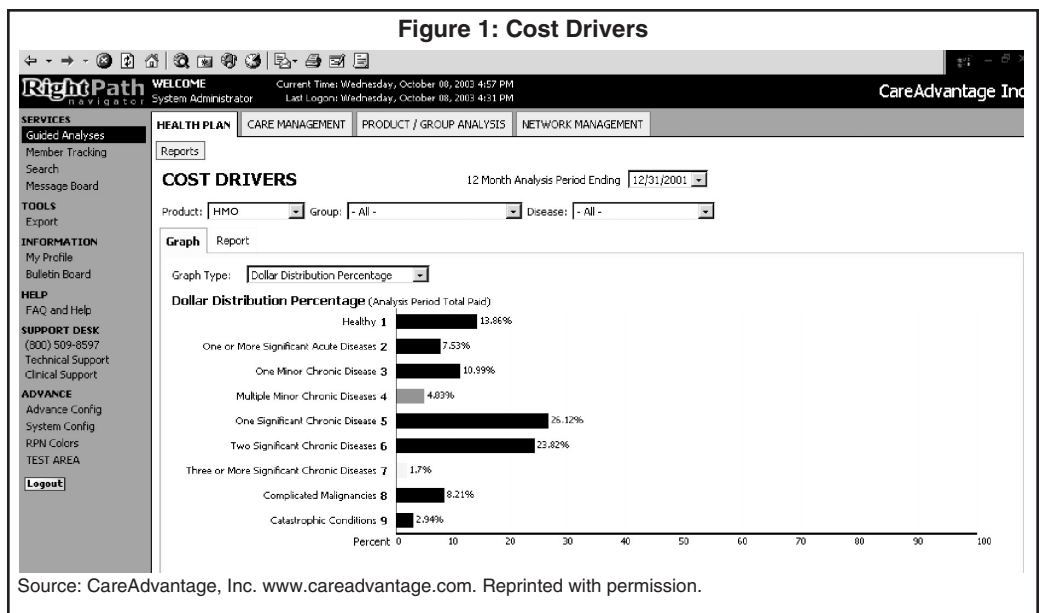
CareAdvantage, Inc. (CAI), an Iselin, NJ, health care management consulting firm, is one of the newest companies to deliver a tool that offers risk-adjustment and a vast array of reporting capabilities through a web-based portal. The company's Right-Path (RP) Navigator is a data-driven risk management tool that can help plans and capitated provider groups to understand and forecast resource consumption, risks, and costs associated with their member populations.

RPNavigator transforms health plan data -- inpatient, outpatient, and pharmacy claims and encounters -- into actionable information using 3M's Clinical Risk Groups (CRGs), a classification methodology that groups members according to risk related to the individual's clinical history and demographic information, explains **Dennis J. Mouras**, CAI president and CEO. Each member then is assigned to a single, clinically supported, mutually exclusive group based on single or mul-

tiple disease processes.

Older models of risk adjustment typically characterized member populations by the percentage of patients with primary diagnoses for chronic illness -- asthma, diabetes, congestive heart failure, for instance -- compared with the percentage of healthy members, observes **Richard H. Bernstein**, MD, a board-certified internist and senior medical director for client services and informatics at CAI. Within a given category, however, provider organizations that were accepting risk for a member population had no information on the degree of severity for individual members.

Thus, while some members with diabetes may have controlled their illness with diet alone, some may have progressed to early complications of the disease while others may have suffered



major complications -- each with vastly different health care costs and utilization patterns. Providers were forced to negotiate risk contracts without fully understanding the cost drivers in their population.

"With RPNavigator, comparisons are totally based on severity of illness, not on financial data mixed with clinical data," Bernstein says. "There are no distortions based on case mix differences among

physicians. By severity-adjusting, you get a more robust view of the population so you know what's the most appropriate PMPM for capitation."

