

**THE IMPLEMENTATION AND EFFECTIVENESS
OF ADVANCED CLINIC ACCESS**

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HIGHLIGHTS

At the request of the Steering Committee for Advanced Clinic Access (ACA), the HSR&D Management Decision and Research Center (MDRC) conducted a comprehensive evaluation of the implementation and effectiveness of ACA. The study focused on 78 medical centers selected to represent a wide range of wait times for clinic appointments. The evaluation findings are based on data collected in the spring and summer of 2003 from surveys of employees, telephone interviews and implementation reports from local ACA points of contact, and VA databases.

The key evaluation findings are:

1. Awareness of wait time as a problem was higher than awareness of ACA as a potential solution at the time of the ACA staff survey in the summer of 2003.
2. By the spring and summer of 2003, implementation of ACA was well underway but varied across facilities and target clinic areas.
3. Four variables emerged as significant predictors of ACA implementation in three or more of the six target clinic areas:
 - Greater length of time doing ACA;
 - Greater management support;
 - Clinic staff review performance data;
 - Clinic teams have the knowledge and skill needed to do their work well and make changes successfully.
4. ACA was associated with improved patient access and satisfaction in some but not all areas:
 - Greater ACA implementation was significantly associated with shorter wait times in three clinic areas (Primary Care, Urology, Orthopedics).
 - Shorter wait time was significantly associated with higher patient satisfaction in Primary Care on four measures (Ability to get care as soon as wanted (Qx3); visit coordination, courtesy and pharmacy service scales).
 - In contrast, greater ACA implementation in Primary Care was directly associated with lower patient satisfaction on one measure (Specialty care).

Knowledge about the factors affecting the implementation of ACA can be used to increase the success of diffusion of other innovative clinical practices. These findings offer important lessons for managers and clinical leaders who are striving to diffuse effective new clinical practices successfully, and to senior leaders who are working to transform their systems into learning organizations that can efficiently implement evidence-based practices.

PREFACE

Like most evaluation projects, the completion of the Advanced Clinic Access (ACA) evaluation depended on the efforts of many people beyond the study team. We were fortunate to work closely with many clinical leaders and managers striving to implement ACA. The ACA Steering Committee chaired by Dr. Robert Petzel and the VISN ACA Points of Contact helped shape the evaluation design and provided valuable feedback on the findings. We especially appreciated the assistance of the evaluation's field advisory group: Fabianne Erb, Elizabeth Helsel, James Schlosser, Bill Baar, and Renee Parlier. Renee Parlier, as national Clinical Program Manager for ACA, was a consistent source of support and assistance.

We also thank the employees of the 78 medical centers that served as study sites. We are grateful to the local ACA POCs for participating in interviews, providing implementation data and assisting in the survey administration; to the clinic staff for completing surveys; and to the leadership for their facility's participation in the evaluation.

Within the MDRC, we are particularly grateful to Tom Deschaine for his unflagging production support and to Sally Holmes for her editorial insights.

We hope that the evaluation findings presented in this report will be useful to managers and clinical leaders who are striving not only to spread ACA across the VA system but also to transform their systems into learning organizations that can efficiently implement other effective new clinical practices.

On a final note, this is the last evaluation report that will be issued by the HSR&D Management Decision and Research Center (MDRC). On June 1, 2004, MDRC researchers assumed new roles in the recently awarded Center for Organization, Leadership and Management Research (COLMR), a VA HSR&D Center of Excellence. COLMR is unique among HSR&D Centers of Excellence in focusing on organization, leadership and management research and in partnering with four VISNs (1, 10, 22 and 23), the National Center for Organization Development and the Management Support Office to carry out its mission. We are excited about the potential of COLMR and its partners to contribute to VA's continuing excellence in serving veterans.

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THE IMPLEMENTATION AND EFFECTIVENESS OF ADVANCED CLINIC ACCESS: EXECUTIVE SUMMARY

In 2000, VA launched a national initiative to diffuse Advanced Clinic Access (ACA) in six target clinic areas (Primary Care, Audiology, Eye Care, Cardiology, Orthopedics, Urology) across VA. ACA is a set of 10 key change principles for managing clinics so that veterans have access to medical care when they want it. The principles are: (1) work down the backlog, (2) reduce demand, (3) understand supply and demand, (4) reduce appointment types, (5) plan for contingencies, (6) manage the constraint, (7) optimize the care team, (8) synchronize patient, provider and information, (9) predict and anticipate patient needs at the time of appointment, and (10) optimize rooms and equipment.

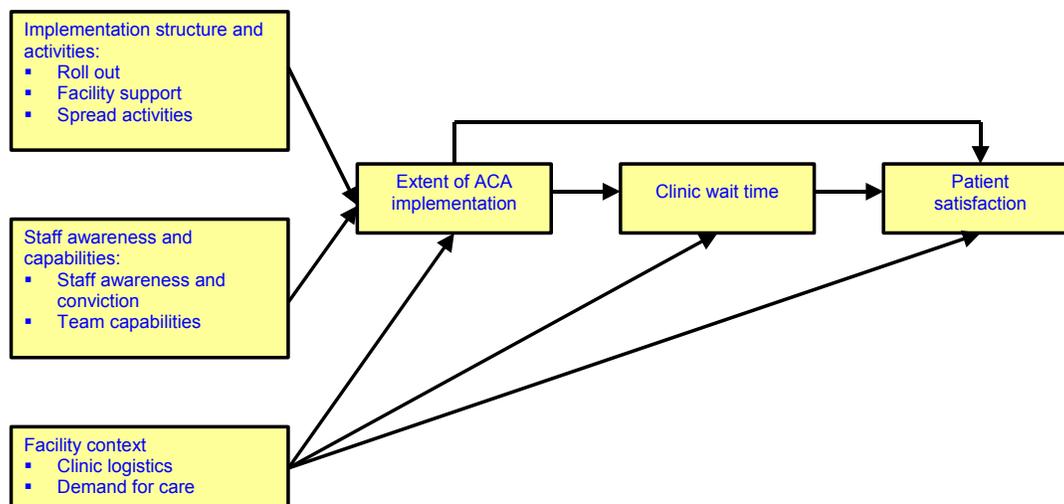
To encourage and support the diffusion of these principles, the ACA initiative built an extensive infrastructure that includes: a national steering committee; a full-time national clinical director; a person designated to lead ACA in every VISN and most medical centers (called points of contact or POCs); and a network of clinical access coaches to catalyze peer networks of advocacy and support. The infrastructure, based on a spread model emphasizing information, communication and social networks, supports a growing network of training, information exchange, coaching and collaboration to clinical staff in VA medical centers.

An important component of the ACA initiative was a comprehensive evaluation of the implementation and effectiveness of ACA. The chair of the ACA Steering Committee contracted with the HSR&D Management Decision and Research Center (MDRC) to conduct the evaluation. This summary highlights the key evaluation findings.

A Model of Implementation and Effectiveness

The evaluation was guided by the conceptual model illustrated in Exhibit A. According to this model, the organizational structure and the particular activities used to introduce and then spread ACA will influence the extent to which ACA is implemented – or, put into practice -- in a clinic area or across a medical center. However, these implementation structures and activities will not be the only determinants

Exhibit A
**The Implementation and Effectiveness of Advanced Clinic Access:
Evaluation Model**



of ACA implementation. Certain aspects of facility context and the awareness and capabilities of individuals responsible for implementing ACA will also influence implementation. The extent to which ACA is implemented will in turn affect wait time – defined as time to next appointment -- and ultimately affect patients' satisfaction with their access to care. Finally, facility context will have an impact on both wait time and satisfaction.

