



Advancing High Performance Health

AMGA Foundation

Best Practices in Managing Patients with Rheumatoid Arthritis

Kelsey-Seybold Clinic

*Implementing Evidenced-
Based Medicine in the
Management of RA*





Organizational Profile

Kelsey-Seybold Clinic (KSC) began in 1949 by founder Dr. Mavis P. Kelsey. Modeling the Mayo Clinic, the organization was the first of its kind in the Houston area to bring together specialists, general practitioners, nurses, and other health providers as a team to provide multispecialty treatment within the Houston Medical Center.

Six decades since its inception, the organization has witnessed tremendous growth and now spans throughout the Greater Houston and surrounding areas to include 20 clinics, two Ambulatory Surgery Centers (ASCs), and one of the first freestanding Cancer Centers within its region. KSC employs more than 420 physicians encompassing more than 55 specialties serving more than 1 million patients annually. There are four rheumatologists providing services to more than nine clinic locations.

Project Summary

Rheumatoid arthritis (RA) is a chronic disease that has high morbidity, mortality, and financial cost. It affects 1% of the adult population with an estimated \$40 billion spent in both direct and indirect costs associated with RA. This estimate is projected to reach \$54 billion by 2030.

Routine assessments of disease activity and functional status are a key part of high-quality rheumatology care. According to the American College of Rheumatology, “Implementation of evidence-based medicine and ongoing practice assessment/improvement helps rheumatologists provide the best possible care.” Kelsey-Seybold Clinics’ prevalence for RA is 0.56% and aligns with the Centers for Disease Control and Prevention’s (CDC’s) reported prevalence of 0.50-1.0% (Source: Centers for Disease Control and Prevention, 2015).

The purpose of this study was to assess the implementation of evidence-based medicine in the management of RA utilizing the American College of Rheumatology’s endorsed quality measures. During the initial phases of our study KSC did not have workflows in place to assess the disease’s activity and functional status of RA patients.

A primary analysis was performed which revealed no standard method of capturing and scoring patients’ disease progress was built within our workflows and electronic health records (EHRs) system. The analysis of the RA plan revealed several opportunities for improvement.

In order to seek improvement KSC’s Rheumatology Taskforce provided recommendations to develop and integrate a functional assessment within the EHR in conjunction with a Best Practice Alert (BPA), while educating staff and increasing patient engagement. The taskforce chose Kelsey-Seybold Clinic-Main Campus to pilot the program.

Program Goals and Measures of Success

In order to successfully benchmark RA performance measures, KSC incorporated within its workflow and EMR a validated disease activity/functional assessment tool. This enabled KSC to establish goals while participating in the AMGA Foundation along with 12 other groups.

Prior to the implementation of data capturing and workflow processes within KSC’s EHR system to extract functional assessment data, its baseline was at 0%. Nevertheless, its baseline data for DMARD therapy was captured at 97.1% as its systems provided the capability of extracting such data from its clinical and billing systems (see Appendix 1-2).

AMGA Foundation's Best Practice in Managing Patients with RA was utilized as a benchmarking mechanism. Collaborative participations began in Q2 of 2014. KSC provided an initial baseline measurement indicating that the 97.1% Q2 DMARD therapy goal was not achieved. The Epic EHR and documentation workflow did not provide a reportable evidence-based measurement tool to assess disease activity, while the Collaborative average reflected 61%. Similar to the disease activity the functional assessment goal was not achieved and reported at 0%, while the Collaborative average reflected 50%.

Population Identification

Quarterly reports were generated utilizing both clinical and claims data from KSC's Epic EMR system, capturing data for its four rheumatologists serving at nine clinic locations. The RA Collaborative measurement tools (PQRS measures):

- DMARD therapy
 - Numerator: patients with RA on DMARD therapy
 - Denominator: patients 18 years or older, with one visit to a rheumatologist during the reporting period to include a diagnosis of RA
- Disease Activity
 - Numerator: patients with RA for whom disease activity is assessed at $\geq 50\%$ of evaluation and management (E&M) visits
 - Denominator: patients 18 years or older, with one visit to a rheumatologist during the reporting period to include a diagnosis of RA
- Functional Assessment
 - Numerator: patients with RA for whom a functional status is assessed at least once a year
 - Denominator: patients 18 years or older, with one visit to a rheumatologist during the reporting period to include a diagnosis of RA
- The EHR is used to facilitate the care process
 - BPA identify all established patients with a diagnosis of RA
 - SMART FORM built into the EHR to capture and calculate data

