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Process Mapping the Allergy Clinic’s Consultation Process at the Veterans Affairs Boston

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Process Mapping the Allergy Clinic’s Consultation Process at the Veterans Affairs Boston

A Major Qualifying Project Report submitted to the faculty of Worcester Polytechnic Institute by:

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Abstract

The Veterans Affairs Boston’s Allergy Clinic in West Roxbury, Massachusetts was concerned about the efficiency of their consultation process. This project investigated possible sources of inefficiency through quantitative process mapping. Data was collected electronically from the Allergy Clinic and through interviews with physicians, nurses, nurse practitioners, and the Associate Chief of Medicine. Overall, the current consultation process was found to be relatively efficient. However, the process maps show two areas of possible improvement: (1) a lack of proper information in the requests for consults, and (2) late patient cancellations and patient “no shows”. To address these areas, this project developed a number of recommendations including: developing a new Request for Consult template for the Allergy Clinic, further e-consult training for PCPs and specialists, and overscheduling patients during times when “no shows” are prevalent.
1. Executive Summary

1.1 Problem Statement
The Veterans Affairs Allergy Clinic located in West Roxbury, Massachusetts is the only Allergy clinic in the New England Veterans Integrated Service Network. This clinic is especially keen on improving their process particularly since it has witnessed a 400% patient expansion in the past two years. Furthermore, because it is the only clinic, patients must travel long distances, making efficiency very important to the clinic. Since the clinic is growing and the patients are traveling great distances to get treatment, efficiency and minimizing patient travel is of great concern for the allergy staff. Process mapping the current consultation process will allow for any inefficiency to be exposed.

1.2 Project Goals
This project has two goals. The first goal of the project was to provide the Veterans Affairs Boston Health Care System with detailed and quantitative process maps of its current consultation process between the primary care physicians and the West Roxbury Allergy Clinic. The second goal was to analyze the process map to identify steps that do not add value to the patients and provide the Allergy Clinic with recommendations.

1.3 Methodology
The two project goals were realized through three objectives;

1. Producing detailed and quantitative process maps of the consultation process between primary care providers and the Boston Health Care System’s Allergy Clinic

2. Analyzing the process maps for opportunities for improvement

3. Providing the Allergy Clinic with recommendations for improvement.

1.4 Results
Overall, eight process maps were created to illustrate parts of the process that do not add value to the patients. The biggest area of concern is when the requests for consultations are sent to the Allergy Clinic lacking the proper information or coming in blank. The requests for consults come in blank about 25% of the time and lack the proper information about 50% of the time. The lack of information results in longer patient wait times. Furthermore, once
scheduled these patients often arrive for their appointments without the proper preliminary tests and lab work. When a patient is not prepared for his/her appointment, the Allergy Department must use the appointment time to perform these preliminary tests. These ill-prepared patients are then required to schedule a new time to come back to the clinic to be tested for their original allergy symptoms. This scenario is quite frustrating for the patients, as well as the allergy specialists. The patients are required to make multiple trips to the West Roxbury Allergy Clinic and the additional visits result in additional costs for the clinic and the patients.

The second area of concern illustrated by the process map are “no shows” or patients who cancel their appointments late (approximately 5-6 a week). If a patient cancels at least 24 hours in advance, the office is able to fill the slot most of the time. When the patient cancels late or simply doesn’t show up (“no show”), the clinic does not run as efficiently. To address these areas of concern new policies, procedures, and methods could be utilized.

1.5 Suggestions for Improvement

Three possible suggestions for addressing requests being sent without the proper information are (1) designing a new Request for Consult Template, (2) formulating a Care Coordination Agreement between the PCPs and the allergists, and (3) utilizing e-consults more often. Ways to decrease the number of “no shows” and late cancellations are to come up with additional ways to remind the patients about their appointments, institute harsher penalties for missing appointments, overbook during times when “no shows” are most common, and also use e-consults more often.

1.6 Final Recommendations

After discussing potential suggestions with the Allergy Clinic, three final recommendations were determined, (1) redesign of the Request for Consult Template to, (2) overbooking during times when “no shows” are most common and feasible, and (3) instituting additional training and advertisement of e-consults. Although all of the suggestions mentioned in the previous section may be implemented, these three were selected based on, the ability to be easily executed, and the amount of benefit for the clinic and its patients.
2. Introduction

The Veterans Affairs Boston Healthcare System is a branch of the Department of Veterans Affairs (VA) which strives for consistent improvement and is always on the lookout for opportunities to benefit their patients (“Department of Veterans Affairs” 2011). The Allergy Clinic, located in West Roxbury, Massachusetts, is especially keen on improving their processes and efficiency since its reopening in 2009 due to it being the only Allergy Clinic in the entire New England Veterans Integrated Service Network (VISN1) (Allen & Murphy 2011-2012). Before any improvements can be made an understanding of the current process and any inefficiency within the process is necessary. The context of the project is determined through the Background section, Problem Statement, Project Goals and Objectives, the process of completing the project is established in the Methodology section, the results are tabulated in the Data/Findings section, the recommendations are provided in the Suggestions for Improvement and Final Recommendation sections, and the entire paper is summarized in the Conclusion.

3. Background

3.1 The United States Department of Veterans Affairs

Assistance to war-time veterans can be traced to the 17th century when the Pilgrims were fighting the Pequot Indians in 1636. The Pilgrims wanted to help their soldiers so they established a law that the colony would provide support/assistance for disabled soldiers. During the Revolutionary War in 1776, Congress passed a law that provided pensions for disabled soldiers. This law was viewed as beneficial and influences many soldiers to sign up for the war. However, each state or community was responsible for the pension and medical care, including hospitalizations (“VA History” 2011).

In 1811, the Federal Government authorized the first veterans' home and medical facility. Later, the veterans' pensions and benefits were updated and expanded to include widows and their dependents. Numerous veterans’ group homes were built in many states after the Civil War. Medical and hospitalization costs and benefits were now available for all injuries and diseases. It did not matter whether the injuries incurred during battle or not. All
members of the Armed Forces were eligible to be cared for at these homes. This included the disabled, poor, needy and the honorable discharged, etc.

In 1930, there were 54 veterans’ hospitals throughout the country. Over the next 50 to 60 years, the healthcare system grew to 171 medical centers, with more than 350 outpatient and outreach clinics. Also, nursing and veterans group homes increased to 127 and 35, respectively. Surgical, medical and rehabilitative services were all inclusive for the veterans at these facilities (“VA History” 2011).

In 1958, medical research was deemed vital to the healthcare community and was backed by the US Government. Even then, Congress understood the importance of medical research in learning about diseases and disabilities, the treatments to overcome diseases and possible methods for future disease prevention. Presently, the VA Research and Development Service is responsible for the medical research in the hope to improve the veterans' health and welfare. This agency has also provided medical and scientific advancements for both the veterans and civilians.

The Veterans Administration's responsibilities expanded once again in 1973. The National Cemetery System was transferred to the Veterans Administration by the Department of the Army. Responsibilities now included the operation of the National Cemetery, the markings of graves of all veterans in the National and State Cemeteries and the administration of the State Cemetery Grants Program. Also, in March 1989, the Department of Veterans Affairs (VA) was established (“VA History” 2011).

The United States Department of Veterans Affairs’ main objective is to care for and honor the country’s veterans of war and their beneficiaries. They aim to reach their objective through their four organizations; Central Office (VACO), National Cemetery Administration (NCA), Veterans Benefit Administration (VBA), and Veterans Health Administration (VHA) (“Department of Veterans Affairs” 2011). The VA’s core values are Integrity, Commitment, Advocacy, Respect and Excellence (ICARE), and they strongly adopt the policy that each veteran is treated with respect and dignity, while providing the best possible and quality care at their facilities (“Department of Veterans Affairs” 2011). The VA’s main focus is to implement their
core values while assisting, supporting and providing information and services for the veterans, their families and beneficiaries.

3.2 The Veterans Affairs Healthcare System and the Boston Health Care System

Presently, the VA's healthcare system is the largest integrated healthcare system in the United States. It is responsible for over 1400 health care facilities, including hospitals, community clinics and living centers, homes, readjustment counseling centers, and various other facilities. Managing over 1400 facilities is a daunting task, so 21 Veterans Integrated Service Networks (VISNs) were created based upon geographic location. VISNs are used to better organize and connect medical centers, veteran centers, and outpatient clinics throughout a region. The VA distributes many benefits, consisting of financial assistance and other services to the veterans, their families and beneficiaries. It also provides pension, compensation, rehabilitation, employment assistance, home loan guarantees, life insurance, burial and memorial benefits and survivors' benefits (“VA History” 2011).

The Veterans Affairs Boston Healthcare System (BHCS) is the largest consolidated facility in VISN1 and is a vital part of the overall VA Healthcare system. The BHCS consists of three main sites in Jamaica Plain, Brockton, and West Roxbury. It also has many community based outpatient clinics (CBOCs) located in Lowell, Causeway Street, Worcester, Quincy, and Framingham. The BHCS offers a wide variety of treatments and services to their patients including but not limited to cardiology, allergy, oncology, neurology, dental treatments, mental treatments, primary care, and gynecology.

The Allergy Clinic is the focus of this project and it is located at the West Roxbury, Massachusetts location. The West Roxbury facility has strong ties with Harvard Medical School and the Boston University School of Medicine. It specializes in tertiary care and is a fairly large facility with 448 authorized beds (West Roxbury VA). The Allergy Clinic is the only Allergy Clinic in all of VISN1 (New England), and consists of two part-time doctors and one nurse practitioner who perform most of the treatments, so efficiency is vital to provide the maximum benefit to the patients (Allen & Murphy 2011-2012).
3.3 Requests for Consultations, Consultations, E-Consults, and Curbsides

Presently, there are two formal ways for the primary care physician (PCP) to contact a Specialist to inquire about patient treatments or advice: a request for consultation, or through an e-consult. The request for consultation is when the PCP sends a question or a request for an appointment to the Specialty clinic and is currently the most frequently used formal request method. As the West Roxbury Allergy Clinic has the only allergy specialist in VISN 1, many of its patients do not reside close to the clinic and are required to travel far distances for their appointments. This distance sometimes becomes a problem when the patient is forced to make multiple trips to the clinic because there is information missing in the request for consult or the patient is unprepared (preliminary tests not completed) for the their appointment (Allen & Murphy 2011-2012).

