DR DocResponse®

AUTOMATED DOCUMENTATION USING PATIENT-ENTERED DATA DRAMATICALLY REDUCES STAFF AND PROVIDER DOCUMENTATION TIMES

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EXECUTIVE SUMMARY

The physician-industry is facing challenges from many different directions. Productivity is down, many specialists are making less money, and physician burnout is a significant problem. From a macro perspective, more patients are in the market, but fewer physicians are entering the market than will fill the need. More patients, more regulation, and a shortage of physicians have caused physicians to be asked to do more, in less time, without the tools they need to be more efficient and more productive.

Many physicians ascribe the brunt of their frustrations and burnout to the advent of the EHR mandate that became effective in 2014. They lament that they have become more documentarian than physician.

DocResponse is an automated assessment and documentation tool created to help physicians of all specialties (and their extenders) become more efficient, more productive, and more satisfied in their profession. To prove the effectiveness of this tool, DocResponse collected and analyzed data (approximately 12,500 patient encounters) at a busy and growing OBGYN practice of 6 providers to test the effect of its software on the documentation times of providers and staff as measured in the EMR.

The results published here show a dramatic reduction in documentation times across the entire clinic with an average of 50% reduction in staff documentation time, and over 70% reduction of provider documentation time. This impact equates to approximately two and a half minutes of staff documentation savings, and over 8 minutes of reduced provider documentation, respectively, per patient.

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INTRODUCTION

The physician-industry is facing challenges from many different directions.

More patients, more regulation, and a shortage of physicians have required physicians to do more, in less time, without the tools they need to be more efficient and more productive. Costs are rising, and quality is suffering, all at the expense of the patient and the system as a whole.

The passage of the ACA has added millions of patients to the ranks of the insured population, which has added more patients to a system that was already under pressure. The result is that costs continue to rise well above the rate of inflation, quality of care is suffering as physicians are asked to do more and work faster with limited resources, and millions of lives are impacted.

The opportunity for technology and innovation to help alleviate these problems is dramatic, and necessary if the current situation is to be addressed.

DocResponse, Inc., a company based in Houston, Texas, has created a patient- facing/provider-oriented automated assessment and documentation tool to address this problem. It has been tested thousands of times, by thousands of patients.

DocResponse does not (nor does it want to) replace the role of the provider. As a solution built by providers, for providers, DocResponse was created to address the areas of medical practice that contribute to inefficiency and cause frustration and burnout, thereby allowing providers to do what they truly love, which is to practice medicine.

The DocResponse software tool is useful to all medical practices but, since workflows and documentation demands vary by specialty, DocResponse customizes its offering according to the medical specialty where it is deployed. Currently, those specialties include primary care, urgent care, pediatrics, orthopedics, and OBGYN. This study looks at the effects of its product on a busy and growing OBGYN practice of six providers. Subsequent papers will look at the impact of DocResponse on other physician practices, in other specialties.

DocResponse has just completed analyzing data provided by the practice. Data was gathered from the EMR (in this case, Athena) to cover the various data sets available for every patient encounter. The baseline data was collected for the period from when Athena was launched as the practice EHR (11/17/17) up until the day that the DocResponse solution was deployed in the practice (5/8/18). This baseline data (over 4000 encounters) was compared to over 8,500 patient encounters when the practice was using DocResponse from 5/8/18-12/31/18.

Since the Patient Protection and Affordable Care Act was enacted in 2010, millions of people who were not previously covered by health insurance, have entered the healthcare system. As of March 3, 2016, the official number is 20 million people (1). The most current estimates show that since then, the number has remained relatively constant.

The 2014 Medical Economics Physician Practice Study (2) found that the productivity of primary care physicians has seen a significant drop-off. See Table 1, below. While physicians continue to work the same number of hours (some have watched their hours of work increase), the number of patients that they see has decreased between 15-20%. Much of this is due to increased administrative burdens, with the most significant decline coming in 2013-2014 with the mandate of EHRs.

Table 1.