'Open logic, not a black box'

RPNavigator can display a "picture" of each physician's panel, which empowers an organization when negotiating PMPM rates and reveals

more effective care management strategies for capitated arrangements, according to Bernstein. The 3M CRG system has an "open logic, not a black box," he says, that is more easily understood by physicians.

"The logic is defensible, both for the HMO and for the providers," Mouras adds.

RPNavigator also is a predictive model that allows effective rate setting in virtually any contracting situa-

Figure 2: Case Mix and Severity Result Matrix

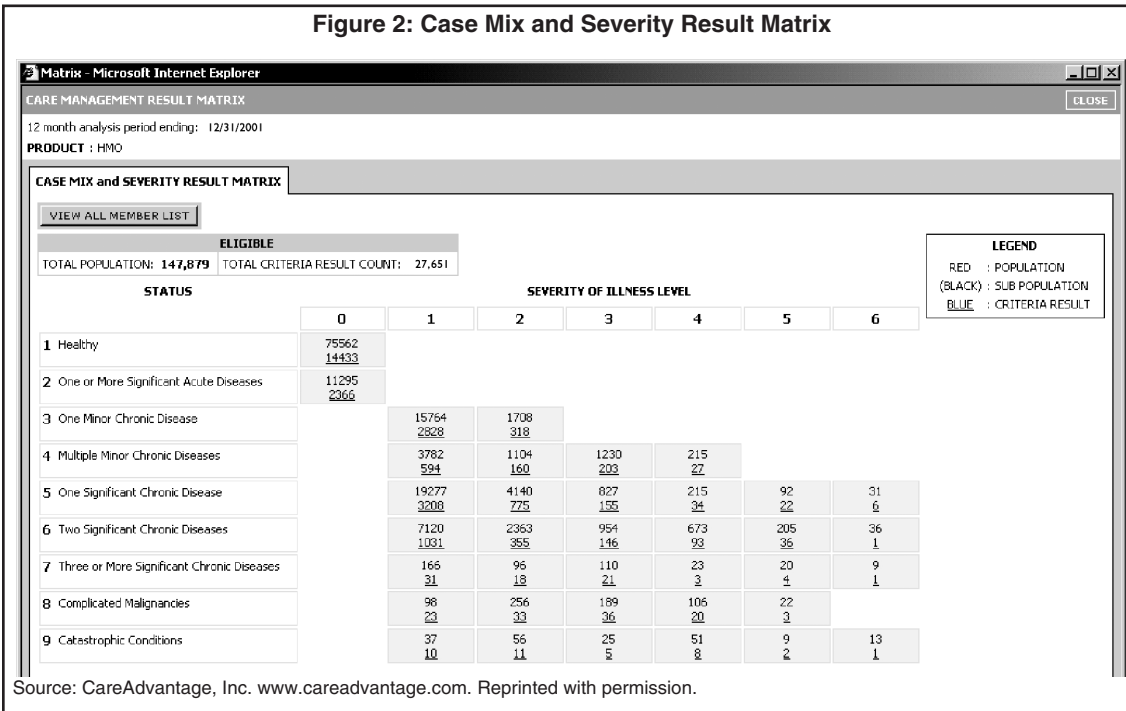
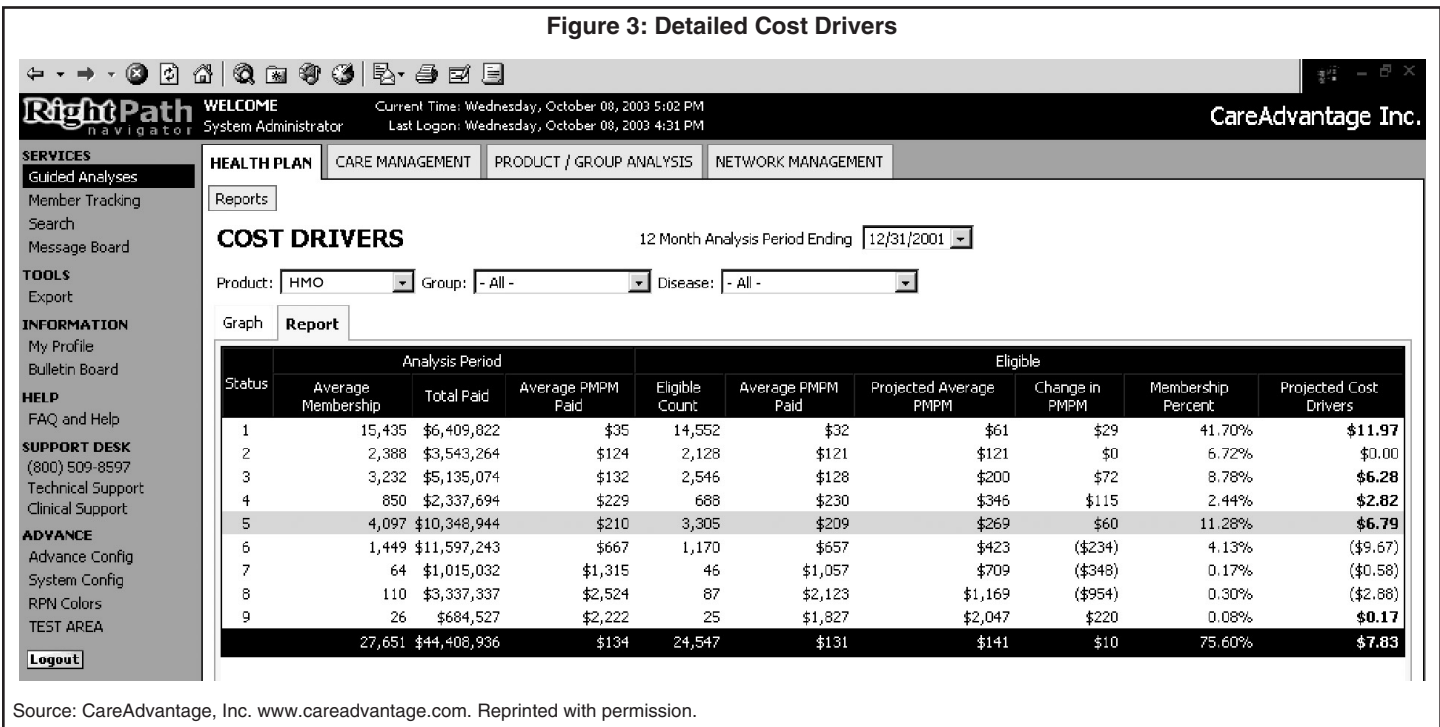