The e-consults are a fairly new concept to the VA and implemented in the West Roxbury Allergy Clinic only in July 2011. E-consults allow the PCP to send his or her questions directly to the specialists over the internet and the specialist responds typically in 72 hours either to diagnose the patient, offer treatment options, give advice, or suggest meeting with the patient face-to-face. E-consults are very useful for allergists who can diagnose some of their patients based on blood work results from the PCP even without patient contact, and are expected to reduce the number of patient visits significantly by about 30% (Allen & Murphy 2011-2012). E-consults can potentially eliminate unnecessary patient travel and appointments, which is valuable to the Allergy clinic because of their part-time hours and large, wide-spread patient base (Irving, 2011).

Two other terms that will be used throughout this paper are consultations and curbside consultation. A consultation is when the patient meets the specialist face-to-face after the PCP has spoken with the specialist. A curbside consultation is a form of informal consultation where the PCP uses his personal connections with specialists to ask questions about patient symptoms and treatments. This method can be effective if the PCP has a wide variety of knowledgeable connections, but not every PCP has many specialist connections. Another growing issue with curbside consultations is that many primary care practices are no longer located within the hospitals, so fostering multiple connections is becoming increasingly difficult.
4. Problem Statement

The Veterans Affairs Allergy Clinic located in West Roxbury, Massachusetts opened in 2009. Before then the clinic was located in Jamaica Plain (JP), Massachusetts and focused primarily on JP patients. The clinic eventually closed in 2008 because the main allergist retired. The new West Roxbury clinic consists of two doctors and one nurse practitioner who handle the treatments for most patients. Since its reopening in 2009, many new policies and procedures have been put in place resulting in a 400% patient expansion in the past two years. Even with the new policies, many patients still associate the allergy clinic with the way things were at the JP location (most of the resources and focus went to the JP patients) and are not fully taking advantage of the new system such as VISN1 wide training on proper allergy shot administration and consortium relationships between the hospitals (Allen & Murphy 2011-2012).

The West Roxbury Hospital is home to the only VA Allergy Clinic in the entire New England Veterans Integrated Service Network (VISN 1) resulting in the treatment of a wide variety of patients and many far traveling patients making efficiency very important to the clinic. The staff does their best to minimize their patients’ hassles as much as possible by holding nursing seminars on how to administer allergy shots, so the patients will be able to obtain some treatments locally. These seminars and teachings have strengthened the West Roxbury Allergy Clinic’s relationship with other hospitals throughout the VISN and allowed them to form a consortium. However, even with their improved relationships and teachings, the current consultation process is not quite as efficient as the staff would like. They receive many requests for consults that are lacking the appropriate information, and have had to send many patients home without testing because the patients did not have the proper blood work done before their appointment (Allen & Murphy 2011-2012).

Since the clinic is growing, staffing is limited, and the patients are traveling great distances to get treatment, efficiency and minimizing patient travel is of great concern for the allergy staff. Process mapping the current consultation process will allow for any inefficiency to be exposed.
5. Project Goals

This project has two goals. The first goal of the project was to provide the Veterans Affairs Boston Health Care System with detailed and quantitative process maps of its current consultation process between the primary care physicians and the West Roxbury Allergy Clinic, the only VA allergy clinic in New England. The second goal was to analyze the process map for steps that do not add value or benefits for the patients and generate strategies to address these non-value added steps. To reach the goal, I developed process maps and collected appropriate quantitative and qualitative data through personal interviews, from computer data sources, and background research.

5.1 Objectives

To successfully reach the project goals, three main objectives were established;

1. Complete detailed process maps of the consultation process between Primary Care (PCP) and the Allergy Department at the VA.
2. Analyze the process maps for any non-value added steps.
3. Provide the Allergy Clinic and the VA with recommendations to combat the non-value added processes.

These objectives were attained through the completion of five major tasks;

1. Interviews with personnel at the Allergy and Primary Care Clinics. Quantitative and qualitative data was gathered during this objective.
2. Utilization of the data to complete detailed and quantitative process maps of the consultation process between Primary Care and the Allergy Clinic.
3. Analyzing of the current process maps for any steps that do not benefit the patients.
4. Determining strategies for eliminating or improving the non-value added steps.
5. Providing the VA and Allergy Clinic with recommendations

6. Methodology

The project goals were realized through three objectives;
1. Producing a detailed and quantitative process maps of the consultation process between PCP’s and the Boston Health Care System’s Allergy Clinic

2. Analyzing the process maps for opportunities for improvement

3. Providing the Allergy Clinic with recommendations for improvement.

The first objective was completed based on quantitative data gathered through the Boston Health Care System’s computer system (Appendix B1-B2) and three personal interviews with the Allergy Clinic staff (Appendix A1-A4, Appendix A10-A11). The data collected through the VA’s internal computer system consists of the number of formal consults received, the number of patients seen, and the number of formal consult requests sent from each location. This data was used in the process maps to show the volume and frequency of the formal consult requests from each of the seven major locations who send requests to the West Roxbury Allergy Clinic, Manchester V, White River, VA Maine HCS, VA Central West, Providence V, and Bedford VAMC.

Qualitative data was also utilized to complete the first objective. The information gathered through the interview with the Allergy Clinic, included what locations they receive formal consults from, who the Allergy Clinic reports to, who physically receives the formal consult requests and e-consults, and the other methods of informal communication between the PCP’s and the specialists that was used to better formulate the process maps. This information (along with the quantitative data) was used to develop the initial process maps. The initial process maps were presented to the Allergy Clinic personnel during subsequent interviews to assess the accuracy and so modifications could be made to improve the process maps. These personal interviews centered on the different processes between the PCP’s and Allergists, and helped to accurately map out the current process.

When physically creating the process maps, background research in process mapping (“CPS Guidelines to Process Mapping” Beard, Lane, and Morris) was conducted to ensure the format was correct. The final process maps are a compilation of all of the research gathered from the Veterans Affairs Boston Health Care System and resulted in detailed and quantitative process maps between Primary Care and the Allergy Clinic. The resulting maps are presented in Section 7 (Data and Findings) and in Appendix D1-D5.
The second objective could only be accomplished after the process maps were complete. The maps were analyzed using Lean, which is a methodology used to establish how to provide more value for customers while using fewer resources (“What is Lean” 2009), techniques for areas where improvements can be made, specifically looking at the portions of the process that consisted of non-value added activities. The VA defines non-value added activities “as any action that is not providing a benefit for the patient. These areas may include excessive patient waiting times, unnecessary patient appointments, inefficient patient appointments, and unnecessarily long wait times to be scheduled (Kim, Bo 2011)”. Physician opinions were also taken into account when determining the greatest areas of concern with the current process. Allergy Clinic personnel and three PCP’s (one from Worcester, two from West Roxbury) were questioned on their opinions on the current process, and where they perceived the process bottlenecks to be. Their opinions combined with analyzing the process maps led to identified major areas of concern (Appendix A5-A9).

The third objective of the project was to provide the Veterans Affairs Boston Health Care System with recommendations for improvement and strategies for addressing non-value added steps. This objective was accomplished by keeping a running file of “possible recommendations” throughout the project (Appendix C). When the interviewees were questioned on their opinions of the current process and how they felt the process is currently running, many expressed dissatisfaction. These opinions were used as a starting point for possible recommendations. Towards the end of the project, the preliminary list of areas of improvement and possible suggestions was analyzed and dissected in terms of feasibility based upon the opinions of the Allergists and the PCP’s interviewed. Background research, the physicians’ and nurses’ opinions, and my sponsors’ opinions were all taken into account to determine the final recommendations. Finally, the final findings, process maps, and recommendations to the VERC and BHCS employees were presented on April 20, 2012. Figure 1 summarizes these methods.
7. Data and Findings

Through in depth interviews and data collection, eight process maps were designed. The first six process maps generated were created using the data gathered on 11/15/2011 from the Allergy Clinic (Appendix B1-B2) and by using the CPS Guidelines to Process Mapping (Beard, Lane & Morris). The process maps map out the consultation process from each of the six main locations who send requests to the Allergy Clinic, Manchester V, White River, VA Maine HCS, VA Central West, Providence V, and Bedford VAMC (Appendix D1-D6). The seventh process map is located on the following page (Figure 2) and depicts the total number of consult requests coming in from each location and the current progress of each request as of 11/15/2011. The final process map (Figure 3) is a compiled map using the sums of the values from the first six process maps and the data from the seventh map. This map depicts the entire process from the requests for consults being sent to the West Roxbury Allergy Clinic to the final scheduling. The map also shows the portions of the process where the requests for consults are sent back to the beginning without the patient being seen by the physicians. E-Consults and informal consults are not included in these maps because the Allergy Clinic is currently only receiving
approximately two e-consults a month, and they typically record all consults in order to gain credit, so there are many informal consults.
Figure 2: Allergy Clinic Total Consultation Requests Model: 11/15/2010-11/15/2011

*Does not include e-consults or informal consults due to low volume (approximately 2 a month for e-consults)
**Mean Days: 51 days

Western VAMC (75 Requests)

Connecticut (1 Request)

Manchester V (55 Requests)

Providence V (80 Requests)

VA Central West (30 Requests)

Maine VA HCS (61 Requests)

White River (31 Requests)