Median hours worked per week–by speciality

	2008	2009	2010	2011	2012	2013	2014
Family/general	46/46*	46	51	50	50	50	51
Internists	56	46	54	53	54	52	52

* family and general physician hours tabulated seperately these years

Mean patient visits per week–by speciality

	2008	2009	2010	2011	2012	2013	2014
Family/general	112/81*	107	102	96	98	99	89
Internists	94	97	101	92	98	93	85

* family and general physician hours tabulated seperately these years

According to a physician workforce projection released by the Association of American Medical Colleges titled The Complexities of Physician Supply and Demand: Projections from 2013 to 2025 (3), there is a current shortage of approximately 20,000 primary care physicians. That is expected to rise to as much as 90,000 by the year 2025. Specialist physicians are also facing shortages (4)

The factors above combine to put enormous strain on the healthcare system. Physicians are being asked to do more and more without the tools to do so.

In addition to productivity problems, physician burnout is a significant issue. Providers complain of becoming more documentarians, and less healers. In the April 2018 issue of Emergency Medicine News, Edwin Leap, MD says "I'd prefer to be examining the sick, talking to patients, looking things up, or even resting my brain so I can make good decisions, but here's the truth: I am actually a clerk. We are an army of conscripted clerks with professional degrees for whom documentation, compliance schemes, and billing are more important than the activities documented." (5)

The Journal of the American Medicine Association, in an October 2018 article (6) outlines several goals physicians are striving for: better patient interactions, improved physician satisfaction, better ROI, and reduced burnout. This article makes a case for using scribes as a solution, but scribes are an expensive avenue.

Each of these problems requires a solution if the healthcare system in the United States (and around the world) is going to deliver optimal results to its patients, contain costs, and improve quality.

SOLUTION

DocResponse was created to address these significant problems affecting the healthcare delivery system. DocResponse uses patient-entered data to provide an automated assessment and documentation tool designed to improve clinic efficiency, practice workflow and provider satisfaction by reducing provider and staff documentation in ambulatory care settings.

DocResponse is the only all-in-one digital solution to help with the entire patient and clinic experience. As a digital check-in solution, DocResponse covers common workflow needs: appointment scheduling, demographic information collection, payment collection, consent form collection, etc. As a clinical documentation solution, however, DocResponse goes beyond that basic functionality to capture a patient's Past Medical History, Surgical History, Family History, Social History, Review of Systems, and complete an assessment of their current medical problem or condition. Medical professionals are provided with full documentation of this patient-entered history along with its associated differential diagnosis.

DocResponse is delivered to medical practice clients as a Software-as-a-Service. The founding premise of DocResponse was that the use of its platform would allow medical practices to be more efficient; see more patients; increase the documentation required for appropriate CPT coding; increase diagnostic accuracy; increase provider and patient satisfaction; reduce overhead; and, provide an overall better patient/provider experience. These continue to be the guiding principles today.

DocResponse was initially tested from the consumer perspective to see if patients would use the tool, enjoy the experience, and find value from using it. With over 10,000 patients surveyed:

- 89% said that they would use DocResponse again;
- 84% said that they would recommend it to others; and
- 45% said that it saved them from an ER visit or a trip to the doctor's office.

DocResponse was then tested in an independent study by the Harvard Medical School in the academic setting to evaluate accuracy versus other tools in the marketplace. The results of a study performed by the Harvard Medical School and published in the British Medical Journal (7) found that DocResponse was the most accurate – 140% more accurate than iTriage and WebMD, and almost 300% more accurate than Mayo Clinic.

Based on the accuracy of the tool and with the knowledge that providers were underserved by existing software solutions, the company shifted its model to be provider-focused and the offering was refined to be a provider efficiency tool. Early studies were performed at the Five Rivers Health Center in Dayton, Ohio, and at the Medical Center at Ocean Reef in Key Largo, Florida in 2016.