Figure 3: Detailed Cost Drivers



tion: between a public payer and an HMO in Medicare or Medicaid risk, between an HMO and a provider network, and even between a capitated health care organization and physicians in subcapitated agreements. The tool seamlessly integrates pharmacy data and incorporates quality information, which is increasingly important for performance-based pay initiatives.

The primary mechanism for ensuring reliable predictability is the accuracy of claims data, Mouras and Bernstein agree. CAI starts with two years of historical claims, encounter, and pharmacy data, plus the previous three months' tail. RPNavigator integrates all of the data and generates a list of priority patients -- "not only those who are high-cost today, but those who might become more expensive without intervention," Bernstein points out.

"The CRGs do a good job of channeling the data into accurate categories," he adds. "When a query goes in, the answer comes back based on the most recent member categorization into the system, which is usually updated every six months for capitation negotiations. The data allow organizations not only to negotiate more effective contracts but also to manage their risks under capitation. What else is needed to reduce the costs of care in a given member population? Additional resources? More intensive care management?"

The accompanying figures help to illustrate some

Figure 4: Disease Report

No.	Code	Disease	Analysis Period			Eligible							
			Average Membership	Total Paid	Average PMPM Paid	Eligible Count	Average PMPM Paid	Projected Average PMPM	Change in PMPM	Membership Percent	Projected Cost Drivers	Average CMI	Average BOI
1	5192	Hypertension	1,103	\$1,970,525	\$149	884	\$150	\$266	\$115	0.66	\$0.75	6.85	1.9021
2	5138	Asthma	722	\$1,077,757	\$124	569	\$118	\$229	\$111	0.42	\$0.47	12.01	1.6387
3	5424	Diabetes	289	\$675,842	\$195	242	\$179	\$302	\$124	0.18	\$0.22	10.43	2.1657
4	5749	Depressive and Other Psychoses	258	\$500,250	\$161	208	\$138	\$260	\$122	0.16	\$0.19	7.81	1.8607
5	5351	Disc Disease and Other Chronic Back Diagnoses	206	\$516,499	\$208	164	\$198	\$275	\$77	0.12	\$0.09	7.09	1.9679
6	5133	Chronic Obstructive Pulmonary Disease and Bronchiectasis	34	\$86,551	\$210	29	\$171	\$380	\$208	0.02	\$0.05	11.52	2.7189
7	5352	Crystal Arthropathy	44	\$52,272	\$97	35	\$93	\$258	\$165	0.03	\$0.04	7.00	1.8444
8	5748	Conduct, Impulse Control, and Other Disruptive Behavior Disorders	58	\$92,445	\$132	47	\$80	\$192	\$113	0.04	\$0.04	7.57	1.3766
9	5187	Cardiac Dysrhythmia and Conduction Disorders	53	\$101,863	\$160	47	\$170	\$267	\$97	0.04	\$0.03	7.57	1.9145
10	5348	Curvature or Anomaly of the Spine	59	\$93,191	\$132	47	\$130	\$231	\$92	0.04	\$0.03	6.49	1.6503
11	5784	Chronic Alcohol Abuse	84	\$166,550	\$164	64	\$172	\$220	\$40	0.05	\$0.02	7.64	1.5760
12	5075	Blindness, Visual Loss, and Chronic Eye Diagnoses - Major / Moderate	16	\$17,877	\$91	17	\$82	\$264	\$102	0.01	\$0.02	6.29	1.6935
13	5479	Chronic Genitourinary Diagnoses	22	\$59,293	\$217	18	\$147	\$317	\$170	0.01	\$0.02	7.17	2.2710
14	5390	Connective Tissue Disease and Vasculitis	19	\$43,516	\$187	18	\$191	\$358	\$167	0.01	\$0.02	7.11	2.5639
15	5014	Epilepsy	49	\$169,499	\$285	36	\$199	\$275	\$76	0.03	\$0.02	7.47	1.9687
16	5183	Angina and Ischemic Heart Disease	47	\$214,432	\$378	43	\$368	\$429	\$61	0.03	\$0.02	10.51	3.0735
17	5751	Chronic Mental Health Diagnoses - Moderate	39	\$91,398	\$194	31	\$180	\$264	\$84	0.02	\$0.02	8.32	1.8870
18	5662	Breast Malignancy	31	\$94,524	\$254	28	\$250	\$313	\$63	0.02	\$0.01	7.21	2.2394
19	5442	Chronic Endocrine, Nutritional, Fluid, Electrolyte and Immune Diagnoses - Moderate	95	\$288,517	\$252	75	\$232	\$256	\$23	0.06	\$0.01	9.21	1.8302
20	5658	Other Malignancies	39	\$96,914	\$208	33	\$220	\$272	\$52	0.02	\$0.01	8.73	1.9497
21	5134	Other Major Chronic Pulmonary Diagnoses	57	\$216,722	\$315	42	\$278	\$318	\$40	0.03	\$0.01	7.71	2.2781
22	5583	Chromosomal Anomalies and Syndromes Except Down's	10	\$16,307	\$124	11	\$130	\$272	\$142	0.01	\$0.01	7.45	1.9456
23	5747	Bi-Polar Disorder	37	\$99,778	\$220	33	\$250	\$297	\$47	0.02	\$0.01	8.82	2.1271
24	5744	Eating Disorder	29	\$57,280	\$165	21	\$173	\$245	\$72	0.02	\$0.01	9.24	1.7551