West Roxbury, MA: Allergy Clinic

Total Requests Discontinued (4)

Total Completed (169)

Total Pending (30)

Total Active (46)

Total Scheduled (47)

Total Cancelled (24)

Total Pending Resolution (125)
Figure 3: Total Allergy Clinic Process Map: 11/15/2010-11/15/2011

*E-Consults and informal not included due to lack of information and rarity of instances (approximately 2 a month for e-consults)
** Start to End: Mean of 43.67 days ***Start to Scheduled usually takes less than 3 days ****Bracket indicates yearly values; parenthesis indicate value on 11/15/2011

**Start:
- (322) Requests Sent
- West Roxbury
  - Received by
    - Physician A
    - Physician B
    - Physician C
    - Scheduling Coordinator
  - Lacking Info? Blank?
    - Yes
    - No

Printed To (27)
- Status Change (40)
- Pending (30) Pending Resolution (125)
  - Cancel and Reschedule
    - Yes
    - No

Longer than 2 weeks?
- No
- Yes

***Scheduled (47)
- Immunization (Shot Clinic) (1066)
  - Physician A (205)
  - Physician B (108)
  - Physician C (282)****
- Completed (169)
- Cancelled (24)
  - "No Shows"
The final process map (Figure 3) illustrates parts of the process that do not add value to the patients. The biggest area of concern is when the requests for consultations are sent to the Allergy Clinic lacking the proper information or coming in blank. The requests for consults come in blank about 25% of the time and lack the proper information about 50% of the time (Allen & Murphy, 2011-2012). The lack of information results in the patients having a longer wait time before getting scheduled for an appointment and these patients often arrive for their appointments without the proper previous tests and lab work done. When a patient is not prepared for his appointment, the Allergy Department is forced to use the appointment time to perform the tests and blood work that should have been done earlier and need to be done before many other tests can be performed. The patients are then required to schedule a new time to come back to the clinic to be tested for their original allergy symptoms. This scenario is quite frustrating for the patients, as well as the allergy specialists. The patients are required to make multiple trips to the West Roxbury Allergy Clinic and the additional visits result in additional costs for the clinic and the patients.

The second major area of concern illustrated by the map is when patients are “no shows” (approximately 5-6 a week) or patients who cancel their appointments late. If a patient cancels at least 24 hours in advance, the office is able to fill the slot most of the time. When the patient cancels late or simply doesn’t show up (“no shows”), the clinic does not run as efficiently as it could because they are not seeing as many patients as they could and it increases down time. To address these areas of concern new policies, procedures, and methods should be created.

8. Suggestions for Improvement

Through analyzing the process maps and the personal interviews with the VA staff, two main areas of concern were established, requests being sent without the necessary information (leading to patients arriving for appointments unprepared) and the large number of “no shows” and late cancellations. Three possible suggestions for combating requests being sent without the proper information are (1) designing a new Request for Consult Template, (2) formulating a Care Coordination Agreement between the PCPs and the allergists, and (3) utilizing e-consults
more often. Ways to decrease the number of “no shows” and late cancellations are to come up with additional ways to remind the patients about their appointments, institute harsher penalties for missing appointments, overbook during times when “no shows” are most common, and also utilizing e-consults more often.

The first suggestion for improvement is to redesign the Request for Consult Template. The Request for Consult Template is what the PCP (or whomever is sending the request for consult) electronically fills out to send to the specialist so that their patient can be scheduled for an appointment. Currently, the allergy clinic’s request from consult screen is designed in an open-ended type of format (Figure 4). It has an area to “Click if Emergency” and has an area to “Enter your Question Here”. Redesigning this layout to ask specific questions could help the allergy clinic to receive the necessary information. The Urology Clinic’s request for consult screen is very detailed and can be utilized as a guideline when designing a template for allergy (Figure 5). The Urology Clinic’s form lets the PCP check a box of the possible disease or problem and then a list of possible tests, ranges, and procedures pops up. This will help to lower the number of incomplete consult requests and could cut down on the number of patients arriving for appointments without being prepared because the PCPs will be able to see on the template what tests they should be doing on their patients. Figure 6 is an example of what the Urology Clinic’s Template looks like when a diagnosis (Hematuria) is selected from the original screen which prompts consult preparation. As one can see, the Urology Template is more thorough and in-depth than the Allergy Clinic’s.
Figure 4: Current Allergy Clinic Request for Consult Template

Figure 5: Urology Clinic Request for Consult Template
Unfortunately, there are some concerns with redesigning the template. Many PCPs actually prefer the open-ended method when requesting a consult because they feel as if they can more accurately describe the patients’ symptoms (Physician 2, 2012). The open-ended method is also more convenient for the PCPs and this new method may result in additional work for the PCPs. They are unable to minimize the request screen, so answering multiple, in-depth questions is difficult for the PCPs. They are required to cancel out of the request form if they need to get specific tests results or patient medical history. The amount of time and effort required may result in the PCPs only partially filling out the requests or making educated guesses on certain questions. It may be beneficial to ask the questions in a “yes or no” format to make it easier on the PCP, or to only include information that is vital to the patients’ time and safety (i.e. Specific blood test needs to be done before skin testing can occur for safety reason should be included in the template in order to avoid patients making the trip and not
Another suggestion to help address PCP frustration is to include explanations in the template to inform the PCP’s why certain tests and results are being asked for.

A further suggestion for improvement to addressing the lack of information and patients arriving to appointments ill prepared is to enter into a Care Coordination Agreement (CCA) with the PCPs. A CCA is an agreement between physicians regarding policies, procedures, testing, and patient care. To come to an agreement between the allergists and the PCPs about what should be included in a consult request and what tests should be performed on the patients before they arrive, both sides need to sit down together and agree upon the terms. Both sides should be willing to compromise and attend the meeting prepared with ideas. To keep a successful CCA operating, biweekly or monthly meetings should take place to make sure both sides still agree and to address any concerns or issues that arise. Determining the terms and conditions of the CCA can be difficult because it is hard to get PCP’s and Primary Care to agree upon what is necessary information. For example, the specialists believe the patients are not prepared or they aren’t getting the appropriate information, but the PCP’s believe they are sending the appropriate information and they don’t always know what tests are most appropriate (Physician 1, 2012). Similarly to a more detailed template, CCA’s have the potential to add more work to the already busy PCPs.

Overcoming “no shows” and late cancellations may be done by instituting policies and procedures, such as more phone reminder calls, letters, and e-mails, a friendly environment, offer the ability to call to ask questions, consistent schedule checking, and overbooking during times where “no shows” are prevalent. However, none of these options are perfect (costly, time consuming, may cause longer wait times), and may not prove to be beneficial. The first step in deciding which option is most useful to establish why the patients are not showing up for their scheduled appointment. If many are missing due to forgetfulness, then spending the extra time and resources on mailing reminder letters, e-mails, and calls may be a useful option. If patients are not showing up because they are unable to make their scheduled appointment time, then taking additional time to consult the patients during the scheduling process could be
helpful. Unfortunately, if patients are not showing up because of their own personal issues, then the VA is limited in its options. They can, however, make sure the overall atmosphere at the Allergy Clinic is positive and friendly so that the veterans feel comfortable, encourage the veterans to call with questions, and track the patients who miss most often and overbook when those patients are scheduled.

Even with determining the ‘why’ patients do not show up for appointments, there are still issues with many of the suggested recommendations. Calling, e-mailing, and sending reminder letters costs the clinic additional money and resources. The clinic is short staffed (two part-time doctors, nurse practitioner, and clinic coordinator), so finding the extra time to call and remind patients is difficult. The VA has a centralized automated phone system to remind patients, but it does not specify which clinic the patient has an appointment with causing some confusion amongst the patients. Overbooking patients can lead to longer wait times and overworked physicians since it is very difficult to predict or control the patients’ behaviors or patterns. Patients are veterans who have suffered and the VA has a culture of providing comfort to patients and not denying care, even those who have missed many appointments. Since a number of veterans were exposed to harmful chemicals during their time in the service, they are more susceptible to certain serious diseases than the general population. As such, the VA typically does not push back the scheduling “hypochondriac-type” people. The hospital can remind them and try to make the experience as positive as possible, but it is extremely difficult (most likely impossible) to get the “no show” number down to zero (Physician 1, 2012).

The final suggestion is to utilize e-consults more often. E-consults could help to foster additional conversations between the PCPs and allergists. Additional communication may lead to a cutback on unnecessary appointments or patients showing up without the proper previous testing done because both sides are taking part in active communication. E-consults are a fairly new concept to the West Roxbury Allergy Clinic and were implemented in July 2011. The e-consult process hasn’t quite taken off as quickly as many would have liked (about 2 a month to allergy). The PCP’s don’t necessarily know the proper instances to use e-consults, so training and reminding them about e-consults might be helpful to cut down on travel time and
unnecessary specialist appointments. Another suggestion is to advertise and encourage the use of e-consults would be to offer incentives. While the VA is unable to provide monetary incentives, allotting additional free time to submit or respond may be helpful. Encouraging the allergists to switch the requests for consults over to e-consults electronically from the specialist side, and involving the allergists in the training process by having them determine a list of best instances/cases for e-consults and add that into the training for the PCP’s can also increase the use of e-consults. However, e-consults do not work for every situation and sometimes face-to-face diagnostics is important and more accurate. Also, many times in the Allergy Clinic, all of the specialists do not see the requests for consults so switching over for them can be difficult (Allen & Murphy). Figure 7 summarizes the suggestions for improvement.