Results of these care centers were presented in a separate white paper in April 2017 (available upon request), and are summarized here:

Patients were surveyed after their visit with the following results:

- 96% said that using the DocResponse tool improved their overall experience/satisfaction at Five Rivers Family Health Center
- 88% said that DocResponse made their visit quicker
- 84% said that using DocResponse allowed them to increase face to face time with provider
- 96% said that DocResponse allowed them to give more information to their provider

Furthermore, results showed the tool provided for easier and more complete documentation. This was reflected when results depicted that providers saw patients 41% faster, staff documentation times were reduced by 15% for all patients, and in-exam documentation times for patients were reduced by 37%.

With these results confirming the premise, DocResponse was integrated into the athenahealth EHR, and has been available in the Athena Marketplace since July 2017 and is now installed across the country and throughout various practice types.

THE STUDY

Location: Anonymous Obstetrics and Gynecology, with offices in Fort Worth, Texas

Objectives: To measure the effectiveness of the DocResponse solution in reducing staff and provider documentation time, and its impact on overall clinic efficiency and performance.

Data Analyzed:
- staff documentation time – intake
- provider documentation time – intake
- provider documentation time – exam
- provider documentation time – post
- provider documentation time – sign-off
- same-day encounter closure rate.

Methodology:

The data above was accessed through the Athena EHR for every patient encounter since the practice went live with Athena (11/7/17) through 12/31/18. Baseline data for the practice was established by analyzing the data set from 11/7/17 through 5/7/18 (prior to the launch of DocResponse in the practice on May 8, 2018). The same data sets were then analyzed for the period of 5/8/18 through 12/31/18 (the period the practice used DocResponse).

The data sets were analyzed in aggregate for the entire practice (all providers), and individually by provider.

Actual provider names have been de-identified.

Baseline:

The following table shows the raw baseline data for all patient encounters from 11/7/17 through 5/7/18, the baseline period along with the calculated weighted average of each data set. All times are in minutes. Total Prvdr Doc Time is the total of the four provider documentation times (intake, exam, signoff, and post).

TX040 11/7/17 - 5/7/18

curr dprtmnt	prvdrfullnme	encounter count	ave staff doc. time - intake	avg. prvdr. doc. time - intake	avg. prvdr. doc. time - exam	avg. prvdr. doc. time - sig...	avg. prvdr. doc. time - pos...	same day enc. cls. rt.	Total Prvdr Doc Time
Baseline									
Location A	Provider 1	4			14.7		8.8	75	23.5
Location A	Provider 2	6		0.1	2.3		4.2	100	6.6
Location A	Provider 3	4			2.2		1.5	75	3.7
Location B	Provider 1	5		0.1	5.1		4	80	9.2
Location B	Provider 4	2					2.9	50	2.9
Location B	Provider 2	23		3.9	3.3	1.1	7.4	91.3	15.7
Location B	Provider 3	25			2.1		3.4	72	5.5
Location C	Provider 5	614		1	5	3	5.3	89.7	14.3
Location C	Provider 6	651		1.4	4.7	0.5	2.4	98.2	9
Location C	Provider 2	2					21.2	50	21.2
Location C	Provider 3	4			0.2		3.4	50	3.6
Location D	Provider 5	1			13.2			100	13.2
Location D	Provider 6	3			9.1			66.7	9.1
Location D	Provider 1	987		0.5	4.4	5.5	4.4	85.6	14.8
Location D	Provider 4	226		0.8	0.9		1.8	41.2	3.5
Location D	Provider 2	795		0.7	2.7	5.7	6.5	91.7	15.6
Location D	Provider 3	726		1.2	2.1	2	4.3	71.1	9.6
Composite									
Total		4078							
Weighted Average			5.02	0.91	3.59	3.34	4.48	84.24	12.31

A weighted average baseline Staff Documentation Time – Intake was provided to us separately as 5.02 minutes.

As you can see from the table, baseline provider documentation times totaled 12.31 minutes across the whole practice (all providers).

We then calculated the same weighted averages for each of the providers. Those are shown in the chart below.