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Figure 5: Member List

No.	CM	DM	ME	Member ID	Name	Months	Age	Sex	Product	Group	Total Paid	Projected Cost	CMI	Primary Care Physician	Severity
1				XXXXXXXXXX	XXXXXXXXXX	12	62	F	HMO	T86122	\$21,581	\$6,577	26	XXXXXXXXXX	2
2				XXXXXXXXXX	XXXXXXXXXX	12	56	F	HMO	T19535	\$40,145	\$4,053	26	XXXXXXXXXX	1
3				XXXXXXXXXX	XXXXXXXXXX	12	48	F	HMO	T19388	\$19,551	\$2,873	18	XXXXXXXXXX	1
4				XXXXXXXXXX	XXXXXXXXXX	12	29	F	HMO	T10945	\$12,663	\$2,559	18	XXXXXXXXXX	1
5				XXXXXXXXXX	XXXXXXXXXX	12	46	F	HMO	T19103	\$34,400	\$3,474	18	XXXXXXXXXX	1
6				XXXXXXXXXX	XXXXXXXXXX	11	46	M	HMO	T80996	\$23,570	\$2,467	17	XXXXXXXXXX	1
7				XXXXXXXXXX	XXXXXXXXXX	12	60	F	HMO	T19696	\$15,987	\$4,696	16	XXXXXXXXXX	1
8				XXXXXXXXXX	XXXXXXXXXX	12	47	F	HMO	T19534	\$2,712	\$3,474	16	XXXXXXXXXX	1
9				XXXXXXXXXX	XXXXXXXXXX	12	44	F	HMO	T10617	\$5,297	\$3,062	15	XXXXXXXXXX	1
10				XXXXXXXXXX	XXXXXXXXXX	12	31	F	HMO	T17806	\$8,736	\$2,856	15	XXXXXXXXXX	1
11				XXXXXXXXXX	XXXXXXXXXX	12	52	F	HMO	T19457	\$4,112	\$3,102	15	XXXXXXXXXX	1
12				XXXXXXXXXX	XXXXXXXXXX	12	37	F	HMO	T19534	\$11,813	\$3,343	15	XXXXXXXXXX	1
13				XXXXXXXXXX	XXXXXXXXXX	12	57	M	HMO	T19336	\$13,804	\$3,897	15	XXXXXXXXXX	1
14				XXXXXXXXXX	XXXXXXXXXX	11	50	F	HMO	T86133	\$6,674	\$3,872	15	XXXXXXXXXX	1
15				XXXXXXXXXX	XXXXXXXXXX	12	44	F	HMO	T18162	\$11,083	\$3,062	14	XXXXXXXXXX	1
16				XXXXXXXXXX	XXXXXXXXXX	12	52	F	HMO	T18162	\$9,687	\$3,102	14	XXXXXXXXXX	1
17				XXXXXXXXXX	XXXXXXXXXX	12	47	F	HMO	T16503	\$2,901	\$2,873	14	XXXXXXXXXX	1
18				XXXXXXXXXX	XXXXXXXXXX	12	43	M	HMO	T86183	\$2,059	\$2,698	14	XXXXXXXXXX	1
19				XXXXXXXXXX	XXXXXXXXXX	12	52	F	HMO	T19534	\$2,138	\$3,751	14	XXXXXXXXXX	1
20				XXXXXXXXXX	XXXXXXXXXX	12	47	F	HMO	T86041	\$8,218	\$3,474	14	XXXXXXXXXX	1
21				XXXXXXXXXX	XXXXXXXXXX	12	46	M	HMO	T18175	\$12,093	\$2,890	14	XXXXXXXXXX	1
22				XXXXXXXXXX	XXXXXXXXXX	12	61	F	HMO	T19514	\$6,669	\$6,577	13	XXXXXXXXXX	2
23				XXXXXXXXXX	XXXXXXXXXX	12	56	F	HMO	T00002	\$8,353	\$3,352	13	XXXXXXXXXX	1
24				XXXXXXXXXX	XXXXXXXXXX	12	22	F	HMO	T00002	\$2,288	\$2,298	13	XXXXXXXXXX	1
25				XXXXXXXXXX	XXXXXXXXXX	12	17	F	HMO	T86062	\$2,011	\$2,307	13	XXXXXXXXXX	1
26				XXXXXXXXXX	XXXXXXXXXX	12	43	M	HMO	T15961	\$3,360	\$2,698	13	XXXXXXXXXX	1
27				XXXXXXXXXX	XXXXXXXXXX	12	53	M	HMO	T19320	\$8,653	\$3,479	13	XXXXXXXXXX	1
28				XXXXXXXXXX	XXXXXXXXXX	12	59	M	HMO	T00002	\$7,070	\$3,897	13	XXXXXXXXXX	1
29				XXXXXXXXXX	XXXXXXXXXX	12	44	M	HMO	T19527	\$12,325	\$2,231	13	XXXXXXXXXX	1
30				XXXXXXXXXX	XXXXXXXXXX	12	41	F	HMO	T10731	\$5,824	\$3,062	12	XXXXXXXXXX	1
31				XXXXXXXXXX	XXXXXXXXXX	12	63	F	HMO	T19902	\$9,657	\$3,884	12	XXXXXXXXXX	1
32				XXXXXXXXXX	XXXXXXXXXX	12	53	F	HMO	T16182	\$10,356	\$3,102	12	XXXXXXXXXX	1