Intervention

When the RA Collaborative Taskforce was created and the baseline scores were presented to them, the taskforce recommended:

- Collaboration with Information Technology (IT) to design and deploy a functional assessment tool accessible within the Epic system.
 - RAPID 3 / MDHAQ
- Improved Staff Education
 - Documentation and use of the Rapid 3 introduced to RA providers
 - One-on-one nurse instruction
- Improved Patient Engagement
 - Posters (see Appendix 3)
- Applied/Developed Epic EMR enhancements to assist with implementation.
 - Best Practice Alerts (BPA)
 - Daily appointment report (DAR) to identify last functional assessment date.
- Pilot Program
 - Main Campus – one rheumatologist

On March 16, 2015, the pilot program was successfully implemented. Analysis of the implementation was conducted Q2 2015, thus indicating improvement in disease activity with a score of 13.8%. However, the results remained below Collaborative average of 79%. On the contrary, data of the functional status assessment showed significant improvement from 0% to 30%, but remained below the Collaborative average of 72%.

In order to address the organization's shortfall, the RA Collaborative Committee evaluated the data and made additional recommendations:

- Deploy Functional Assessment tool to every location that has a RA Rotation.
- Improve use RAPID 3/Functional Assessment by an additional 20% within the next six months

- Educate Primary Care Providers regarding:
 - When is it appropriate to refer to Rheumatology?
 - When is DMARD use appropriate?
 - How to interpret Rapid 3/Functional Assessment.
 - Patients were encouraged to play an active role in their care. Posters were designed with questions that would help the patient to begin a conversation with their provider.

Without the assistance of KSC’s IT department, the implementation and integration of the RA workflow would have not been successful. Under the direct guidance from Chief of Rheumatology, Physician Champion, and the Quality Improvement team, the IT team was able to design the “SMART FORM” (see Appendix 2) that incorporates the questions of the RAPID 3/MDHAQ into the EHR. The SMART FORM was designed to provide an efficient method in order to collect, analyze, and report RA data. This form is triggered by a patient care registry that identifies all established patients age >18 years with a diagnosis of RA.

Leadership Involvement & Support

Throughout the project, the entire team has observed several lessons, which include:

- Incorporate strong knowledgeable leadership as part of the team.
- Adopt a physician champion that is respected among his/her peers.
- Share talent with the IT team to establish a good working relationship.

Lessons Learned and Ongoing Activities

Participation in the Collaborative allowed us to identify and create methods to extract relevant data, while continuously working toward enlisting physicians to join the Collaborative.

Additional education will be provided to primary care providers by RA Physician Champion, which will include topics:

- When is it appropriate to refer to Rheumatology?
- When is DMARD therapy appropriate?
- How to interpret RAPID 3/ MDHAQ.

KSC will continue to monitor Functional Assessment and DMARD scores while pursuing an effort to improve RAPID 3/ MDHAQ scores by an additional 20% in the next six months. A quarterly report will be presented to the Chief of Rheumatology as the organization continues to raise health awareness.

Acronym Legend

CDAI: Clinical Disease Activity Index

DMARD: Disease-Modifying Anti-Rheumatic Drug

HAQ: Health Assessment Questionnaire

MDHAQ: Multi-Dimensional Health Assessment Questionnaire

PQRS: Physician Quality Reporting System

RAPID 3: Routine Assessment of Patient Index Data 3

SDAI: Simple Disease Activity Index

Works Cited

American College of Rheumatology . (N/A). *Quality Measurement*. Retrieved November 10, 2015, from American College of Rheumatology : <http://www.rheumatology.org/Practice-Quality/Clinical-Support/Quality-Measurement#sthash.ylXsqNtdpuf>.