**Figure 7: Suggestions for Improvement**

- New Request for Consult template
- Additional and more specific questions
- Concern: more work for PCPs and some PCPs prefer open-ended format
- Care Coordination Agreements (CCA)
- Hold a meeting with PCPs and allergist to formulate an agreeable CCA
- Utilization of e-consults
- Additional training and encouraging usage of e-consults
- Concern: e-consults do not work in every situation (face to face is sometimes better)

- Remind the patients about appointments early
- Letters, e-mails, phone calls, and encourage rescheduling
- Concern: very difficult to control patients
- Over schedule when “no shows” are anticipated
- Concern: may cause long patient wait times
- Utilize e-consults when appropriate (patients will not have to physically attend appointments)

**9. Final Recommendations**

After looking over the potential suggestions, three final recommendations were determined, (1) the redesign of the Request for Consult Template, (2) overbooking during times when “no shows” are most common and feasible, and (3) instituting additional training and advertisement of e-consults. Although all of the suggestions mentioned in the previous section
may be implemented, these three were chosen based on discussions with the Allergy Clinic, the ability to be easily executed, and the amount of potential benefit for the clinic and its patients.

To redesign the screen, the allergy clinic first needs to formulate a list of what they would like to have included in the template and design a possible template. It is recommended that the clinic should consider putting in an area for e-consults, and explanations as to why certain tests are important at first. Then the clinic needs to set up a time to meet with the Associate Chief of Medicine, Dr. Jay Orlander, the Chief of Primary Care, the CAC, and Allergy Department to discuss the new layout. Dr. Orlander has volunteered to facilitate and arrange the meeting for the Allergy Clinic (Orlander, 2012).

To address “no shows”, it is suggested to overbook patients during times where “no shows” are most common such as around the holidays, during poor weather, and during very nice weather, and most feasible will help to ensure the total number of patients seen stays near full capacity. In addition to overscheduling during periods when “no shows” are prevalent, the Allergy Clinic should overschedule patients who have a history of missing appointments. The Allergy Clinic should track the patients who are consistently missing appointments and overbook when 2 or more of those patients are scheduled on the same day. They could also schedule two patients with a history of “no shows” at the same time. The final instance when the Allergy Clinic can overschedule is when they have the extra personnel (most Wednesday’s for the Allergy Clinic). Since the staff isn’t large to begin with, overscheduling can be risky, but overbooking on days when there are extra physicians can diminish the risk.

E-consults can potentially lower the number of necessary appointments, provide an easier way for physicians to exchange information, and simultaneously cut down on unprepared patients and lower the number of “no shows”. Training and e-consult teachings can help the PCPs and specialists to better understand how e-consults work, when they should be used, and allow the hospital overall to feel more comfortable with them. Allergy can help with this training by setting up a chart or a list with under which conditions to send e-consults vs. regular consults that can be given to the PCPs. They can also integrate their chart onto the new template for further encouragement.
10. Conclusion

The United States Department of Veterans Affairs Boston Health Care System prides itself on continuous improvement while providing excellent health care to the veterans of war. The Allergy Clinic at the West Roxbury, Massachusetts location is a prime example of continuous improvement. Since their reopening in 2009, the Allergy Clinic has grown 400% and taken on additional responsibilities such as traveling around VISN1 and the country teaching nurses how to administer allergy shots. The West Roxbury clinic is the only Allergy Clinic in VISN1, meaning they treat patients from all over New England, so being as efficient as possible is vital to the clinic. This project first process mapped out the Allergy Clinic’s current consultation process between the PCPs and the Allergists. The maps were analyzed to determine areas where improvements could be made. Two areas identified for improvement were: (1) consult requests being sent lacking the proper information, and (2) patients missing appointments. Suggestions for improvement include, redesigning the request for consult template, overbooking to compensate for “no shows” when feasible, and instituting additional training for the PCPs and specialists for the use of e-consults.
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Appendix A: Interviews

Appendix A1: Allergy Clinic Interview Questions 1

Claire Murphy, Nurse Practitioner and Meg Allen, Allergy program coordinator

11/15/2011

1. Could you please describe a typical workday for you?
2. Could you please describe a typical appointment?
3. Who do you report to?
4. How would we obtain data regarding the volume of referrals/consults/e-consults?
5. Do you use e-consults?
6. How many e-consults do you receive weekly? Monthly?
7. How many requests for consult do you receive weekly? Monthly?
8. Who is primarily responsible for receiving the request for consult?
9. Who is primarily responsible for receiving the e-Consults?
10. How long does it typically take to respond to e-consults?
11. How long does it typically take to respond to requests for consults?
12. Does this waiting period vary greatly?
13. For which situations do you find e-consults to be more effective and efficient than? Phone? Or curbside (if available)?
14. Are there any other methods to send consultation requests?
15. How do you find the current request for consultation process to be working? Have you found any issues with the current process?
16. Are there any formal or informal agreements regarding what is the necessary information needed for an e-consult between PCP and the specialists?
17. What do you typically make sure the patient has before seeing the Allergist, if anything?
18. Are there any specific tests?
19. Have you seen any repercussions from patients lacking tests? i.e. not being able to be seen?
20. How often does this happen?
21. Why would those test/information/data not be available?
22. How often does this occur?
Appendix A2: Allergy Clinic Interview Notes 1

11/15/2011
VA Interview Summary

Attendance: Meg Allen (Allergy Clinical Director), Claire Murphy (Allergy Nurse Practitioner), Allison Hardy
Time: 1:00-3:00pm

- Discussion Topics
  - Allergy Clinic Logistics
    - Only Allergy Clinic in New England
    - 2 part-time doctors and Claire Murphy do most of the treatment
    - Has only been open for about 2 years in West Roxbury
    - Originally in Jamaica Plains, but paid most of their attention to the patients that used the JP locations (closed in 2008 because the main doctor retired)
    - Brought back in 2009 in West Roxbury with new procedures and policies (has expanded 400% since the re-opening)
    - Even with new programs in place, patients are not fully taking advantage of the Allergy Clinic because they are still associating the clinic with how it was in JP
    - Claire Murphy does a lot of PR for the Clinic and teaches other physicians throughout the VISN (Veterans Integrated Service Network) how to administer the allergy shots
      - Through these teachings she was able to develop good relationships with many doctors, so many call her or e-mail when they have a question about what to do about a patient
      - Claire taught registered nurses how to administer immunotherapy to eliminate unnecessary travel for the patients
      - The pre-test of how to administer resulted in an average score of 76.1% and the post-test had an average score of 93.6%
      - She concluded that standardizing the didactic and practicum training increases the comprehension and allows for safe and effective administration practices (Abstract and Additional Notes on Handouts)
      - Gave a presentation on the teachings Nationally, and going to give a global presentation soon
    - The West Roxbury Allergy Clinic is epicenter for the rest of the country so they get a lot of calls and e-mails from all over asking questions
      - Developed a consortium that others are trying to follow
- Ultimately the responsibility comes back to the Allergy Department when outside nurses administer shots, so they have strict procedures in place

  o **E-Consults**
    - Are very new to the Allergy Clinic (Summer, 2011)
    - Have only had a “handful” of e-consults come to the Allergy Clinic
    - Thinks they would be extremely beneficial for the patients for basic procedures to eliminate unnecessary travels and would like them to become more widely used
    - Will cause a little more work for the doctors and Claire
    - Are able to get the patients’ history on the computer so responding will be easier
    - Thinks there is a lack of communication that e-consults exist and are an option
    - Believes they should be advocated more and physicians should be educated about them in order to facilitate more utilization
      - Claire brought it up to some of the nurses, but it hasn’t really taken off yet
    - E-consults become a problem with Allergy Clinic because there is a set 72-hour time frame put in place to respond and the doctors only work part-time and the clinic is not open on Mondays, so if a consult is sent on Friday then the deadline won’t be met
    - Also, some difficulty with ease of use right now
      - Some accidentally got deleted
      - Sometimes the doctors would respond to it like an e-mail, but not connect to the system so they didn’t receive credit
      - Current order of steps to get to Allergy E-Consults
        - Consult, New Consult, New Visit, Pulmonary, and Allergy is under Pulmonary
        - Wondering if Allergy could have its own section?
        - Is the e-consult computer program different throughout the VISN?

  o **Consultations/ Requests for Consults**
    - Mainly come from PCPs, Pulmonary, and ENT (Ear, Nose, Throat Doctor)
      - Sometimes from Cardiologists and other specialists who want to perform a procedure but their patient thinks they might be allergic to a type of medicine will contact the Allergy Clinic
    - A lot come from Maine, Providence, Bedford, Manchester (Numbers below)
    - Receive about 8 Formal Requests for Consult daily
    - The Formal Requests for Consults show up on Allergy Physician A, Nurse Practitioner Claire Murphy’s, and the coordinator secretary’s desktop
• Coordinator prints them out and response within a couple days usually, but sometimes gets backed up because she deals with the consults for Sleep, Pulmonary, and Allergy
• If something is urgent she will come and find Claire or the doctors
  o There is also an emergency phone line
• Susan sets up the appointments (length of time before appointment varies by severity of case)
  ▪ Other types of informal consults requesting additional medicine or asking a question include telephone, e-mail, pager
  • E-mail is the most popular (Claire receives about 10 a day asking about current patients)
  • Phone calls are second most popular
  • Pager is least popular

  o Concerns and Issues
  ▪ Close to half the patients come to the Allergy Clinic for “unnecessary appointments”
  ▪ Many Formal Request for Consult do not include necessary information (they referred to them as “Bogus consults”) or ask a “ridiculous” question like “My patient thinks he’s allergic to mosquito bites”
    • Thinks it would be beneficial to have a template for the physicians to follow so they are forced to think about and include certain information
    • There’s currently no formal format in place. “Type your question for the specialist here:”
  ▪ Many patients show up without the appropriate blood work and medicine being done
  ▪ The patients should be administered a blood test and tried taking some medicine before going to the Allergy Clinic, but many patients show up without having a blood test. In order for the Allergy Clinic to administer an allergy test (like prick test or skin test) they need a recent blood test to make sure it’s safe. Many patients receive a blood test on their first visit instead of what they originally anticipate, which results in them making additional trips to West Roxbury which is an annoyance and can be very far for some patients
Appendix A3: Allergy Clinic Interview Questions 2  
Questions for Nurse Practitioner Claire Murphy and Allergy Clinical Director Meg Allen

E-CONSULTS AND CONSULTS

1. Would it be possible to get a screen shot of the current layout of your e-consult screen? Regular lay-out too?
2. What are your opinions on the current layout? Are there any suggestions for improvements you have?
3. What type of information would you like to be present in an e-consult?
4. How are the e-consults being tracked?
5. I know that e-consults are very recent to your department (July 2011), have you seen a rise in e-consult numbers in the past few months?
6. What do you think are factors that are hindering e-consults from “taking off”?
7. Are there any specific cases you can recall of a patient coming in that would have been a candidate for e-consults, or would have benefited from the use of e-consults? If so, about how many (or percentage of) patients are there?
8. What type of cases are the best fits for e-consults?
9. How often do the requests for consults come without the proper information and additional communication is needed? Does it ever happen more than once with one request for consult? Approximately how much time is wasted when this happens?
10. Ideally, what type of information would you like to see included in the requests for consults?