Evaluation Design

The evaluation was designed to describe the approaches used to promote and support implementation of ACA, to measure the extent to which ACA was implemented in the six target clinic areas and to analyze the factors associated with ACA implementation and with wait times and patient satisfaction.

Taking advantage of the naturally occurring variation in wait times, we selected for study a sample of 78 VA medical centers stratified by wait time and size. Measures of the key variables in the conceptual model were drawn from data obtained by: (1) structured telephone interviews with facility ACA points of contact (POCs) conducted between January and April 2003; (2) reports by POCs of ACA implementation collected between February and May 2003; (3) a mail survey completed by 3870 staff (42% response) in July and August 2003; (4) VA administrative databases; and (5) VA patient satisfaction databases.

Highlights

In the context of high attention to wait times and an extensive network of activities to promote and support ACA, the MDRC evaluation found that efforts to spread ACA had resulted in strong progress in many areas by the summer of 2003, though the story was still mixed. This variation is to be expected given the scope and complexity of change attempted, particularly when attempted without a national mandate. In the full evaluation report, we present detailed information about each dimension of the conceptual model and the relationships among dimensions. In this summary we highlight the evaluation findings in four areas:

1. Awareness of wait time as a problem was higher than awareness of ACA as a potential solution, at the time of the ACA staff survey in the summer of 2003.

Why important: The opinions, knowledge and capabilities of the clinicians and other staff responsible for implementing a new clinical practice influence that implementation in many ways. The clinic staff are the filter through which the implementation structures and activities pass. They are the people who actually put the innovation into practice. Organizational change is more likely to be successful if staff hold two views. First, they must recognize that there is a need and an urgency to change the way they work, and, second, they must believe that the proposed approach to meeting that need will be effective – that it will have the expected benefits and that it will work in their organization.

Findings: At the time of the ACA staff survey in the summer of 2003, awareness of wait time as a problem was higher than awareness of ACA as a potential solution. Averaged across the six target clinic areas:

- More than three-quarters of the staff surveyed believed that reducing wait times was very important (77% to 93% by target clinic area).
- Roughly half the staff surveyed believed ACA to be an effective strategy for reducing wait times (44% to 59% by target clinic area).
- At the same time, many staff did not recognize the term Advanced Clinic Access before reading the survey (23% to 55% first heard the term when they read the survey, by target clinic area).

Implications: While awareness of ACA and its benefits may have increased since last summer, there is likely to be a need for continuing efforts to educate staff, including clinicians, about ACA.

2. Implementation of ACA was well underway but varied across facilities and target clinic areas by the spring and summer of 2003.

Why important: Determining whether an innovative clinical practice is actually put into practice is a key step in assessing its effectiveness. Many innovative clinical practices have disappointing results, often not because the innovation design failed but because the innovation was never implemented. In this analysis of ACA, we used the presence of the 10 key change principles as the indicator of the extent to which ACA was implemented. We measured implementation from two perspectives, that of the facility POCs in the spring of 2003 and the clinic staff in the summer of 2003.

Findings: By the spring and summer of 2003, implementation of ACA was underway but varied across facilities and target clinic areas:

- Looking at each target clinic area, ACA was fully implemented in 90%-100% of the clinics in a substantial proportion of facilities (32% to 42%), according to POC reports. Full implementation in the other facilities ranged widely from 0-90% in all target clinic areas.
- Clinic staff reported that the 10 key change principles generally were moderately implemented but with substantial variation among target clinic areas. Staff in Audiology on average reported higher implementation than other clinic areas, with 39% of respondents rating implementation between 4 and 5 on a five-point scale with 5 being “to a great extent.” Staff in Orthopedics and Cardiology reported the lowest implementation with 39% and 46%, respectively, rating implementation below 2.5 with 3 being “moderate.”
- Across clinic areas, the key change principles most likely to be fully implemented were:
 - Understanding supply and demand;
 - Synchronizing patient, provider and information;
 - Optimizing rooms and equipment.

Implications: While we expect the levels of ACA implementation have risen since last summer given the expanding levels of ACA diffusion, we would not expect full implementation in all clinics in all clinic areas across VA. Periodic monitoring of the implementation of the 10 key changes, not only in the original six target clinics but in the additional clinics receiving attention in FY2004, would provide important information for targeting education and technical assistance to areas where implementation is lagging.

3. Four variables emerged as significant predictors of ACA implementation in three or more of the six target clinic areas:

- **Greater length of time doing ACA;**
- **Greater management support;**
- **Clinic staff review performance data;**
- **Clinic teams have the knowledge and skill needed to do their work well and make changes successfully.**

Why important: Identifying factors associated with successful implementation provides useful lessons for future diffusion of ACA and potentially for the diffusion of other innovative clinical practices.

Regression methods: To identify the factors most strongly affecting ACA implementation, we conducted a series of multiple regression analyses. Our first step was to run separate regressions within the three domains of the conceptual model that we expected to influence implementation: (1) implementation structure and activities, (2) staff awareness and capabilities, and (3) facility context. This was done separately for each of the six clinic areas. We then created a consolidated regression model for each clinic area by combining the variables from each domain that were identified as significant in step 1. The results of that consolidated regression analysis are shown in Exhibit B.

Findings: Three findings are noteworthy.

First, the models do well in predicting variation in ACA implementation, meaning that we have a fairly good understanding of the factors that make a difference in implementing ACA. As indicated by the adjusted R^2 values in Exhibit B, the proportion of variance accounted for by the factors, or variables, in

Exhibit B Factors Significantly Associated with Extent of ACA Implementation ▲ Positive association / ▼ Negative association						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
Implementation structure & activities						
• Time doing ACA				▲	▲	▲
• Management support for ACA	▲		▲		▲	
• Review of performance data		▲		▲		▲
• Local colleagues participate in access road show, consultations			▼			
• Availability of ACA resource materials					▲	▲
Staff awareness and operations						
• Team has needed knowledge and skills	▲		▲	▲	▲	
Facility context						
• Patients on waiting list	▲				▲	
• Exam rooms per clinician	▲					▲
• Use of consulting physicians		▲			▲	
Adjusted R²	35%	34%	22%	21%	42%	39%

the theoretical model ranged from 21% to 42%. This would generally be regarded as moderate to strong predictive power for the social sciences.

Second, no single set of variables emerged as significant predictors across all six target clinic areas. The profile of significant factors differed from clinic area to clinic area. All but one of the factors was positively related to ACA implementation, meaning that the greater the presence of that factor, the greater the degree of ACA implementation. The exception was in Cardiology where greater participation of local colleagues in access road shows was associated with less ACA implementation.

Third, despite this variation between clinic areas, four variables emerged as significant predictors of ACA implementation in three or more of the six clinic areas:

- *Greater length of time doing ACA*

The significant positive relationship between length of time doing ACA – measured in months since ACA was initiated in a clinic area in a facility -- and the extent of implementation in three specialty clinics reinforces the expectation that change takes time, especially in a complicated intervention such as ACA. At the same time, the lack of significance in Primary Care suggests that the relationship may only hold for a limited period, or at least that it is strongest in the early phases of implementation. ACA generally was introduced earlier in Primary Care than in specialty clinics. Within Primary Care, ACA began in 1999 or earlier in 43% of the facilities, whereas in other clinic areas this was true in only 8%-18% of the facilities. This suggests, then, that at a more mature stage of an intervention, such as achieved in Primary Care, additional time and experience in themselves do not contribute to substantially higher levels of implementation.