Centers for Disease Control and Prevention (CDC) . (2015, October 28). *Rheumatoid Arthritis (RA)*. Retrieved November 10, 2015, from Centers for Disease Control and Prevention (CDC) : <http://www.cdc.gov/arthritis/basics/rheumatoid.htm>.

Appendix 1

2014-Q2-Baseline Data

Reporting Period	Measure-1-DMARD Therapy%		Measure-2-Disease Activity %		Measure-3-Functional Status Assessment-%	
	KSC%	Collaborative %	KSC%	Collaborative %	KSC%	Collaborative %
2014(Q2)	97.1	82	0	61	0	50

Appendix 2

Epic Visit Navigator

- Home
- Referring Provider
- Chief Complaint
- Care Everywhere
- Integrates
- Notes
- Med Reconciliation
- Nursing Notes
- Filed Documents
- Problem List
- Visit/Procedure
- SmartMaps
- Medication
- Diagnosis
- Progress Notes
- Therapy Plans
- Summary
- Therapy Plan
- Instructions
- Instructions
- Print A/R
- Print A/R
- Signature Address

Automated Score Calculator

1. Please check the ONE best answer for your abilities at this time:

OVER THE LAST WEEK, Were you able to:

	Without ANY Difficulty	With SOME Difficulty	With MUCH Difficulty	UNABLE to do
a. Dress yourself, including tying shoelaces and doing buttons?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Get in and out of bed?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Lift a full cup or glass to your mouth?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Walk outdoors on flat ground?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Walk and dry your entire body?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. Bend down and pick up clothing from the floor?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Turn regular faucets on and off?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Get in and out of a car, bus, train, or airplane?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Walk two miles or three kilometers if you wish?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Participate in recreational activities and sports as you would like, if you wish?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Get a good night's sleep?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Deal with feelings of anxiety or being nervous?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Deal with feelings of depression or feeling blue?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. HOW MUCH PAIN HAVE YOU HAD BECAUSE OF YOUR CONDITION OVER THE PAST WEEK? PLEASE INDICATE BELOW HOW SEVERE YOUR PAIN HAS BEEN.

No Pain 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 <

Appendix 3

Rheumatoid Arthritis Functional Assessment

Are you living with Rheumatoid Arthritis, a Functional Assessment should be completed annually

A "Functional Assessment" is an invaluable tool that measures your body's ability to function physically

Ask Your Doctor or Nurse today, if a "Functional Assessment" is right for you

RAPID 3

ROUTINE ASSESSMENT OF PATIENT INDEX DATA

The RAPID3 includes a subset of core variables found in the Multi-dimensional HAQ (MD-HAQ). Page 1 of the MD-HAQ, shown here, includes an assessment of physical function (section 1), a patient global assessment (PGA) for pain (section 2), and a PGA for global health (section 3). RAPID3 scores are quickly tallied by adding subsets of the MD-HAQ as follows:

1. PLEASE CHECK THE ONE BEST ANSWER FOR YOUR ABILITIES AT THIS TIME:					1. a-j FN (0-10):
OVER THE LAST WEEK, WERE YOU ABLE TO:	WITHOUT ANY DIFFICULTY	WITH SOME DIFFICULTY	WITH MUCH DIFFICULTY	UNABLE TO DO	
a. Dress yourself, including tying shoelaces and doing buttons?	___ 0	___ 1	___ 2	___ 3	1=0.3 16=5.3
b. Get in and out of bed?	___ 0	___ 1	___ 2	___ 3	2=0.7 17=5.7
c. Lift a full cup or glass to your mouth?	___ 0	___ 1	___ 2	___ 3	3=1.0 18=6.0
d. Walk outdoors on flat ground?	___ 0	___ 1	___ 2	___ 3	4=1.3 19=6.3
e. Wash and dry your entire body?	___ 0	___ 1	___ 2	___ 3	5=1.7 20=6.7
f. Bend down to pick up clothing from the floor?	___ 0	___ 1	___ 2	___ 3	6=2.0 21=7.0
g. Turn regular faucets on and off?	___ 0	___ 1	___ 2	___ 3	7=2.3 22=7.3
h. Get in and out of a car, bus, train, or airplane?	___ 0	___ 1	___ 2	___ 3	8=2.7 23=7.7
i. Walk two miles or three kilometers if you wish?	___ 0	___ 1	___ 2	___ 3	9=3.0 24=8.0
j. Participate in recreational activities and sports as you would like, if you wish?	___ 0	___ 1	___ 2	___ 3	10=3.3 25=8.3
k. Get a good night's sleep?	___ 0	___ 1.1	___ 2.2	___ 3.3	11=3.7 26=8.7
l. Deal with feelings of anxiety or being nervous?	___ 0	___ 1.1	___ 2.2	___ 3.3	12=4.0 27=9.0
m. Deal with feelings of depression or feeling blue?	___ 0	___ 1.1	___ 2.2	___ 3.3	13=4.3 28=9.3
					14=4.7 29=9.7
					15=5.0 30=10
					2. PN (0-10):
					3. PTGE (0-10):
					RAPID3 (0-30)