PATIENTS AND PATIENT VISITS

1. How many “regular” patients do you have (“regular” meaning patients who come in for treatment every set number of months)?
2. How many incidental patients do you see yearly?
3. I noticed some months you see significantly more patients than other months. Is there a specific reason for why that happens (allergies are not as strong those months, doctor’s vacations)?
4. Is there any way to trace visits to their consultations? How many visits are direct results of consultation requests?
5. How far back does Allergy schedule its patient visits?
6. Do you ever have any walk-ins?
7. How long is the average appointment?
8. What causes an appointment to be longer or shorter?
9. How long does it take to administer an immunization?
10. How long do the patients typically have to wait once they arrive at the VA?
11. Is there any way I would be able to observe a typical day in the Allergy Department?
12. How far out do you schedule patients?
13. How many cancellations are there? Patients who just do not show up?

PROCESS MAPPING AND DATA COLLECTION QUESTIONS

1. What classifies a request as “Completed”, “Printed To”, “Status Change”, “Scheduled”, “Incomplete RPT Consults”, or “Cancelled”?
2. What are the cases that cause a request to be classified a certain way?
3. How much time does it typically take to go between each step of the process?
4. How many requests need to be looped back to where they came from due to inefficient information? How much time does that take?
5. What happens after the requests are “Completed”, “Printed To”, “Status Change”, “Scheduled”, “Incomplete”, and “Cancelled”?
6. How often is there communication back to the requesting clinic?
7. Where do informal consults fit in? Where would e-consults fit in?
8. Why does the number of initial requests not equal the total number after they are classified? Where do the unaccounted for consults end up?
9. Is there a way to get monthly data instead of yearly?
Appendix A4: Allergy Clinic Interview Notes 2

1/25/2012
VA Interview Summary

Attendance: Meg Allen (Allergy Clinical Director), Claire Murphy (Allergy Nurse Practitioner), Allison Hardy
Time: 8:00-8:50am and 10:00-10:20am

- Discussion Topics
  - Process Maps
    - Completed: The patient was seen
    - Printed to: Sent to the printer
    - Status Change: changed statuses
    - Scheduled: currently scheduled at present time
    - Cancelled: occurs when the patient doesn’t show up or the request has been in the system too long and needs to be re-submitted (Manchester Togus can’t cancel without resubmitting)
    - Incomplete RPT Consults: in the system, but not assigned yet
      - The only time they are sent back to the sending location is when they come in blank. Even with limited information, they still get scheduled (try not to let any remain pending)
      - There aren’t many informal consults that aren’t recorded since they try not to do anything without a consult (also want the credit for them)
  - Typical Process (Coordinator)
    - The consults are typically booked within a day or two
    - The request goes from “Printed To” to “Status Change” to “To Pending” in a couple days
    - After “Pending” is “Scheduled” followed by either “Completed” or “Cancelled” or “Cancelled Rescheduled”
    - They hospital does not want the consults to be “Pending” for more than a week (started at 30 days then went down to two weeks, then down to one week) After one week, they want the consult to be “Cancelled” then “Resubmitted”
    - Physician A will send the consults back and ask for comments
    - Susie only sends back if the requests are blank (about 25%). It only takes about 30 extra seconds for her, but the wait time to hear back can vary depending on the sender.
    - The current requests only have two lines
      - OEF OIF Service Connection
      - Line for Diagnostics
      - Does not prompt to put in any history
Should be line to enter reason and should not be allowed to submit without proper information to improve the process

E-Consults and Consults

- The Allergy Clinic believes their e-consults should go under “Medicine” instead of “Pulmonary” to make searching for them easier
  - Change of the format is already in progress
- E-Consults may not be taking off as quickly (still only getting about 2 a month from different locations and doctors) because they are extra use for the PCP’s and the practitioners to get used to them
- E-Consults require the PCP’s to get in contact with their patients after they hear back from the specialist, so it becomes additional work for them instead of just scheduling them with the specialist (What would be necessary for the PCP’s to get them to use e-consults more regularly?)

Patient and Patient Visits

- MAS can get the information for monthly “no shows” and to look into connecting requests for consults to the patient visit (Ann Dow may also be able to help ext. 44265)
- Scheduling of patients depends on urgency, their schedule, and the practitioner’s schedules
- The varying number of patients seen in different months can be due to patient schedules, doctor emergencies (Physician A missed some days this past year), no-shows, cancellations, doctor schedules
  - More no-shows in December than the other months
- Patients typically do not wait at the West Roxbury Allergy Clinic (they are usually very good at getting the patients in on time with minimal wait)
- Patients seen in 2011
  - Physician B (only works one day a week) : 106 appointments
  - Physician A: 232 appointments
  - Claire Murphy: 264 appointments
  - Patients are usually seen with less than 30 minute wait time (mostly seen on time though)
  - Patients are usually with the doctors or practitioner for 30 to 45 minutes depending on reason for appointment
- Immunizations
  - Immunization clinic had 1066 patients in 2011
  - There are 90 active injection patients in the Boston Region and 50 at the West Roxbury location
  - Typically patients start off at weekly injections for 7 months, then move to monthly for 3 to 5 years (the injections take about 10 to 15 minutes)
- Are good about getting the patients in at their scheduled time (takes time to draw out the formula and medication once the patient arrive, but wait time is usually less than 15 minutes)
  - Allergy Injections seem to get more “walk-ins” than other procedures
    - They typically are able to get seen
    - Practitioners don’t get many walk-ins
  - Other procedures
    - Skin testing ½ hour to 8 hours depending on severity
      - May be done in ICU though depending on severity
    - Bee testing 3-4 hours
Appendix A5: Associate Chief of Medicine Interview Questions

Dr. Orlander: Associate Chief of Medicine

West Roxbury, MA

9:00 am Friday 2/3/2012

Basic Information

1. Could you please describe a typical workday for you?
2. Who do you report to?
3. Do you, as the Associate Chief of Medicine, actually see the patients?
4. Could you please describe a typical appointment and break it down into each step and the time it takes?
5. What is your current workload? How much extra work would you be willing to do? Would you need any special compensation for additional work?
6. Do you ever submit the e-consults or requests for consults?
7. Who is primarily responsible for submitting e-consults? How is their current workload?
8. Who is primarily responsible for submitting the requests for consult? How is their current workload?
9. How many inpatients are seen daily at West Roxbury Primary Care? Weekly?
10. How many outpatients are seen daily at West Roxbury Primary Care? Weekly?
11. How many cancellations is there daily West Roxbury Primary Care? Weekly?
12. Why do patients cancel?
13. Are there any “no-shows”? How often does that happen?
14. Do you have any thoughts as to why that is?
15. How many patients are late for their appointments daily?
16. How many patients are not seen at their assigned appointment time daily? Why does that happen?
17. What is the typical wait time for the patients to be seen?
18. Have you found that patients will come in for unnecessary appointments?
19. How often does this occur?

E-Consults and Requests for Consults

20. How do you find the current process to be working? / Have you found any issues with the current process?
21. Would you mind sharing your thoughts on e-consults?
22. How do you most often submit consult requests?
23. What information is typically included in the requests for consults? What information should be included? If these vary, why?
24. What information is included in e-consults? What information should be included in e-consults?
25. Why do some PCP’s include more information than others?
26. Are there any formal or informal agreements regarding what is the necessary information needed for an e-consult between PCP and the specialists?
27. How many e-consults do you send daily? Weekly?
28. How many e-consults sent by your office daily? Weekly?
29. How many requests for consult do you send daily? Weekly?
30. How many requests for consult sent by your office daily? Weekly?
31. How many to allergy?
32. What is the typical waiting period for receiving replies to your e-consults?
33. What is the typical waiting period for receiving replies to your requests for consults?
34. Does this waiting period vary greatly?
35. Do you find e-consults to be more effective and efficient than telephone consults or fax?
36. Why do think e-consults have not become more popular?
37. What do you typically make sure the patient has before seeing the specialist, if anything?
38. Are there any specific tests?
39. Have you seen any repercussions from patients lacking tests? i.e. being sent back?
40. How often does this happen?
41. Why would those test/information/data not be available?
42. What does a typical consultation request look like? i.e. registration, vitals, see the nurse, see the physician, etc.
43. How would I obtain data regarding the volume of referrals/consults/e-consults?
44. Would it be possible to obtain a screen shot of your “request for consult” screen?
45. How many additional questions/extra information would you be willing to provide when filling out a request for consult?
46. What would it take (financial compensation, less appointments scheduled) for the PCP’s to consistently institute e-consults?
47. What additional information (if any) would you like to see added to the “request for consult” or “e-consult” screen?
Appendix A6: Associate Chief of Medicine Interview Notes