TX040 11/7/17 - 5/7/18

curr dprtmnt	prvdrfullnme	encounter count	ave staff doc. time - intake	avg. prvdr. doc. time - intake	avg. prvdr. doc. time - exam	avg. prvdr. doc. time - sig...	avg. prvdr. doc. time - pos...	same day enc. cls. rt.	Total Prvdr Doc Time
Individual	Provider 3	759	5.73	1.15	2.08	0.00	4.24	71.04	7.47
	Provider 1	996	5.76	0.50	4.44	5.45	4.42	85.53	14.81
	Provider 2	826	5.56	0.78	2.71	5.52	6.54	91.65	15.55
	Provider 5	615	2.67	1.00	5.00	3.00	5.3	89.70	14.30
	Provider 6	654	2.76	1.39	4.72	0.50	2.39	98.06	9.00
	Provider 4	228	5.97	0.79	0.89	0.00	1.78	41.20	3.46

THE RESULTS

As stated above, we were provided the same data for every patient encounter from the launch of the DocResponse solution, through December 31, 2018. This was a total of over 8500 patient encounters. Once again, averages were calculated for the practice as a whole, and for each of the providers separately. The results are tabulated below.

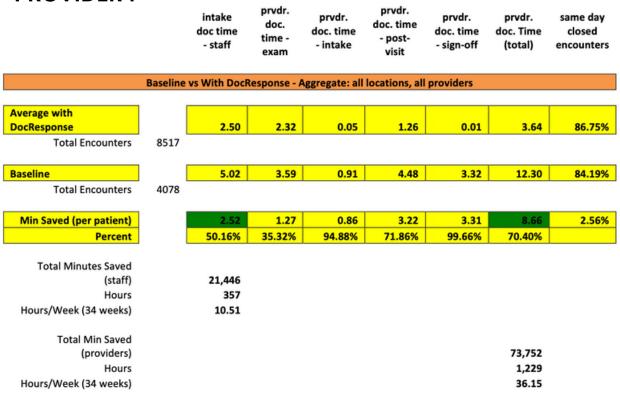| curr dprtmnt	prvdrfullnme	encounter count	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Composite	All	8517	2.50	2.32	0.05	1.26	0.01	3.64	86.75%
	Provider 1	2143	2.42	2.95	0.08	0.79	0.00	3.83	90.32
	Provider 2	2054	2.58	1.73	0.08	2.23	0.01	4.04	94.14
	Provider 3	1491	3.60	1.32	0.01	0.79	0.00	2.14	76.26
	Provider 4	434	1.46	3.13	0.01	1.14	0.03	4.30	84.15
	Provider 5	1085	1.44	2.63	0.07	0.75	0.01	3.47	98.32
	Provider 6	1310	2.87	0.35	0.09	0.74	0.00	1.18	47.00

COMPARISON: DOCRESPONSE vs. BASELINE

Having established a baseline covering over six months and 4000 patients, and having the same data elements for over 8500 patients covering the 8 months of the use of DocResponse, we can now do the comparisons to check on the effects of the solution.

Looking at the practice as a whole:

PROVIDER 1

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Aggregate: all locations, all providers							
Average with DocResponse	2.50	2.32	0.05	1.26	0.01	3.64	86.75%
Total Encounters 8517							
Baseline	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Total Encounters 4078							
Min Saved (per patient)	2.52	1.27	0.86	3.22	3.31	8.66	2.56%
Percent	50.16%	35.32%	94.88%	71.86%	99.66%	70.40%	

Total Minutes Saved (staff)	21,446
Hours	357
Hours/Week (34 weeks)	10.51

Total Min Saved (providers)	73,752
Hours	1,229
Hours/Week (34 weeks)	36.15

To point out the highlights: staff documentation time (intake) was reduced by 50%, or 2 ½ minutes per patient; total provider documentation time was reduced by 70% or more than 8 ½ minutes per patient; total of 11 minutes of documentation time reduced per patient visit; and same day close out rates increased by 2 1/2 percent. For this 6-provider group, the total documentation time saved per week was over 36 hours – almost equivalent to an additional full-time employee.