- *Greater management support for ACA*

Leadership support for an innovation is generally seen as an important ingredient in its success. In our analyses, we looked beyond the personal commitment and advocacy of leaders to examine the management structures and processes that were put into place to support ACA. To analyze management support, we created a summary score from POC responses to an interview question about which of the following management structures and activities had been used to encourage ACA at their facility:

- Local POC designated to coordinate and champion ACA;
- ACA measures integrated into facility performance measures and strategic plans;
- Managers regularly review and are held accountable for ACA performance measures;
- Facility operations and infrastructure improved to support ACA;
- Local ACA champions explicitly designated for clinic areas;
- Local financial resources used to support ACA directly;
- Facility has ACA oversight body.

Higher scores – indicating that more aspects of management support were present – were significantly associated with greater ACA implementation. The picture of effective management support for ACA that emerges from these data involves elevating the visibility of ACA, incorporating ACA in facility priorities, holding managers accountable for improvement-related performance, and targeting resources to remove obstacles to ACA implementation that are beyond the reach of the local departments.

- *Clinic staff review ACA performance data*

The significant relationship between review of performance data and ACA implementation is consistent with the literature showing the use of data and performance feedback to be effective strategies for changing clinical practice, especially among physicians. In the staff survey, we asked respondents to rate the helpfulness of a wide array of ACA educational and implementation strategies, including review of performance data, on a 5-point scale ranging from “not at all helpful” to “extremely helpful.”

In the regression analysis, review of performance data was the strategy that had the strongest association with ACA implementation across target clinic areas. This finding illustrates the quality improvement principle that in order to change a process or outcome, one must be able to measure it. In this instance, having trustworthy and timely wait time data – and providing the data to clinic teams providing care -- made it possible to assess the current level of the problem and to monitor the impact of improvement efforts.

- *Clinic teams have the knowledge and skill needed to do their work well and make changes successfully*

While staff opinions about an innovation will influence its implementation, as we argued earlier, awareness and conviction alone will not ensure success. The clinic team must also have the knowledge and skill needed to make changes and implement the new clinical practices. In our analyses, team knowledge and skill was a multi-item scale based on responses to eight items in the staff survey regarding the experience of clinic staff as they worked together to implement ACA. These items, which used a 5-point response scale ranging from “strongly disagree” to “strongly agree,” covered a variety of issues related to team learning and use of information:

- Our team learns from the efforts of others to implement ACA in our facility;
- Our team was able to easily adapt ACA ideas to match the needs of our clinic area;
- Our team effectively applies knowledge and skill to get our work done well;
- Our team has used performance data effectively to design and test changes;
- Our team gets all the information we need to do our work;
- Our team has identified measures that are tracked on a regular basis to assess our progress;
- After we have implemented a change, team members think about and learn from the results;
- This organization makes sure people have the skills and knowledge to work as a team.

Higher scores on this scale were significantly associated with greater ACA implementation. This suggests that teams with these characteristics are more likely to be effective in putting ACA into practice. The picture of the more effective team that emerges from these data is the one that seeks information, and is familiar with and utilizes some form of “plan-do-study-act” method of process improvement, although team members may not necessarily know it by that name. Measurement and data are very important to these improvement methods, and the team both makes effective use of available data (e.g., on wait time) and/or implements new measures as necessary to monitor the impact of process changes.

Implications: These findings about key factors in successful implementation of ACA offer important lessons for VA managers and clinical leaders who are striving to diffuse effective new clinical practices successfully, and to VISN leaders who are working to transform their VISNs into learning organizations that can efficiently implement evidence-based practices.

4. ACA was associated with improved patient access and satisfaction in some but not all areas:

- **Greater ACA implementation was significantly associated with shorter wait times in three clinic areas (Primary Care, Urology, Orthopedics).**
- **Shorter wait time was significantly associated with higher patient satisfaction in Primary Care on four measures (Ability to get care as soon as wanted (Qx3); visit coordination, courtesy and pharmacy service scales.**
- **In contrast, greater ACA implementation in Primary Care was directly associated with lower patient satisfaction on one measure (Specialty care).**

Why important: The guiding expectation behind the implementation of ACA is that it will improve patients’ access to care. It is expected that clinics with greater ACA implementation will be more likely to offer better access – with access measured by short wait times – than clinics that do not adopt ACA principles, and that in turn veterans would be more satisfied with access at the former facilities than the latter.

Moreover, ACA is an approach for clinic redesign that is intended to affect aspects of patient satisfaction in addition to or instead of the impact resulting from reductions in wait time. While we expect these other effects to be positive, we need to examine the relationships carefully to check for unintended negative consequences of ACA implementation.

Regression methods: To test these expectations, we conducted a series of multiple regression analyses of (1) the relationship between ACA implementation and wait time; (2) the relationship between wait time and patient satisfaction; and (3) the relationship between ACA implementation and patient satisfaction. In all analyses, we first controlled for potentially confounding facility context factors. The measures in these prediction models included:

Extent of ACA implementation was measured as a composite score for each target clinic area based on data from the POC reports in spring 2003 and the staff survey administered in summer 2003.

Wait time was defined as the average number of days to the next available appointment in March 2003, as reported by the VISN Service Support Center (VSSC), and was likewise available for each of the six target clinics. In the first set of analyses, where wait time was the outcome variable, we used it as a continuous variable. In the remaining analyses, where wait time was a predictor and the analyses only included Primary Care, we divided facilities in three groups based on average wait time for Primary Care: the 20 percent of facilities with the shortest average wait time, the 20 percent of facilities with the longest average wait time, and the remaining 60 percent in the middle of the wait time distribution.

Patient satisfaction was measured using data from the VA Survey of the Health Experiences of Patients (SHEP) – specifically, data for those survey respondents who had made a Primary Care visit during March 2003. We limited the patient satisfaction analysis to those respondents who had only made a Primary Care visit so as to minimize possible contamination of survey responses by experiences in other clinical areas. We conducted separate analyses for the item specifically addressing satisfaction with wait time (Qx3: “Were you able to get an appointment as soon as you wanted?”) and the nine routinely-computed multi-item scales: access, patient preferences, patient

education, emotional support, visit coordination, overall coordination, courtesy, pharmacy service, and specialty care.

Facility context was measured by six variables: four clinic logistics variables as reported by the POCs -- clinic area staff size, number of exam rooms per clinician, number of support staff per clinician, facility use of consulting physicians – and two demand variables drawn from VHA administrative databases – new patient inflow and number of patients on electronic wait lists. The particular context variables used in each regression model varied by the size of correlation between the variable and the dependent measure in that equation.

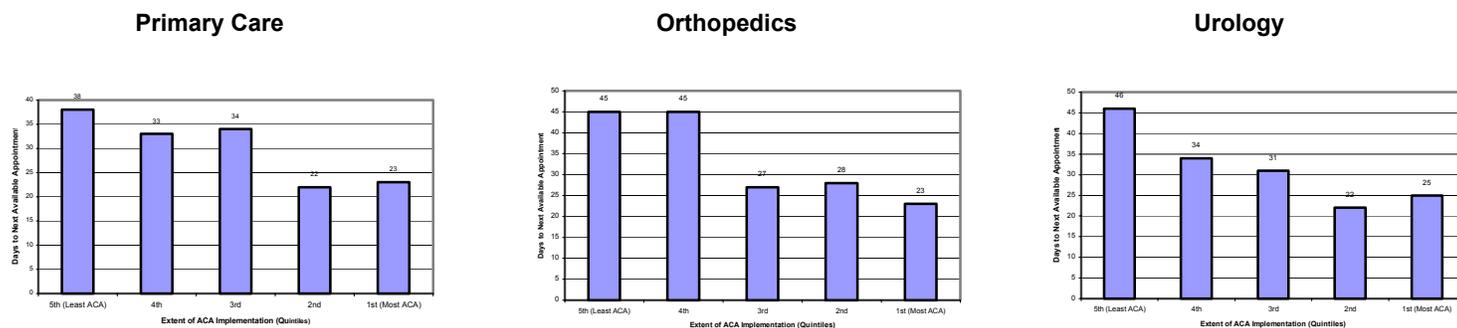
Findings: Our expectations that ACA would be associated with improved patient access and satisfaction were confirmed in some but not all areas. Looking at each set of associations in more detail:

- *ACA implementation and wait time*

The most direct effect expected of ACA, and the one most closely monitored by senior leaders in VA, was shorter wait time for a clinic appointment. After controlling for facility context variables, we found that greater implementation of ACA was significantly associated with shorter wait times in three clinic areas: Primary Care, where ACA accounted for 7% of the variation in wait time; Urology, where it accounted for 5% of the variation; and Orthopedics, where it accounted for 14% of the variation. Using social science standards for effect sizes -- where 2% of variance explained is considered small and 13% is considered medium -- the analyses for Primary Care and Urology indicate a modest effect of ACA, while those for Orthopedics indicate a stronger, moderate effect of ACA on wait time. Our analyses did not show a significant relationship yet between ACA and wait time in the other clinic areas.

The relationships between ACA and wait time for the three clinics with significant results are illustrated in Exhibit C. The graphs show for each clinic area the average wait time in five groups of facilities based on extent of ACA implementation. In each clinic area, those facilities with the least ACA implementation (shown in the far left bar) had higher average wait times than those facilities where ACA was more fully implemented (shown in the far right bar). In Urology, the relationship is gradual, or roughly linear. For Primary Care and Orthopedics, there appears to be an abrupt change, or a threshold, suggesting that ACA implementation needs to reach a point of critical mass before it has an effect on wait time. In Primary Care, the threshold was at the second quintile, where POCs on average rated full implementation of the 10 key changes at 78% or higher and staff rated implementation at 3 or higher (on a 5-point scale). In Orthopedics, the threshold was lower, at the third quintile, where POCs rated full implementation at 60% or higher and staff rated it at 2.5 or greater, suggesting that fewer elements of ACA had to be in place before it had an effect on wait time.

Exhibit C
Wait Time Stratified by Extent of ACA Implementation

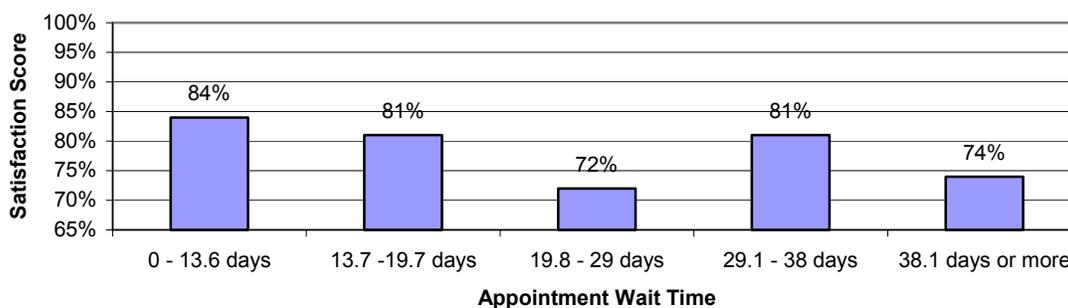


- *Clinic wait time and patient satisfaction*

Ultimately, we expect shorter wait time to lead to higher patient satisfaction with access and, potentially, with other aspects of their care. In analyzing this relationship in Primary Care, again after controlling for facility context variables, we found wait time significantly related to satisfaction in regression models for four satisfaction measures: ability to get care as soon as wanted (Qx3), and the visit coordination, courtesy and pharmacy service scales. The percent of variance accounted for by the facility context variables in these four models ranged from 5% (courtesy) to 11% (Qx3). The percent of remaining variance in patient satisfaction accounted for by appointment wait time ranged from about 6% (Qx3) to 11% (pharmacy service).

The significant relationship between wait time and Qx3 is illustrated in Exhibit D. The graph divides facilities into groups (quintiles) based on their average appointment wait time and reports the percent of veterans in each group who answered “yes” in response to Qx3. In general, there were more “yes” responses at facilities with shorter appointment wait times than there were at facilities with longer appointment wait times. In the shortest wait time group, where the average appointment wait was 13.6 days or less, 84 percent of veterans said that they had received their appointment as soon as they had wanted it. This compares to only 74 percent “yes” among those at facilities with the longest wait times (38.1 days or more).

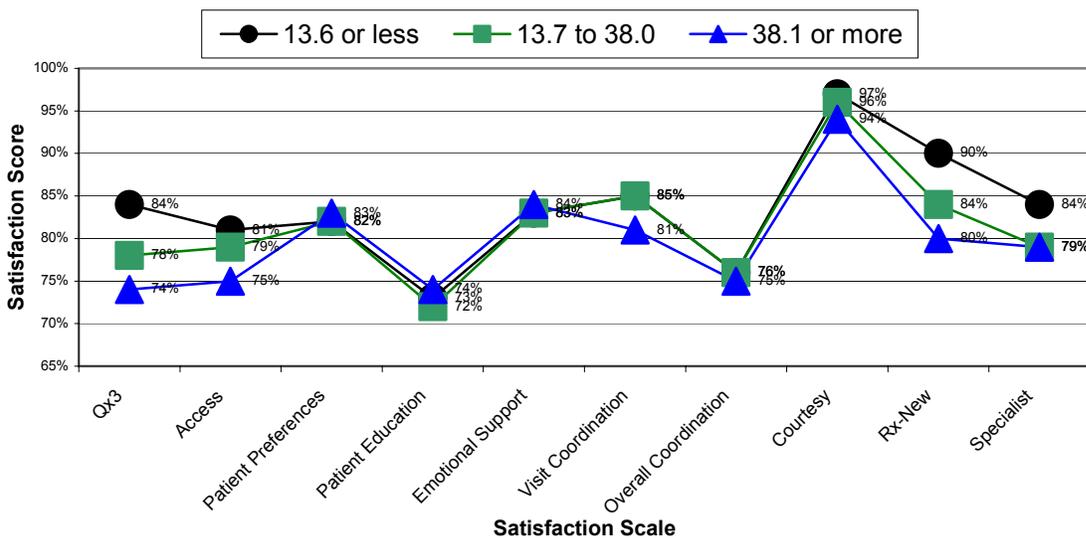
Exhibit D
"Were you able to get an appointment as soon as you wanted?"
Percent "Yes" Stratified by Appointment Wait Time



The relationship between wait time and Qx3 was not entirely linear, however. At facilities where the average appointment wait ranged between 29.1 and 38 days, 81 percent of veterans answered “yes” to Qx3 in comparison to only 72 percent in the middle wait group and 74 percent “yes” in the longest wait time group. No immediate reason for the relatively favorable attitude toward the relatively long wait times in this group of facilities was evident. We hypothesized that those facilities might have notably higher proportions of patients making return visits, where the longer time interval was desirable. However, that interpretation was not supported. Using data on patient self-reported reason for visit, our analyses showed that the number of people making return visits as opposed to acute care visits was roughly the same in each of the wait time groups.

The significant relationships between wait time and veterans’ satisfaction with ability to get an appointment (Qx3), visit coordination, courtesy and pharmacy service are illustrated in Exhibit E. This graph reports the satisfaction profile of veterans at three groups of facilities: those with short average Primary Care wait time (13.6 days or less, as indicated by circles), those with moderately long wait time (between 13.7 and 38.0 days, as indicated by squares), and those with the longest wait times (38.1 days or more, as indicated by triangles). Using the middle wait time group as a reference point, one can see that the satisfaction levels for visit coordination, courtesy and pharmacy service are either higher in the short wait time group, lower in the long wait time group, or both.