VA Primary Care Physician Interview Summary

2/3/2012

Attendance: Doctor Jay Orlander, Allison Hardy
Time: 9:00am-10:00am

- Discussion items
  - Consultation process, e-consults, informal consults
    - In general, those using e-consults have been happy
      - Dr. Jay Orlander sends about 1 e-consult every week or 2 every 3 weeks
      - There were 109 e-consults completed in the past month sent by 50 PCP’s
        - Specialists can change from live consults to e-consults if they would like
      - Thinks that the use of e-consults is going pretty well for the minimal amount of advertising
        - The interface for e-consult tab is not that user friendly (Ashley is working on making the interface better)
        - Familiarity and getting a better feel of when e-consults should be used will only help the process and popularity of e-consults
    - Hematology and Cardiology utilize e-consults the most
      - Hematology has the largest percentage of e-consults because it is a very laboratory based specialty so it is easy to make decisions based upon the lab results
      - Cardiology is a large department and it was the first department at the VA to initiate e-consults (15% growth in last few months, 20 e-consults in the last week)
    - Allergy does not get as many e-consults because people are not very familiar with the Allergy Department and their treatments (Dr. Orlander has only sent one patient to Allergy in the past month)
    - The generally rule of thumb for e-consults is that they get responses within 3 business days and the vast majority of specialists get back to e-consults within the time frame
They are currently being tracked (how many are done, withstanding, delinquent)

- E-consults don’t work for every specialty (especially ones that require physical contact to diagnose)

### Regular Consults

- Most regular consults are scheduled within a month
  - Sleep clinics take about 6 months
    - Sleep clinic is under staffed and the only way to know for sure if a patient has sleep apnea is to perform a sleep test
    - Only sleep clinic can perform a sleep test, so many convert to e-consults to give advice to patients because of their long appointment wait time
  - Doesn’t send enough to Allergy to have an accurate time frame for their department
  - When filling out consult requests and before sending the patients, Dr. Orlander does the tests that he feels are appropriate (if some are really expensive and he is unsure if they will have a positive effect on the patients then he’ll hold off)
  - Some doctors just send the consults and just send the patients without preparing them

### Informal Consults

- They don’t fax between colleagues
- Page for urgent matters
  - Pages about once every few weeks
- E-mail or call for questions about patients/what to do (antibiotics, tests)
- Personal dialog/communication between doctors
  - Most have personal relationships with specialists who they can call or see personally with questions (even though it is hard to have a personal relationship with a specialist in every specialty)
  - If in a real emergency, can page the last surgical specialist that saw the particular patient
  - It is easier for Dr. Orlander to have a lot of personal relationships because he works with a lot of specialists and has a good relationship and trust with the specialists. These relationships are helpful
- It is harder for the PCP’s who work in locations that are further away

- **Clinic logistics**
  - Dr. Orlander does clinic work ½ day a week and supervises ½ day a week
  - 5000-6000 patients get their care at the Brockton, Jamaica Plains, and West Roxbury locations
    - Tom Pontes is the data collector (Thomas.pontes@va.gov)
  - “no shows” is highest among new patients or patients with mental health issues (less common from patients who are regulars and know their primary care physicians)
    - The clinic overbooks sometimes to combat these “no shows” which works well for the larger clinics who get multiple “no shows” a day (called “missed opportunities”)
  - The clinic is typically good with seeing patients on time (will see patients early)
    - Sometimes gets backed up because patients frequently need extra time during PCP visits
  - Unnecessary appointments rarely happen in primary care
    - They happen more in specialty care which is why the consult and referral process is important to prevent unnecessary specialist appointments

- **Service agreements**
  - Urology has a in depth service agreement and request for consult screen
    - Able to expedite appointment by calling listed number
    - If not expediting appointment, can click a button and then a list of common diseases for urology pops up
    - Can check off which disease/diseases it may be and then a list of tests and action items pops up.
    - Used to take 2 months to get an appointment before the service agreement
  - Allergy’s current layout
    - E-consult screen just says “What’s your question?” and gives a contact number
    - Consult screen is more open-ended than urology and is a box for the PCP to include as much or as little information as they wish
  - Orthopedic and Rheumatology have the most barriers in terms of getting a consultation
• Some patients believe they should see a specialist sooner rather than later and feel better being tested by a specialist, so they insist on being seen by a specialist before they have had the proper testing done
  ▪ Service agreements help, but there are instances where patients still get appointments without the proper tests or medication

• Action items
  o Have Allergy Department write down ideas for what should be in the service agreement and tests that PCP’s should have done before sending their patients to Allergy
    ▪ Have them formulate their “ideal screen” and one with just the most important/necessary information
    ▪ Can set up template on their own without having a service agreement
    ▪ Once structure is complete, then can determine if service agreement is necessary
  o Set-up a meeting time for both sides to sit down and hatch out what will be a reasonable amount of information to be put on Allergy’s request for consult screen
    ▪ There will be differences of opinions, but many doctors are willing to be reasonable
  o Dr. Spencer (Chief of Primary Care) is a good participant to have on the PCP side of the meeting
  o Ellen Mitchell (CAC) is also a good person to talk to when establishing service agreements or request template
Appendix A7: Primary Care Physician Interview Questions

Primary Care Physician 1

Worcester, MA

9:00am Wednesday 2/8/2012

Basic Information

1. Could you please describe a typical workday for you?
2. Who do you report to?
3. Could you please describe a typical appointment and break it down into each step and the time it takes?
4. What is your current workload? How much extra work would you be willing to do? Would you need any special compensation for additional work?
5. Do you, as the PCP, always submit the e-consult or can/do others sometimes fill this role? If others fill this role, who is primarily responsible?
6. Do you, as the PCP, always submit the request for consult or can/do others sometimes fill this role? If others fill this role, who is primarily responsible?
7. How many inpatients are seen daily? Weekly?
8. How many outpatients are seen daily? Weekly?
9. How many cancellations are there daily? Weekly?
10. Why do patients cancel?
11. Are there any “no-shows”? Meaning that patients do not show for their scheduled appointment, even though it has not been cancelled?
12. Do you have any thoughts as to why that is?
13. How many patients are late for their appointments daily?
14. How many patients are not seen at their assigned appointment time daily? Why does this occur?
15. What is the typical waiting period for the patients to be seen?
16. Have you found that patients will come in for unnecessary appointments?
17. How often does this occur?

E-Consults and Requests for Consults

1. How do you find the current process to be working? / Have you found any issues with the current process?
2. Would you mind sharing your thoughts on e-consults?
3. How do you most often submit consult requests?
4. What information is typically included in the requests for consults? What information should be included? If these vary, why?
5. What information is included in e-consults? What information should be included in e-consults?
6. Why do some PCP’s include more information than others?
7. Are there any formal or informal agreements regarding what is the necessary information needed for an e-consult between PCP and the specialists?
8. How many e-consults do you send daily? Weekly?
9. How many e-consults sent by your office daily? Weekly?
10. How many requests for consult do you send daily? Weekly?
11. How many requests for consult sent by your office daily? Weekly?
12. How many to allergy?
13. What is the typical waiting period for receiving replies to your e-consults?
14. What is the typical waiting period for receiving replies to your requests for consults?
15. Does this waiting period vary greatly?
16. Do you find e-consults to be more effective and efficient than telephone consults or fax?
17. Why do you think e-consults have not become more popular?
18. What do you typically make sure the patient has before seeing the specialist, if anything?
19. Are there any specific tests?
20. Have you seen any repercussions from patients lacking tests? i.e. being sent back?
21. How often does this happen?
22. Why would those test/information/data not be available?
23. What does a typical consultation request look like? i.e. registration, vitals, see the nurse, see the physician, etc.
24. How would I obtain data regarding the volume of referrals/consults/e-consults?
25. Would it be possible to obtain a screen shot of your “request for consult” screen?
26. How many additional questions/ extra information would you be willing to provide when filling out a request for consult?
27. What would it take (financial compensation, less appointments scheduled) for the PCP’s to consistently institute e-consults?
28. What additional information (if any) would you like to see added to the “request for consult” or “e-consult” screen?
Appendix A8: Primary Care Physician Interview Notes 1

2/5/2012
VA Primary Care Physician Interview Summary

Attendance: Primary Care Physician 1, Allison Hardy
Time: 9:00am-10:00am

• Discussion Topics
  o E-Consults and Requests for Consults
    ▪ Sends requests for consults to Allergy clinic periodically for desensitization therapy the most
    • Sends all requests for consults himself
    • Is able to treat many allergies himself at primary care because many are not severe cases and can be managed fairly easily (family doctor)
      o Some doctors use specialists more than others
      o Example of sending a patient to an Allergist is if there is a question that the patient has allergic proteins and a special type of blood or skin test might be necessary to test for it that can only be done by the specialist.
      o Also sends for significant asthma that isn’t responding to any of the treatments
      o Sends about 3-6 consult requests to Allergy a year
    • Specialists sometimes change switch over their requests for consults to e-consults
    • Sends many consults to cardiology
      ▪ Believes the process typically runs well and patients receive appointments in a timely manner
        • Sometimes patients aren’t assigned follow up appointments and forget to call and schedule one (might be easier if there was a secure e-mail system for the patients and the specialists to exchange information
      ▪ Believes e-consults have the potential to work really well and can benefit the patients
        • The specialists and doctors still need to look through the charts to diagnose
        • Many practices have residents that they teach, so some of the consults are only as good as the supervisor. E-consults are almost always done by attendings (or at least fellows) so they are the opinions of the attendings
        • E-consults can be more work
• Academic consult (consultant makes recommendations)
• E-consults are beneficial for diseases that can be diagnosed without looking at the patient. Don’t work as well in instances where contact with the patient is necessary for diagnosis
• Doesn’t think PCP’s would necessarily need extra compensation to take on e-consults, but he feels lightening the work load (couple less daily appointments) will be important because e-consults take additional time and follow-ups
• Need a patient number that is manageable
  ▪ Prefers open-ended comments section to a lot of questions and necessary information