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of RPNavigator's capabilities for risk-bearing organizations. **Figure 1**, Cost Drivers, serves as the tool's "opening screen," providing a snapshot of a given member population divided into nine risk groups along with the dollar distribution spent in each. It's clear that individuals in the fifth (Status 5) and sixth (Status 6) categories are of concern. Users also can view their member populations by product (HMO, POS, PPO, indemnity, Medicare, Medicaid, or all), employer group, and/or specific disease.

Figure 2, Case Mix and Severity Result Matrix, drills down into the population by status number and severity, showing all members in the plan as well as those in the HMO who are enrolled in the group (underscored).

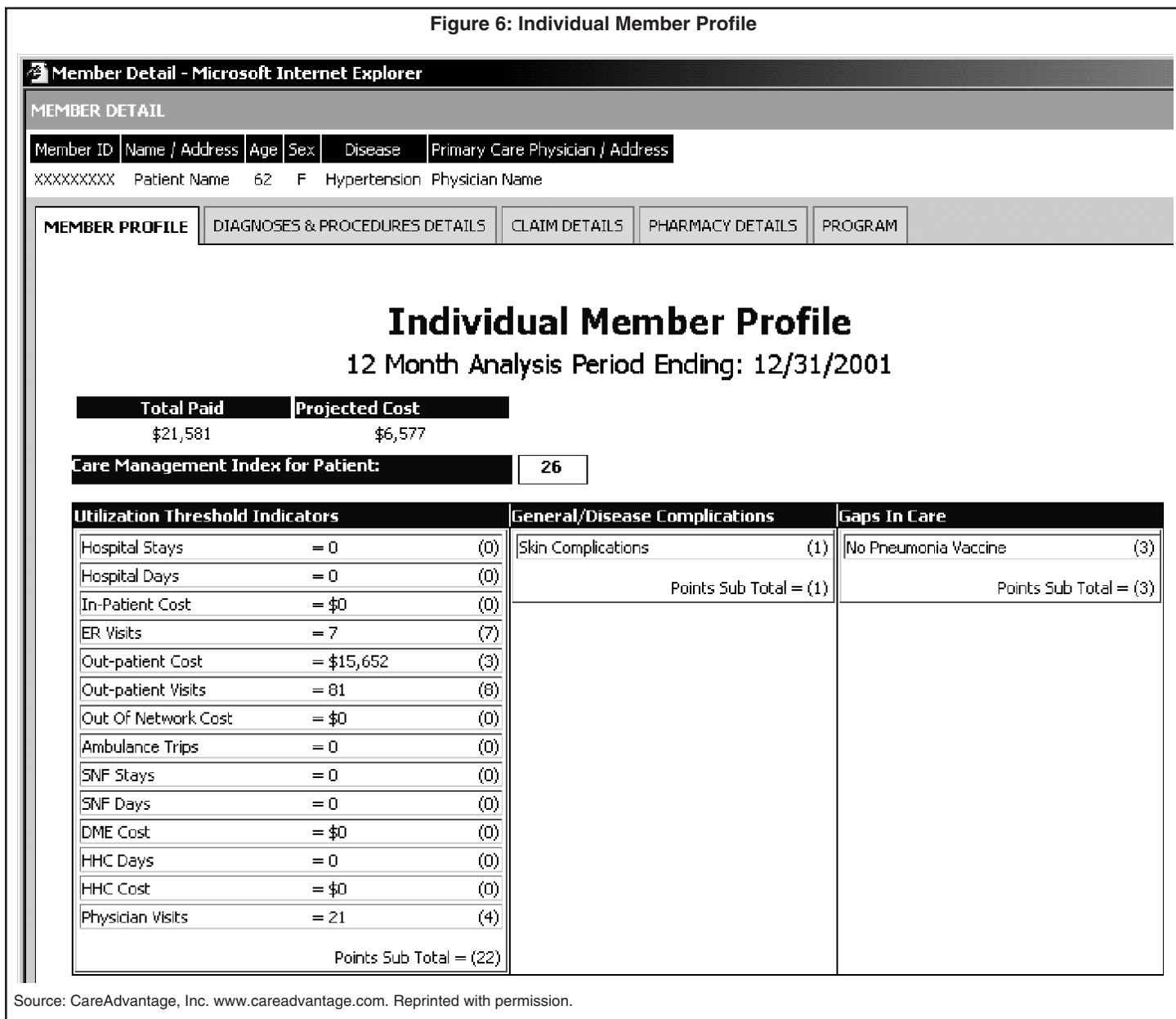
"Case mix and severity adjusting for group

performance and individual profiling depends on normalizing differences in the distribution of individuals in the nine statuses and up to six severity levels," Bernstein explains. "This portrait of the population displays how Clinical Risk Groups not only adjust for the case mix -- diabetes, diabetes plus CHF, or diabetes with dialysis, for instance -- but also for the severity within various statuses -- diabetes alone without complications or diabetes alone with progression of complications along a six-part stratification."

Prioritize care management

Figure 3 reveals even more financial information about the nine health statuses over a

Figure 6: Individual Member Profile



defined 12-month period. The eligible group includes those who were active during the last month of the analysis period, since these individuals form the basis for calculating future costs, according to Bernstein.

“Again, when correcting for population size, Status 5 is an important cost driver, along with Status 3 and those who are healthy,” he points out.

Clicking on the Status 5 row displays the screen illustrated in **Figure 4**, which lists of all diseases within this status along with their financial details.

“The last two columns on the right display CareAdvantage’s Care Management Index [CMI], which prioritizes conditions and individuals for care management interventions based on three categories: outlier levels of utilization and/or cost, clinical complications, and quality issues,” Bernstein explains. “The BOI, or burden of illness score, provides a relative weight for comparing conditions and individuals in terms of expected future resource use.”

Clicking on the first row, for members with hypertension, takes a user to the next level of detail. **Figure 5** displays a list of individuals in the member population who are in Status 5 and who have hypertension. The first member, with a CMI of 26 and projected cost of \$6,577, can be selected to view CAI’s suggested intervention.

Figure 6 shows users the three categories that comprise the CMI and the type of items that contribute to an individual’s score.