Exhibit E
Patient Satisfaction Scores Stratified by Appointment Wait Time



- *ACA and patient satisfaction*

To test the premise that ACA is an approach to clinic redesign that may affect aspects of patient satisfaction in addition to or instead of the impact resulting from reductions in wait time, we analyzed for each of the 10 patient satisfaction measures the percent of variance in satisfaction that was explained by ACA implementation in Primary Care after the effects of facility context *and* wait time were taken into account.

Only one regression model produced a significant result, that for specialty care. After controlling for facility context and wait time, ACA implementation added a significant 5.7% to the variance accounted for in specialty care satisfaction. However, the relationship was negative, indicating that greater ACA implementation was associated with lower satisfaction with specialty care. The specialty care satisfaction scale includes items on both access to specialty care and the quality of care.

One possible explanation for the negative relationship is the restricted sample used in this analysis. We limited the analysis to respondents who had only a Primary Care visit on the date referenced in the survey (as described on page vi). It may be that these respondents were healthier and less familiar with specialty care than other VA users. Another possible explanation is that veterans may believe that the use of referral guidelines, or service agreements, in ACA limits their access to specialists. Service agreements serve multiple ACA principles with regard to specialty care, including the reduction of demand and managing constraints through the appropriate use of scarce resources. These agreements often attempt to define more precisely the circumstances that warrant specialty care referral and thereby encourage Primary Care physicians to assume responsibility for more of their patients' care. The reciprocal issue of graduating patients from specialty care back to Primary Care is also often explicitly addressed by the agreements. The introduction and/or more consistent application of such referral guidelines might be perceived by veterans as a limitation of access to specialty care, and this could manifest itself as lower satisfaction scores on the specialty care section of the SHEP survey.

Implications: Analyses of the relationships between ACA implementation, wait time and veterans' satisfaction as of March 2003 showed significant results in some areas but not others. The finding that greater implementation of ACA in Primary Care, Orthopedics and Urology is associated with shorter wait times confirms the expectation that use of ACA principles can contribute to the reduction of appointment wait time. Our analyses did not show significant relationships between ACA and wait time in the other clinic areas, perhaps because their work on ACA was still fairly new at the time analyzed. These relationships should continue to be tracked.

In addition, the threshold in the relationship between implementation and wait time in Primary Care and Orthopedics indicates that, at least in some clinic areas, ACA implementation had to reach a critical mass before it affected wait times substantially. This suggests that it is not enough to introduce one or two key changes by themselves, but that the value of ACA comes from the clinic redesign associated with the implementation of a larger set of the 10 key changes.

As hypothesized, shorter wait times in Primary Care were significantly related to patients' higher satisfaction with their ability to get an appointment when wanted (Qx3). One unexpected finding that deserves further exploration was high satisfaction in facilities with average wait times in the middle of the range (between 29.1 and 38 days). The finding that shorter wait time was also significantly related to veterans' satisfaction with coordination of care, courtesy and pharmacy service provides preliminary evidence that ACA is having an impact on clinic redesign beyond reduction in wait time.

In exploring the possibility of a direct impact of ACA on aspects of care other than wait time, we found only one significant factor, satisfaction with specialty care. In this case the relationship was negative indicating that greater ACA implementation was associated with lower satisfaction with specialty care. The finding may simply reflect the unique characteristics of the subsample used in this analysis. Alternatively, it may signal an unintended consequence of service agreements: that the greater control over access to specialty care brought about through the use of service agreements may be experienced as a restriction by veterans and could lead to lower satisfaction with that aspect of their care. This interpretation is speculative, but the relationship warrants further investigation.

THE IMPLEMENTATION AND EFFECTIVENESS OF ADVANCED CLINIC ACCESS

1. INTRODUCTION

In January 2000, the Department of Veterans Affairs began an initiative to spread Advanced Clinic Access across its health care system in order to improve veterans' access to care. Advanced Clinic Access (ACA) is a set of principles for organizing clinics to maximize patient access to care. Some VA medical centers have been working to put ACA into practice for some time while others are just getting started or using other strategies.

An important component of this initiative is a comprehensive evaluation of Advanced Clinic Access (ACA) in VA. Committed to learning from new initiatives, the national ACA leaders contracted with the HSR&D Management Decision and Research Center (MDRC) to conduct a formal evaluation of the implementation and effectiveness of ACA. Building on the naturally occurring variation of clinic wait times at VA medical centers, the MDRC studied ACA in a sample of 78 medical centers selected to represent high, medium and low success in meeting wait time goals in six target performance clinic areas in July 2002. The six target performance clinic areas were Primary Care, Audiology, Cardiology, Eye Care, Orthopedics and Urology.

The evaluation addresses five questions:

- What approaches were used to promote and support the implementation of ACA (that is, the extent to which ACA was put into practice) in the six target performance clinic areas?
- What other factors may have affected the implementation of ACA?
- To what extent were the 10 key change principles of ACA implemented?
- What factors were associated with ACA implementation?
- To what extent was ACA implementation associated with short clinic wait times and higher patient satisfaction in the performance clinic areas?

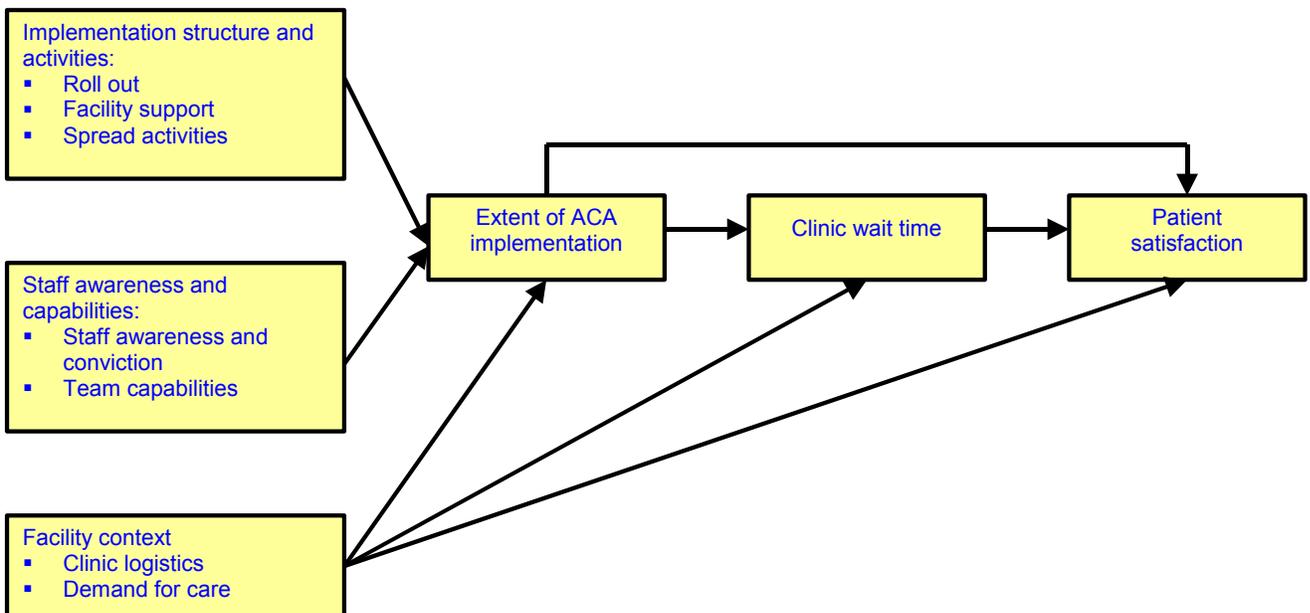
1.1 Conceptual Model

The conceptual model for the evaluation is presented in Exhibit 1 on page 2. Painting first with a broad brush, we expected that the organizational structure and activities used to introduce and spread, or implement, ACA will influence the extent to which ACA is implemented in a clinic area or across a medical center, as measured by the use of the 10 key change principles. However, these implementation structures and activities will not be the only determinants of ACA implementation. The facility context and the awareness and capabilities of individuals responsible for implementing ACA will also influence ACA implementation. The implementation of ACA in turn will affect veteran access to care, as reflected in shorter clinic wait time and patient satisfaction. The implementation of ACA will not be the only determinant of wait time and higher patient satisfaction. The facility context and other strategies to improve access will also affect these measures.