We also see in the data, that some of the largest reduction in provider documentation time comes from intake (95% reduction), post (72% reduction), and sign-off (99% reduction). Let's call this the Provider Documentation Annoyance Index (the amount of documentation time done outside of the provider/patient experience). This is what providers resent the most – unproductive secretarial time spent away from doctoring. This PDAI was reduced by 85% - from 8.71 minutes per patient to 1.32 minutes per patient.

Looking at the individual providers:

PROVIDER 1

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Provider 1							
Baseline - Grace	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Baseline - Provider 1	5.76	4.44	0.50	4.42	5.45	14.81	85.53%
Weighted Ave with DR	2.42	2.95	0.08	0.79	0.00	3.83	90.32%
Gain vs Grace BL (min)	2.60	0.64	0.83	3.69	3.32	8.47	6.13%
Gain (%)	52%	18%	91%	82%	100%	69%	
Gain vs Provider 1 BL	3.34	1.49	0.42	3.63	5.45	10.98	4.79%
Gain (%)	58%	34%	84%	82%	100%	74%	

Average Patients per Week	63.03
Minutes Saved per Patient	10.98

Total min saved per week	692.06		PDAI	92%
Total hrs saved per week	11.53			

PROVIDER 2

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Provider 2							
Baseline - Grace	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Baseline - Provider 2	5.56	2.71	0.78	6.57	5.50	15.56	91.67%
Weighted Ave with DR	2.58	1.73	0.08	2.23	0.01	4.04	94.14%
Gain vs Grace BL (min)	2.44	1.86	0.83	2.25	3.31	8.26	9.95%
Gain (%)	49%	52%	91%	50%	100%	67%	
Gain vs Provider 2 BL	2.98	0.98	0.70	4.34	5.49	11.52	2.47%
Gain (%)	54%	36%	90%	66%	100%	74%	

Average Patients per Week	60.41	
Minutes Saved per Patient	11.52	
Total min saved per week	695.94	
Total hrs saved per week	11.60	

PDAI   82%

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Provider 3							
Baseline - Grace	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Baseline - Provider 3	5.73	2.13	1.16	4.28	0.00	7.57	72.15%
Weighted Ave with DR	3.60	1.32	0.01	0.79	0.00	2.14	76.26%
Gain vs Grace BL (min)	1.42	2.27	0.90	3.69	3.32	10.16	-7.93%
Gain (%)	28%	63%	99%	82%	100%	83%	
Gain vs Provider 3 BL	2.13	0.81	1.15	3.49	0.00	5.43	4.11%
Gain (%)	37%	38%	99%	82%		72%	

Average Patients per Week	43.85	
Minutes Saved per Patient	5.43	
Total min saved per week	238.12	
Total hrs saved per week	3.97	

PDAI   85%

PROVIDER 4

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Provider 4							
Baseline - Grace	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Baseline - Provider 4	2.67	5.00	0.99	5.30	3.00	14.29	89.70%
Weighted Ave with DR	1.46	3.13	0.01	1.14	0.03	4.30	84.15%
Gain vs Grace BL (min)	3.56	0.46	0.90	3.34	3.32	8.00	-0.04%
Gain (%)	71%	13%	99%	75%	100%	65%	
Gain vs Provider 4 BL	1.21	1.87	0.98	4.16	2.97	9.99	-5.55%
Gain (%)	45%	37%	99%	78%	99%	70%	

Average Patients per Week	12.76	
Minutes Saved per Patient	9.99	

Total min saved per week	127.52		PDAI	87%
Total hrs saved per week	2.13			

PROVIDER 5

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Provider 5							
Baseline - Grace	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Baseline - Provider 5	2.76	4.72	1.39	2.39	0.50	9.00	98.05%
Weighted Ave with DR	1.44	2.63	0.07	0.75	0.01	3.47	98.32%
Gain vs Grace BL (min)	3.58	0.96	0.84	3.73	3.32	8.83	14.13%
Gain (%)	71%	27%	92%	83%	100%	72%	
Gain vs Provider 5 BL	1.32	2.09	1.32	1.64	0.49	5.53	0.27%
Gain (%)	48%	44%	95%	69%	98%	61%	