○ Clinical Information
  ▪ Recently 300 new patients just joined Worcester VA
  ▪ Used to work at Fallon and every hospital is different in how they do things (also does acupuncture only one in VISN1)
    • VA is very concerned with patient satisfaction and limiting the travel time and very patient centered
  ▪ New patient visits are an hour, follow-ups are typically 30-45 minutes
  ▪ Sees about 14 patients in a full day (works 3.5 days a week because of acupuncture and teachings so sees about 40 patients a week)
  ▪ Used to have a lot more “no shows”, now about 1 per day for the clinic (people come late sometimes though)
    • There’s been more of an effort by the VA to call and contact the patients and remind them about their appointments to help cut down on “no shows”
    • Let them know: the VA cares
    • Encourages them to cancel and reschedule if they can’t make it
    • Use of My Healthy Vet system
    • Also the better weather this winter has helped cut down “no shows” this winter
  ▪ If the patients cancel early they can usually fill the appointment time
  ▪ Specialist get more “no shows” because they get a lot of scheduling and rescheduling especially for tests that aren’t favorable (colonoscopy)
  ▪ Veteran’s typically are “more sickly” than the regular population because they were exposed to so many chemicals and allergic solvents. They expect the worst because they are more susceptible to diseases
  ▪ Sees patients who come in for unnecessary appointments
    • There are patients who come are primarily Worcester VA patients and patients who are “shared care” and are seen by another outside doctor also
    • “Shared Care” patients come more for unnecessary appointments because they like second opinions and they like the VA atmosphere
- Some patients also have really bad anxiety and depression so they come in for minor things to be certain (like headaches)
  - When a request for consult gets sent back it doesn’t really affect the patient that much (just maybe a little longer waiting time)
- Suggestions for improvement
  - Hire additional pharmacists because PCP’s spend a lot of time filling prescriptions and the pharmacists know more about the drugs and doctors so that could save time
    - Feels that a team approach would be beneficial to the patients
  - Believes using a combination of e-consults and regular face-to-face consults will be beneficial because it is sometimes better for the patient to see the specialist than to have a bunch of unnecessary tests done. (quality and safety for patients should be the highest priority)
  - Fostering partnerships between doctors will be helpful
    - Does not know many doctors in Boston because mostly works in Worcester, but does e-mail (there’s always the option to e-mail or call but sometimes doesn’t want to be a bother)
  - A new layout of the consultation request screens with “yes or no” (was this test performed? Did you consider this?) questions with areas for comments could be helpful, so the PCP doesn’t have to cancel out the request in order to look up the information
    - Electronic problem with the system that doesn’t allow for the consult request screen to be minimized
  - An electronic process of spitting out tests and diagnostics might be helpful for the days when the doctors are swamped and don’t have the time to think everything through clearly
Appendix A9: Primary Care Physician Interview Notes 2

2/9/2012
VA Primary Care Physician Interview Summary

Attendance: Primary Care Physician 2, Allison Hardy
Time: 10:20am-10:45am

- Discussion items
  - Consultation Requests and E-consults
    - She sends all of her requests for consultations and e-consults herself
    - Thinks both methods (e-consult and face-to-face visits) have their benefits and it depends on the situation of the patient
      - With e-consults she receives responses quicker than regular consults
    - Has not sent a large number of consults to the Allergy Clinic (only for severe cases)
      - Likes their request for consult layout better than the in depth ones, believes the simpler the better for the PCP’s
    - Has seen a rise in the number of e-consults over the past 6 months
    - Believes e-consults are not taking off as quickly as the VA would like because they are new and PCP’s are unsure as how/when to use it. Also, there isn’t much data to back them up yet so doctors are wary
      - Thinks that additional training and education may help
    - Outside of the VA PCP’s get monetary incentives to use more e-consults, but that won’t happen at the VA
    - Sends about 10 consults a full working day
  - Clinical information
    - Primary Care Clinic at the West Roxbury VA has 6 doctors who on a full day see about 16-17 patients (do not work full days every day)
    - Currently about 8.5% of the patients are “no shows”
      - Patients forget, never schedule their appointments
      - Primary recently switched to a recall system and patients can only schedule their appointments within a couple months (no longer able to schedule 6-months to a year out)
      - Sometimes patients will forget to call to schedule and the clinic overlooks calling them so they miss the time period when they are supposed to be seen
      - When they are scheduled, patients get a phone call 48-24 hours before reminding them about their appointment
    - There’s a very short waiting period for patients who show up at their designated time (less than 15 minutes most of the time)
    - Believes about 15-20% of patients seen are not necessary
• They are anxious or need to be reassured they are healthy
• Sometimes happens if there is a scheduling oversight or mistake
  o Look over the schedule at the beginning of the week and call or e-mail patients who they believe don’t need the appointment
Appendix A10: Allergy Clinic Interview Questions 3
Claire Murphy (Nurse Practitioner) and Meg Allen (Allergy Clinical Director)

1. Does a layout similar to urology interest your department at all? If so, what types of common diseases would you like to be on the template?
2. What type of tests would you like the patients to have done previous to their Allergy Clinic Appointments?
3. What type of information would you like to ideally see on a consultation template?
4. Are there certain aspects of that you would be willing to do without in order to make it easier for the PCP’s? What information is necessary to be on there to ensure the patients are prepared for the appointment?
5. From speaking with a couple PCP’s I learned they would much rather your current layout (open-ended comments section) compared with a layout that is time consuming with a lot of questions. Do you have any suggestions to find a “happy medium” between the two?
6. Would it be possible to acquire screen shots of your request for consult screens?
7. Would you be willing to meet with Dr. Jay Orlander and a PCP to go over a new template or Care Coordination Agreement?
8. What is your clinic’s current policy on reminding patients about upcoming appointments? (call, e-mail, letters)
9. Is there anything else you can think of that may help to lower the number of “no shows” and late cancellations?
10. I learned that specialists have the ability to and sometimes switch over their requests for consults to e-consults if they feel an e-consult is more appropriate. Does this ever happen at your clinic? Would your clinic be opposed to switching these more regularly when seemingly a fit situation?
11. Are there certain situations where e-consults would be more beneficial than others? If so, would you be able to give me an example?
12. Would it be possible for someone from your clinic to look over my process maps?
13. Do some locations get different treatment or are they all treated the same when they arrive? Do you know why it is that the mean number of days varies so much (19-65)? Do you know why there is also a large variance of number of consult requests at the other steps?
14. Why does the number of consults sent not equal the sum of all the other steps on the process map?
15. Does the Total Yearly Consultation Process Map make sense with those numbers?
16. Would it be possible for me to observe your clinic for a morning sometime next week?
17. What does your office do currently to combat “no shows”? Calling before appointments? Overbooking?
Appendix A11: Allergy Clinic Interview Notes 3

3/21/2012
VA Allergy Clinic Interview 3 Summary

Attendance: Meg Allen, Claire Murphy, Allison Hardy
Time: 8:00am - 8:50am

- Discussion Topics
  - Changing their request for consult template
    - Very interested in changing the template (a set up like Urology’s seems promising)
    - Ideally template would include an area to click for emergency, list of possible diseases/diagnostics/symptoms, ranges/tests to do (don’t refer unless A, B, and C have been done)
      - Some options include RAST Testing, Allergy prick test, food allergies, allergic asthma, drug reactions, etc.
      - Thinks this will be beneficial because it may help to cut down on unnecessary patient visits/travel and will lower the number of requests coming in without the proper information (also sometimes patients come in without an actual allergy)
  - E-consults
    - Are able to switch from a request to an e-consult but would be difficult because the coordinator deals with a majority of the requests
    - An example where e-consult is the best option is with Allergic Rhinitis, other options include instances when the doctors can perform the specific blood tests at their facilities (not skin tests)
    - Possible improvement would be to include an area on the template to include e-consults
  - Current policy for “no shows”
    - Typically just send letters
    - Volume is too much to call everyone
    - No policy like “24 hour window to cancel or charged”
    - The VA has an automated call system, but it doesn’t say what department their appointment is in
    - Currently, the Allergy Clinic overbooks on Wednesdays because they are wellstaffed to try and combat “no shows”
    - Claire Murphy is administratively responsible for her own clinic and the shot clinic, so she doesn’t like to be overbooked
      - Needs to order for all of VISN1
• Information network for the entire VISN1 as well as receiving phone calls from all over the country
• Travels around the VISN on Thursdays
• Staffing is an issue
  - 2 part-time Allergists (work about 4-6 hours a week each)
    • Wants to know what the VA’s policy is on “no shows”
• Telehealth
  - In its beginning phase (recently installed)
  - Sort of like a video chat, able to see the patients over the internet
• Action Items
  - Meet with Meg Allen and Claire Murphy again in two weeks to finalize the new template
  - Set-up a time to sit down with Dr. Orlander after the next meeting
Appendix B: Data

Appendix B1: Allergy Clinic Consultation Data (11/15/2011)

- IF (International Financial) Consult Data from 11/15/2010 to 11/15/2011
  - Total Requests Discontinued: 4
  - Total Requests Completed: 169
  - Total Requests Pending: 30
  - Total Requests Active: 46
  - Total Requests Scheduled: 47
  - Total Requests Cancelled: 24
  - Total Requests Pending Resolution: 125
  - Bedford
    - Total Requests: 75
    - Mean Days: 25
  - Connecticut
    - Total Requests: 1
  - Manchester
    - Total Requests: 55
    - Mean Days: 51
  - Providence
    - Total Requests: 80
    - Mean Days: 53
  - Central West
    - Total Requests: 30
    - Mean Days: 19
  - Maine
    - Total Requests: 61
    - Mean Days: 49
  - White River
    - Total Requests: 31
    - Mean Days: 65
  - Total
    - Total Requests: 322
    - Mean Days: 51
  - Completed/Updated Consults
    - Providence V- 41
    - VA Central West- 11
    - White River- 16
    - VA Maine HCS- 33
    - Bedford VAMC- 32
    - Manchester V-39
  - Printed To Consults
- Providence V- 8
- VA Central West- 2
- White River- 3
- VA Maine HCS- 5
- Bedford VAMC- 6
- Manchester V- 6