Looking in more detail at each domain and its relationships with the others:

- **Implementation structure and activities:** VA medical centers and the target performance clinics within them are using a variety of approaches to introduce, spread and support the implementation of ACA. These approaches include structures and activities that can be grouped under three headings: 1) strategies for rolling out ACA, (that is, the location, scope and timing of the introduction of ACA in different parts of the medical center); 2) the support the facility offers ACA (in terms of management support, efforts of local ACA points of contact (POCs) and ACA champions, and presence of resisters to ACA); and 3) the ACA spread activities initiated at the local, VISN and national levels (to train staff, provide resources and support information exchange and performance feedback). This study was an exploratory analysis of which approaches have the strongest relationships with a high level of ACA implementation.

Exhibit 1
The Implementation and Effectiveness of Advanced Clinic Access:
Evaluation Model



- **Staff awareness and capabilities:** The implementation of new clinical practices will also be affected by the clinicians and other staff responsible for implementing them. Consistent with literature on organizational change, we expected that staff awareness and conviction, as measured by recognition that clinic wait times are a problem and belief that ACA offers an effective solution, will facilitate ACA implementation. But awareness and conviction alone will not ensure success in adopting new clinical practices. We also expected that the capabilities a clinical team has, or the way it operates as measured by its knowledge and skills and its functioning, will affect ACA implementation.
- **Facility context:** The implementation of innovative practices does not occur in a vacuum, but is strongly influenced by the organizational context in which the innovation is introduced. We expected that the characteristics of the medical centers and their clinics (such as their size and complexity) will affect all aspects of ACA, from the implementation structure and strategies used to the extent of ACA implementation to the clinic wait times. Two dimensions of context variables are included in the evaluation: 1) clinic logistics, as measured by size of clinic, number of exam rooms per physician, number of support staff per physician and use of consulting physicians; and 2) demand for care, as measured by patients on wait lists and volume of new patients.
- **Extent of ACA implementation:** Determining whether clinics have implemented ACA (that is, whether they are actually using Advanced Clinic Access) is the key intermediate goal of this initiative because the clinical design and practices associated with ACA are expected to improve veterans' access to care. ACA implementation is defined for the evaluation in terms of the use of the 10 key change principles, as reported by local ACA POCs and as rated by staff in their clinic area.
- **Clinic wait time:** The guiding expectation for the implementation of ACA in VA is that it will improve veterans' access to care. We expected that clinics that more fully implement ACA will be more likely to offer good access than clinics that do not adopt ACA principles. Therefore, we examined the relationship between ACA implementation and access, as measured, first, by clinic wait time (defined as next available appointment) in the six target performance clinic areas.

- **Patient satisfaction:** The second indicator of access is veterans' satisfaction with their care. We expected two relationships between ACA and veterans' satisfaction. The first is indirect: we expected that clinics with shorter wait times will be associated with higher satisfaction, especially on the access scales. The second is direct: because ACA is an approach for clinic redesign that reaches beyond wait times, we expected that clinics that have more fully implemented ACA will have more satisfied patients on scales in addition to access.

1.2 Methods

The evaluation was designed as an observational study of a sample of 78 VA medical centers selected to represent high, medium and low success in meeting wait time goals in the six target performance clinic areas in July 2002. The evaluation analyses are based on data from five sources:

- Structured telephone interviews with local ACA POCs in 76 of the 78 sample medical centers; the interviews were conducted between January and April 2003;
- Reports of the implementation of the ACA 10 key change principles provided by the local POCs for 74 of the sample medical centers; the reports were submitted between February and May 2003;
- A mailed survey of staff, completed by 3870 respondents (42% response rate) in the 78 study medical centers during July and August 2003;
- VA administrative databases through the VISN Support Service Center (VSSC) for clinic wait times, number of encounters, number of patients on wait lists, number of new patients;
- Outpatient patient satisfaction database from the Performance Analysis Center for Excellence (PACE).

Appendix A describes the evaluation methodology in more detail, Appendix B lists the study sites and Appendices C-E provides copies of the POC interview protocol, 10 key changes implementation report and the staff survey instrument.

1.3 Report Overview

The remainder of the report is divided into seven sections:

Section 2 describes the ACA initiative to provide context for the evaluation analyses.

Sections 3 through 7 are organized around the five study questions and the evaluation's conceptual model:

- Section 3: What approaches were used to promote and support the implementation of ACA in the six target performance clinic areas?
- Section 4: What other factors—in terms of facility context and staff awareness and capabilities – may have affected the implementation of ACA?
- Section 5: To what extent were the 10 key change principles of ACA implemented?
- Section 6: What factors were associated with ACA implementation?
- Section 7: To what extent was ACA implementation associated with short clinic wait times and higher patient satisfaction?

Section 8 draws conclusions from the study and summarizes lessons learned.

2. THE ACA INITIATIVE

ACA is a set of principles for organizing and managing clinics so that veterans have access to the medical care they need, when and where they want it. ACA is defined in terms of 10 key change principles:

1. *Work down the backlog* (for example, by adding extra overbook slots to schedules, extending clinic hours, adding clinic sessions, reviewing wait list to see if medical needs could be met by phone call or other means)
2. *Reduce demand* (for example, by extending reappointment intervals, creating alternatives to face-to-face visits, and using referral guidelines)
3. *Understand supply and demand* (for example, by knowing how many appointment slots a clinic has, knowing what the provider panel size cap is, knowing how many patients come in, call in, or are scheduled each day for the clinic)
4. *Reduce appointment types* (for example, by reducing the number of separate clinic profiles, standardizing the length of appointments)
5. *Plan for contingencies* (for example, by anticipating and planning for situations like provider leaves and the annual flu vaccination season)
6. *Manage the constraint* (for example, by figuring out where the “logjams” occur in the patient care process and figuring out actions to deal with them)
7. *Optimize the care team* (for example, by using standard protocols, matching patient needs to skills of appropriate team members, not necessarily always a physician)
8. *Synchronize patient, provider and information* (for example, by starting clinic on time, checking charts for completeness, accuracy and presence at appointment)
9. *Predict and anticipate patient needs at the time of the appointment* (for example, by using regular clinic team “huddles” to communicate and deal with possible situations that may arise, using clinical reminders to get as much done in each visit as possible)
10. *Optimize rooms and equipment* (for example, by having the same supplies available in each exam room, making sure supplies are continuously stocked, using “open” rooming).

Six clinical areas were chosen nationally for the initial focus of ACA implementation: Audiology, Cardiology, Eye Care, Primary Care, Orthopedics and Urology. More recently, other specialty areas such as Mental Health and Gastroenterology have been working with ACA. The primary goals of ACA in VA were to reduce wait times and improve patient satisfaction.