“Clearly, this member has used an extraordinary number of outpatient and ER services,” Bernstein explains. “She also should have received a pneumonia vaccine.” Users can click across the tabs at the top to get further information to formulate their own intervention.

Other screens in RPNavigator provide a raft of additional detail, including a summary of all

diagnoses during the previous 12 to 24 months, the count of unique dates of service, the procedures undertaken during the same time period, and claim line detail. Viewing these data can identify members with excessive ER visits, the diagnoses and procedures for each visit, and pharmacy details.

Drilling down on the hypertension patient in the earlier example revealed that she had a high number of ER visits related to migraine, Bernstein says.

“These should have been totally preventable with optimal office and self management,” he points out.

RPNavigator also revealed this patient had not consulted a neurologist and was not using any prescribed medication specific for migraine. Use of Prempro was placing her at higher risk for a stroke, however, in light of her migraine history. Thus, “in one minute, a user can go from the population view to identify members with actionable needs,” Bernstein points out.

Determine if cap rates are appropriate

RPNavigator also can handle specific queries to identify members with high rates of potentially preventable ER visits, excessive out of area costs, hospital visits, and other high-cost services. For example, a medical director might search for all patients in a member population who have asthma, congestive heart failure, and/or diabetes and who have been seen in the ER more than four times in the previous 12 months. Once a list is generated, in just seconds, each can be examined individually or shown in a table view, sorted by number of ER visits or by other metrics, such as amount paid or projected future cost.

Figure 7 offers especially compelling data for

Figure 7: Product/Group Cost Driver Analysis Result

No.	Description	Analysis Period			Eligible					
		Average Membership	Total Paid	Average PMPM Paid	Eligible Count	Average PMPM Paid	Projected Average PMPM	Change in PMPM	Membership Percent	Projected Cost Drivers
1	Plan	144,519	\$250,060,214	\$144	134,038	\$140	\$145	\$5	100.00%	\$5.00
2	POS	31,498	\$54,863,392	\$145	31,854	\$143	\$160	\$17	23.76%	\$4.04
3	PPO	55,389	\$97,558,773	\$147	48,419	\$135	\$141	\$6	36.12%	\$2.17
4	PPO/POS	27,651	\$44,408,936	\$134	24,547	\$131	\$141	\$10	18.31%	\$1.83
5	HMO	24,910	\$52,938,880	\$177	23,703	\$177	\$152	(\$25)	17.68%	(\$4.42)

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capitated providers.

“Another channel of RPNavigator allows providers to determine if the capitation rates offered are appropriate, given the burden of illness and further refined by line of business, or LOB,” Bernstein explains. “This example illustrates projected PMPM costs for the various LOBs. This application of the CRG’s predictive modeling algorithm can be invaluable in negotiations with health plans.”

RPNavigator features provider profiling capabilities that can be conducted by product, risk group, region, provider type, and practice size, filtered by disease state or high-cost outliers. The tool looks not just at over-utilization but also at gaps in care -- members over age 50 who did not receive influenza vaccines in the previous 12 months, for instance -- and at preventable complications.

Initial implementation typically is achieved within four to six weeks, Mouras says, followed by

periodic updates, ongoing data analysis, and recommendations from CAI staff on optimizing care management initiatives and processes. Users can access the HIPAA-compliant, web-based tool in any location, “so they can look at a unique patient in any setting -- the office, hospital, clinic, home, or remote locations,” Bernstein points out.

Pricing is based on population size, with a minimum threshold of 10,000 lives. A typical sliding fee scale might be \$2 PMPM for 10,000 lives, \$.50 PMPM for 50,000 lives, and \$.09 PMPM for 500,000 lives, according to Mouras.

“Physician groups typically have smaller member populations than health plans so the PMPMs are higher,” he says, “but the tool can pay for itself in lower costs and documented evidence to secure higher cap rates.”

Editor’s Note: To request a Webcast demo of RPNavigator, contact Mouras or Bernstein at (732)602-7000 or visit www.careadvantage.com. 