Average Patients per Week	31.91	
Minutes Saved per Patient	5.53	
Total min saved per week	176.47	**PDAI** 81%
Total hrs saved per week	2.94	

PROVIDER 6

	intake doc time - staff	prvdr. doc. time - exam	prvdr. doc. time - intake	prvdr. doc. time - post-visit	prvdr. doc. time - sign-off	prvdr. doc. Time (total)	same day closed encounters
Baseline vs With DocResponse - Provider 6							
Baseline - Grace	5.02	3.59	0.91	4.48	3.32	12.30	84.19%
Baseline - Provider 6	5.97	0.89	0.79	1.79	0.00	3.47	41.20%
Weighted Ave with DR	2.87	0.35	0.09	0.74	0.00	1.18	47.00%
Gain vs Grace BL (min)	3.56	0.46	0.90	3.34	3.32	8.00	-37.19%
Gain (%)	71%	13%	99%	75%	100%	65%	
Gain vs Provider 6 BL	1.21	1.87	0.98	4.16	2.97	9.99	5.80%
Gain (%)	45%	37%	99%	78%	99%	70%	

Average Patients per Week	38.53		
Minutes Saved per Patient	9.99		
Total min saved per week	384.91	PDAI	68%
Total hrs saved per week	6.42		

As we can see, the results are remarkably consistent across all providers – approximately a 70% reduction in provider documentation time, and an associated 85% reduction in the Provider Documentation Annoyance Index.

CONCLUSION

The purpose of the study was to assess whether the DocResponse solution could help address a few of the challenges facing medical providers in general, and OBGYN providers in particular (i.e., productivity loss due to the EHR mandate and the associated revenue loss/cost increases, physician dissatisfaction/burnout, etc.).

The results are striking. Efficient and expert use of patient-entered data can significantly reduce the documentation times of medical staff and providers. Linking an efficient patient experience with a medical engine that providers can trust automates much of what slowed down staff and providers alike, and returned them to the practice of medicine, rather than the practice of documentation.

The solution delivered an average of 8 ½ minutes per patient visit back to the provider. Depending on the number of patients seen per week, that translated to as much as 11 hours per week back to the provider. The solution delivered 2 ½ minutes per patient visit of staff time back to the practice. Combining both staff and provider documentation times, a staggering 11 minutes is saved per patient visit.

It is up to the practice and providers to decide how to "spend" that time and achieve the ROI they desire. They can choose to see more patients to grow the practice and increase their revenue. They can leave the office earlier (without the cloud of after-hours documentation hanging over them) to improve their quality of life and reduce burnout. With 11 hours per week back in his/her week, a provider can do both. **With the staff gains, the practice can scale without an equal increase in costs.**

ADDITIONAL RESOURCES

(1) http://www.hhs.gov/about/news/2016/03/03/20-million-people-have-gained-health-insurance-coverage-because-affordable-care-act-new-estimates

(2) http://medicaleconomics.modernmedicine.com/medical-economics/news/why-primary-care-physicians-are-seeing-fewer-patients?page=full

(3) http://www.aafp.org/news/practice-professional-issues/20150303aamcwkforce.html

(4) https://news.aamc.org/press-releases/article/workforce_report_shortage_04112018/

(5) https://journals.lww.com/em-news/Fulltext/2018/04000/Life_in_Emergistan__EPs,_Glorified_Secretaries.9.aspx

(6) https://www.ama-assn.org/practice-management/sustainability/overlooked-benefits-medical-scribes

(7) http://www.mhealthwatch.com/researchers-at-harvard-find-docresponse-to-be-the-most-accurate-symptom-checker-25978/

FOR MORE INFORMATION

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