VA’s work on Advanced Clinic Access formally began in 1999 with a partnership with the Institute for Healthcare Improvement (IHI) for a VA Breakthrough Series Collaborative on Reducing Delays and Wait Times. One hundred forty four VA medical centers participated in the collaborative, each sending one or two teams. The collaborative was judged a success based on the number of teams meeting their goals. However, the waits and delays principles learned in the collaborative often were not sustained and generally did not diffuse beyond the participating teams. Recognizing these limitations, VA and IHI partnered in 2000 on a second initiative to spread the waits and delays principles, now called Advanced Clinic Access, to clinics across the VA health care system.

IHI designed and VA applied a strategy for the spread of advanced access principles. The spread model had four elements:

- Organizational infrastructure: leadership commitment and support, a staging plan or strategy to reach all new sites, technical support to ensure that providers have the knowledge and tools they need to make the change, a measurement system that monitors progress and provides feedback to providers about progress, and a knowledge management system to document information, progress, issues and questions as they arise;
- Information: information about ACA, making the case for ACA and transition materials;

- Communication: communication for spreading awareness, communication for spreading technical information, and identification of key messengers; and
- Social system: the unit of spread, i.e. those who are adopting the new system, communities of practice, listeners and connectors, and motivators and incentives.

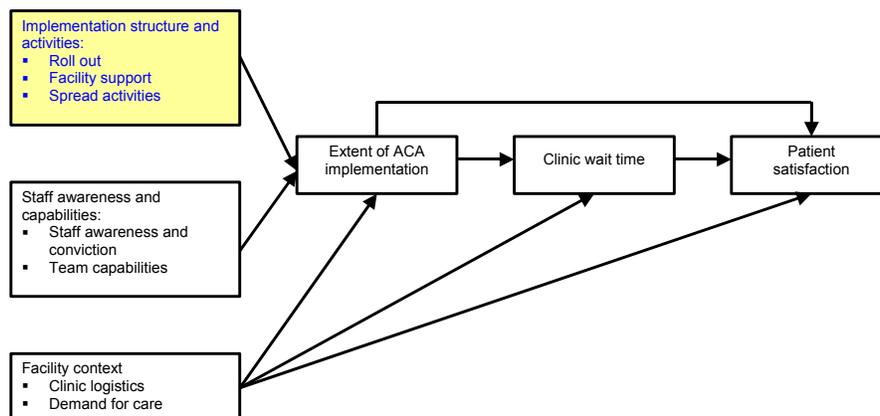
VA worked with IHI for two years to implement the spread model. An important emphasis, as described above, was to build the organizational infrastructure that would provide the basis for continuing spread after the IHI contract ended. Key elements of the infrastructure as implemented included:

- A national leadership team including a full-time clinical director;
- A national steering committee, including senior managers and clinicians from VA Central Office, VISNs and medical centers;
- A person designated to lead ACA in every VISN and medical center (called points of contact or POCs), and
- A network of clinical access coaches in Primary Care and five specialties to provide peer networks of advocacy and support.

The infrastructure supported a wide range of communication, information, monitoring, training and collaboration to clinical staff in VA medical centers.

The ACA initiative was introduced in an environment of growing demand for VA care and, in many areas, long wait times for clinic appointments. Reducing wait times was a high and visible priority for VA. For many ACA offered a solution. During the time ACA was being spread across VA, the demand for VA care grew by 23% while staff resources grew by only 2.3%. However, the number of new enrollees waiting for their first appointment fell substantially from over 175,000 in July 2002 to just over 5,565 in March 2004.

3. WHAT APPROACHES WERE USED TO PROMOTE AND SUPPORT THE IMPLEMENTATION OF ACA?



Implementation strategies and activities are the means by which an innovation is actually introduced and put into place. VA medical centers and the target performance clinics within them used a variety of approaches to introduce, spread and support the implementation of ACA. In this section, we describe these approaches grouped under three headings: 1) strategies for rolling out ACA (that is, the location, scope and timing of the introduction of ACA in different parts of the medical center); 2) the support the facility offers ACA (in terms of management support, efforts of local ACA POCs and ACA champions, and presence of resisters to ACA); and 3) the ACA spread activities initiated at the local, VISN and national level (to train staff, provide resources and support information exchange and performance feedback). We expect that some approaches will be more successful than others in leading to a high level of ACA implementation. Where data are available, we examine approaches by performance clinic area because they were often organized within clinic areas rather than across the medical center.

3.1 ACA Roll Out Activities

The literature on organizational change offers competing hypotheses about the best strategies for introducing change to an organization. By some theories, incremental change is better because it starts small and provides experience, learning from first trials before moving on to the next. By other theories, revolutionary change – major change done quickly across the organization -- is desirable because it unfreezes the organization to allow for bigger changes than incremental change. It also minimizes the disruption of major change by getting it over quickly.

In this section, we look at how ACA was rolled out in VA -- the patterns, timing and scope of initial implementation of ACA. A majority of sites implemented ACA incrementally but with differences in the details of the roll out.

All results are based on interviews with the facility POCs. We look both at the facility level and at the clinic level to see if different specialties follow different patterns.

3.1.1 Patterns of implementation

Almost all sites implemented ACA at different times in different clinic areas, as shown in Exhibit 2. Only 7% of the sample facilities implemented ACA in all clinic areas at the same time. The patterns of staged implementation vary, however, with the most common being clustered implementation, meaning that clinic areas started over a period of time with several clinic areas starting together at a given time. Note that in 19% of the facilities, not all clinic areas had initiated ACA at the time of the interviews.

Most facilities report that ACA began in Primary Care, either in Primary Care only (51%) or in Primary Care and specialty clinics simultaneously (24%), as shown in Exhibit 2. This is not surprising since most of the teams that participated in the initial IHI VA collaborative on advanced access were from Primary Care clinics, and in the private sector, ACA has been used most often in Primary Care. In contrast with

this usual pattern, one-quarter (25%) of the facilities started ACA only in specialty clinics. Exhibit 3 provides the details of the proportion of each specialty clinic area that was first to start ACA in its facility.

Exhibit 2 ACA Roll Out: Patterns of Implementation (Percent of Facilities) Source: POC Interviews	
Spread patterns	
All clinic areas start at once	7%
Cluster implementation: Clinic areas start over a period of time, with several clinic areas starting together at any given time	58%
Sequential implementation: Clinic areas start in sequence, usually one at a time.	15%
Unfinished implementation: ACA not yet introduced in some clinic areas.	19%
Where ACA implementation started	
Primary Care only	51%
Specialty Care only	25%
Both Primary and Specialty Care	24%

Exhibit 3 ACA Roll Out: Patterns of Clinic Implementation (Percent of Facilities) Source: POC Interviews						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
ACA started in this clinic area first						
Yes	75%	19%	17%	20%	20%	13%
No	25%	81%	83%	80%	80%	87%

3.1.2 Timing of implementation

Roughly half the facilities (54%) began implementing ACA in 1999, the year VA and IHI began working together on the Breakthrough Collaborative Series to reduce wait times, as shown in Exhibit 4. During the next two years, another 32% of facilities began to implement ACA. A smaller percentage of facilities (13%) reported starting implementation efforts recently, in 2002 or 2003.

Many facilities moved fairly quickly to begin to spread ACA to other clinic areas. As shown in Exhibit 4, approximately half of the facilities (51%) began implementing ACA in the next clinic area or areas within six months of the first clinic area(s) initial ACA efforts. In a few facilities (8%), more than two years went by before ACA was initiated in a second clinic area(s). Reaching all clinic areas clearly takes more time. Just under a quarter of facilities (23%) started ACA in all clinic areas within 6 months of the first, while over a third (38%) took more than two years (including those that have not yet begun ACA in all clinic areas), also as shown in Exhibit 4. Potentially, there is a trade off between going slowly while learning from the experience of early clinics and moving fairly quickly to maintain momentum for change.