- Status Change Consults
  - Providence V- 9
  - VA Central West- 3
  - White River-2
  - VA Maine HCS- 11
  - Bedford VAMC- 13
  - Manchester V- 8

- Scheduled Consults
  - Providence V- 16
  - VA Central West-2
  - White River- 6
  - VA Maine HCS-7
  - Bedford VAMC- 15
  - Manchester V-1
  - Connecticut- 1

- Incomplete RPT Consults (2 from Providence)
- Cancelled Consults
  - Providence V-5
  - VA Central West- 1
  - White River-3
  - VA Maine HCS-6
  - Bedford VAMC-5
  - Manchester V-3

- Consults by Status: Allergy Clinic (from 11/15/2010 to 11/15/2011)
  - Requests Completed: 314
  - Requests Pending: 55
  - Requests Active: 78
  - Requests Scheduled: 81
  - Requests Incomplete: 3
  - Requests Pending Resolution: 217
  - Completed/Updated Consults from location
    - Maine: 31; White River: 15
    - Brockton: 20; Bedford: 37
    - West Roxbury: 60; Providence: 39
    - Boston: 42; Manchester: 36
    - Worcester: 11
    - Central West: 10
Appendix B2: Allergy Clinic Patient Data
Number of Patients seen by each Doctor/Nurse Practitioner per month from Dec’10 through Oct’11

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</tbody>
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Dr. Sloane Dec ‘10-Oct’11 Total: 205
Dr. Breslow Dec’10-Oct’11 Total: 108
Nurse Practitioner Claire Murphy Dec’10-Oct’11 Total: 282
Dr. Sloane Monthly Average: 18.64
Dr. Breslow Monthly Average: 9.82
Nurse Practitioner Claire Murphy: 25.64
Total Patients: 595
Total Monthly Average: 54.1
Total Immunization Patients: 971
Immunization Monthly Average: 88.27
Number of Allergy Injections (5 months): 934
Allergy Injection Average (5 months): 186.8
Allergy Injection Average (11 months): 84.1
Skin Tests Total: 148
Skin Tests Monthly Average: 13.45
Complex Prick Testing Total: 24 (monthly average 2.18)
Allergy Desensitization: 1
Allergy Flu Shots: 59 (monthly average 5.36)
Appendix C: Possible Recommendations

1. Developing a template for the PCP’s to fill out when submitting Consult Requests to Allergy Clinic

- Allergy Clinic is receiving a lot of Requests for Consult that are do not include necessary information
- Might be reasons why the PCP’s aren’t including the necessary information, so if we choose to develop this we need to consult both sides
- **Things to consider:**
  - What kind of referral is being made? Is the PCP looking for advice, hoping to co-manage the patient with the SCP, or transferring the patient to be fully cared for by the SCP?
  - How is the consultation taking place? Will it be a face-to-face meeting, an e-consult, or a phone call?
  - Who will manage the consultation process to make sure that it takes place? How will the administrative details be worked out?
  - What clinical information needs to be shared by the PCP and the SCP for the consultation to be effective?
  - How urgent is the referral? By when should the SCP respond to the referral? In what form are the SCP’s responses expected?
  - Who will handle secondary/subsequent referrals if necessary?
  - How will information regarding ongoing in-patient processes be shared (e.g., under what circumstances the patient was admitted/discharged)?
  - How should emergencies be handled? Who should be contacted if the PCP in charge of the patient cannot be reached?
  - When and how will the agreement be evaluated as to how well it is working? When will it be renewed?
  - How will information regarding the consultation be provided to the patient and his family?
  - Who will authorize the agreement?

2. Re-design the interface of the E-Consult computer screen

- Work on making it an easier process
  - Allergy doctors are not always connecting correctly and responding like it’s an e-mail so they are not receiving “credit” for the consult
  - Sometimes they are accidentally getting deleted
  - 72 hours response rule is tough for Allergy Clinic because they do not work on Monday’s
- Possibly move the Allergy tab from under Pulmonary to its own section for easier access

3. Ways to Improve referrals from primary care to secondary care
• Education: the process will improve with more guidelines being put in place by more standardized methods and referral forms. It will also be helpful if the consultants involved gave feedback and educated others about the referrals.
• Organization: getting a second opinion before asking for a consult and the PCP’s having access to additional care may improve the process.
• Financial: raising the price of consultations will reduce the number of consultations, but may not improve the quality of the process because people who really need them might refuse them because of the higher cost.

4. Advertise/encourage the use of e-consults more
   • Offer incentives
   • Have specialists feel free to switch request for consults over to e-consults electronically
   • Ask specialists to provide PCPs with instances when e-consults are most beneficial

5. Overbook during times where “no shows” are common
   • May cause longer wait times and extra work if all patients show up
   • Difficult to predict patients’ behaviors
   • Utilize “Effects of Clinical Characteristics on Successful Open Access Scheduling” by Renata Kopach, Po-Ching DeLaurentis, Mark Lawley, Kumar Muthuraman, Leyla Ozsen, Ron Rardin, Hong Wan, Paul Intrevado, Xiuli Qu, Deanna Willis

6. Reminder phone calls and letters for patients with upcoming appointments
Appendix D: Process Maps

Appendix D1: Allergy Clinic Process Map from Manchester V: 11/15/2010-11/15/2011

** Start to End: Mean of 51 days ***Start to Scheduled usually takes less than 3 days ****Bracket indicates yearly values; parenthesis indicates value on 11/15/2011

**Start: Manchester V

(55) Requests Sent

West Roxbury

Received by

Physician A  Physician B  Physician C  Scheduling Coordinator

Lacking Info? Blank?

Yes

No

Printed To (3)

Status Change (2)

Pending

Cancel and Reschedule

Longer than 2 weeks?

Yes

No

***Scheduled (1)

Immunization (Shot Clinic)

Physician A (205)

Physician B (108)

Physician C (282)****

Completed (39)

Cancelled (3)

“No Shows”

End

Completed (39)
Appendix D2: Allergy Clinic Process Map from White River: 11/15/2010-11/15/2011

*E-Consults and informal not included due to lack of information and rarity of instances (approximately 2 a month for e-consults)

** Start to End: Mean of 65 days ***Start to Scheduled usually takes less than 3 days ****Bracket indicates yearly values; parenthesis indicates value on 11/15/2011

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**Start: White River

(31) Requests Sent

West Roxbury

Received by

Physician A
Physician B
Physician C
Scheduling Coordinator

Lacking Info? Blank?

Yes

No

Printed To (3)

Status Change (2)

Pending

Cancel and Reschedule

Longer than 2 weeks?

Yes

No

***Scheduled (6)

Immunization (Shot Clinic)

Physician A (205)

Physician B (108)

Physician C (282)****

Completed (16)

Cancelled (3)

“No Shows”

End

---

***Start to Scheduled usually takes less than 3 days

****Bracket indicates yearly values

value on 11/15/2011
*E-Consults and informal not included due to lack of information and rarity of instances (approximately 2 a month for e-consults)
** Start to End: Mean of 49 days ***Start to Scheduled usually takes less than 3 days ****Bracket indicates yearly values; parenthesis indicates value on 11/15/2011
Appendix D4: Allergy Clinic Process Map from VA Central West: 11/15/2010-11/15/2011

*E-Consults and informal not included due to lack of information and rarity of instances (approximately 2 a month for e-consults)
** Start to End: Mean of 19 days ***Start to Scheduled usually takes less than 3 days ****Bracket indicates yearly values; parenthesis indicates value on 11/15/2011

1. **Start: VA Central West
2. (30) Requests Sent
3. West Roxbury
4. Received by
   - Physician A
   - Physician B
   - Physician C
   - Scheduling Coordinator
5. Lacking Info? Blank?
   - Yes
   - No
6. Printed To (2)
7. Status Change (3)
8. Pending
9. Cancel and Reschedule
   - Yes
   - No
   - Longer than 2 weeks?
     - No
     - Yes
10. ***Scheduled (2)
11. Immunization (Shot Clinic)
12. Physician A (205)
13. Physician B (108)
14. Physician C (282)****
15. Completed (11)
16. Cancelled (1)
17. "No Shows"
18. End
Appendix D5: Allergy Clinic Process Map from Providence V: 11/15/2010-11/15/2011

*E-Consults and informal not included due to lack of information and rarity of instances (approximately 2 a month for e-consults)

** Start to End: Mean of 53 days
***Start to Scheduled usually takes less than 3 days
****Bracket indicates yearly values; parenthesis indicates value on 11/15/2011

*E-Consults and informal not included due to lack of information and rarity of instances (approximately 2 a month for e-consults)

** Start to End: Mean of 25 days ***Start to Scheduled usually takes less than 3 days ****Bracket indicates yearly values; parenthesis indicates value on 11/15/2011

**Start: Manchester V

(75) Requests Sent

West Roxbury

Received by

Physician A
Physician B
Physician C
Scheduling Coordinator

Lacking Info? Blank?

Yes
No

Printed To (6)
Status Change (13)
Pending

Cancel and Reschedule

Longer than 2 weeks?

Yes
No

***Scheduled (15)

Immunization (Shot Clinic)

Physician A (205)
Physician B (108)
Physician C (282)****

Completed (32)
Cancelled (3)
“No Shows”

End

Yes

Status Change Change

Pending

Printed To (6)