2. HOW MUCH PAIN HAVE YOU HAD BECAUSE OF YOUR CONDITION OVER THE PAST WEEK: PLEASE INDICATE BELOW HOW SEVERE YOUR PAIN HAS BEEN:



3. CONSIDERING ALL THE WAYS IN WHICH ILLNESS AND HEALTH CONDITIONS MAY AFFECT YOU AT THIS TIME, PLEASE INDICATE BELOW HOW YOU ARE DOING:



CONVERSION TABLE

Near Remission (NR): 1=0.3; 2=0.7; 3=1.0

Low Severity (LS): 4=1.3; 5=1.7; 6=2.0

Moderate Severity (MS): 7=2.3; 8=2.7; 9=3.0; 10=3.3; 11=3.7; 12=4.0

High Severity (HS): 13=4.3; 14=4.7; 15=5.0; 16=5.3; 17=5.7; 18=6.0; 19=6.3; 20=6.7;

21=7.0; 22=7.3; 23=7.7; 24=8.0; 25=8.3; 26=8.7; 27=9.0; 28=9.3; 29=9.7; 30=10.0

HOW TO CALCULATE RAPID 3 SCORES

1. Ask the patient to complete questions 1, 2, and 3 while in the waiting room prior to his/her visit.
2. For question 1, add up the scores in questions A-J only (questions K-M have been found to be informative, but are not scored formally). Use the formula in the box on the right to calculate the formal score (0-10). For example, a patient whose answers total 19 would score a 6.3. Enter this score as an evaluation of the patient's functional status (FN).
3. For question 2, enter the raw score (0-10) in the box on the right as an evaluation of the patient's pain tolerance (PN).
4. For question 3, enter the raw score (0-10) in the box on the right as an evaluation of the patient's global estimate (PTGE).
5. Add the total score (0-30) from questions 1, 2, and 3 and enter them as the patient's RAPID 3 cumulative score. Use the final conversion table to simplify the patient's weighted RAPID 3 score. For example, a patient who scores 11 on the cumulative RAPID 3 scale would score a weighted 3.7. A patient who scores between 0-1.0 is defined as near remission (NR); 1.3-2.0 as low severity (LS); 2.3-4.0 as moderate severity (MS); and 4.3-10.0 as high severity (HS).

RA Team

Mario Lamothe, MD

Chief, Rheumatology
Kelsey-Seybold Clinic

Kirkwood Johnston, MD

Physician Champion, Rheumatologist
Kelsey-Seybold Clinic

Leon Jerrels, RN, CPHQ, MBA

Directory, Quality Improvement
Kelsey-Seybold Clinic

Cindy Musemeche

Nursing Supervisor, Rheumatology
Kelsey-Seybold Clinic

Annie Khowaja-Manasia

Analyst, Quality Improvement
Kelsey-Seybold Clinic

Jackie Evans, MBA, LVN

Supervisor, Quality Improvement
Kelsey-Seybold Clinic

Jesse DeLuna

Sr System Analyst, Information Tech
Kelsey-Seybold Clinic



AMGA Foundation

One Prince Street
Alexandria, VA 22314-3318

amga.org/foundation

abbvie