Among clinic areas, Exhibit 5 shows that Primary Care was more likely than the specialty clinic areas to begin implementing ACA in 1999 or earlier (43% versus 8-18%), consistent with their predominance in the original IHI collaborative. In the specialty clinic areas, most facilities began implementing ACA between 2000 and 2002.

Primary Care was also more likely than the specialty areas other than Urology to follow the first clinic fairly quickly in implementing ACA, as shown in Exhibit 5. In 35% of the facilities, ACA was initiated in Primary Care within 6 months of the first clinic area, when it was not itself the first clinic area; in another 25%, it was initiated in 7-12 months. Unlike Primary Care, Urology was the least likely clinic area to be the first to initiate ACA. However, it followed the first clinic area more quickly than the other specialty areas. ACA was initiated in Urology within 6 months of the initial clinic in almost a quarter of the facilities (24%) and in 7-12 months in almost a third (31%).

Exhibit 4	
ACA Roll Out: Timing of Implementation (Percent of Facilities)	
Source: POC Interviews	
Year first clinic area started ACA	
Before 1999	1%
1999	54%
2000	12%
2001	20%
2002	9%
2003	4%
Time until next clinic area started ACA	
0 - 6 months	51%
7 - 12 months	25%
1 - 2 years	16%
More than 2 years	8%
Time until last clinic area started ACA	
0 - 6 months	23%
7 - 12 months	18%
1 - 2 years	21%
More than 2 years	38%

Exhibit 5						
ACA Roll Out: Timing of Clinic Implementation (Percent of Facilities)						
Source: POC Interviews						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
Year this clinic area started ACA						
Before 1999	1%	0%	0%	0%	0%	0%
1999	42%	8%	10%	12%	18%	11%
2000	18%	20%	26%	29%	16%	20%
2001	22%	40%	28%	26%	26%	33%
2002	14%	28%	28%	30%	31%	28%
2003	4%	3%	9%	3%	9%	8%
If not first, time between start of first clinic area and start of this clinic area						
0 - 6 months	35%	24%	22%	30%	28%	24%
7 - 12 months	25%	25%	31%	30%	26%	31%
1 - 2 years	30%	20%	25%	18%	21%	25%
More than 2 years	10%	31%	22%	23%	26%	20%

3.1.3 Scope of implementation

Within clinic areas, implementation can begin cautiously with a few teams within clinic areas (e.g. red team, blue team, etc.) or it can begin aggressively with the whole area. Most facilities did not follow a single approach in beginning ACA across clinic areas, as shown in Exhibit 6. Just over half the facilities (58%) began with teams in some clinic areas and with the full clinic in others. However, in almost a third of the cases (32%), ACA efforts were initiated in the whole clinic area.

Primary Care was much more likely than the specialty clinics to begin ACA with a team rather than the full clinic area, as shown in Exhibit 7. Primary Care had the lowest rate (44%) of having the entire clinic area start ACA. In contrast, a high percentage of specialty areas began with the whole clinic area, ranging from 68% in Orthopedics to 75% in Cardiology. The differences most likely reflect differences in the size and organizational complexity of Primary Care and specialty clinics.

Looking at the same issue from a different perspective shows similar results. A smaller percentage of staff were involved in the initial ACA implementation in Primary Care than in specialty care. An average of 53% of Primary Care staff were involved, in contrast with 86-92% of staff in the specialty clinic areas, as shown in Exhibit 7.

Exhibit 6	
ACA Roll Out: Scope of Initial Implementation (Percent of Facilities)	
Source: POC Interviews	
ACA began with clinic areas or teams	
All clinic areas start with entire clinic area	32%
All clinic areas start with teams	10%
Mixture of starting with entire clinic areas and teams	58%

Exhibit 7						
ACA Roll Out: Scope of Clinic Implementation (Percent of Facilities)						
Source: POC Interview						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
ACA started in entire clinic area or one team						
Percent start entire clinic area	44%	74%	75%	69%	68%	71%
Percent start specific team	55%	15%	15%	24%	23%	23%
Percent not started	1%	10%	10%	7%	9%	6%
Staff involved in ACA initial implementation						
Percent of staff	53%	92%	92%	87%	86%	91%

3.2 Facility Support For ACA

A second dimension of the implementation structure and activities domain is support for the innovation in the facility. Organizational change is generally not easy. Staff at all levels, anxious about the uncertainty that accompanies change, often resist it initially. But resistance can be minimized and change facilitated in a supportive organizational environment. In this section, we look at three factors that we expect to contribute to support for ACA. First, the presence of champions for this change, especially champions among senior managers and clinicians, is important in promoting the innovation. Conversely, the presence of strong and influential resisters to this change impedes innovation. Second, beyond advocacy by influential individuals, active management support for the innovation is important. Management structures and processes are needed to ensure that the innovation receives the resources it needs, is given priority attention by senior management and is held accountable for performance. Third, leadership support to clinical staff, both generally around quality improvement and around this innovation, is important in contributing to a supportive environment in which staff are informed, encouraged and rewarded for improvement.

In this section, we present our findings for these three factors. Virtually all facilities have champions for ACA, but almost half have resisters too. Most facilities provide at least some management support, but the types of support vary. Perceptions of management support to clinic staff vary by clinic area.

Findings on champions and resisters and on management support for ACA are based on the POC interviews and are reported at the facility level. Findings on leadership support to clinic staff are based on staff surveys and reported at the level of the clinic area. Leadership support to clinic staff is presented as a scale score created statistically from 8 separate survey items.

3.2.1 ACA champions and resisters

Virtually all facilities (96%) reported that they had champions for ACA at their facility, as shown in Exhibit 8. Most facilities (61%) reported at least two different types of personnel as champions. Champions were most likely to be Service Chiefs (65%) followed by front-line physicians (46%), other front-line providers (39%) and the Chief of Staff (38%). Facility directors were less frequently listed as ACA champions (15%).

The most commonly-cited ways in which the champions demonstrated support were promoting ACA to other facility staff (92%), promoting ACA to senior leaders and middle managers (88%) and leading by example by implementing ACA themselves (86%).

There was more variation reported on the presence of resisters to ACA, as shown in Exhibit 9. Just under half the facilities (49%) reported having resisters to ACA. Of those facilities with strong resisters, a majority of facilities (81%) reported that the resisters were opinion leaders.

Exhibit 8 Facility Support for ACA: Champions (Percent of Facilities) Source: POC Interviews	
Presence of ACA champions	
Yes	96%
No	4%
Type of champion	
Service or service line chief	65%
Front-line physicians	46%
Administrative personnel	42%
Other front-line providers	39%
Chief of Staff	38%
Facility POC	29%
Nurse Executive	16%
Facility Director	15%
Ways of demonstrating support	
Promote ACA to other facility staff	92%
Promote ACA to senior leadership and middle management	88%
Lead by example by implementing ACA themselves	86%
Provide training or expert consultation for other clinic areas in the facility	75%
Participate in IHI access coach calls and meetings	66%

Exhibit 9 Facility Support for ACA: Resisters (Percent of Facilities) Source: POC Interviews	
Presence of ACA resisters	
Yes	49%
No	51%
Of resisters, they are opinion leaders	
Yes	81%
No	19%

3.2.2 Management support for ACA

The substantial majority of facilities had in place a range of management structures and activities to support ACA, as shown in Exhibit 10. Eighty-nine percent reported using at least half, and 45% reported using all, of the following structures or activities:

- Local POC designated to coordinate and champion ACA;
- ACA measures integrated into facility performance measures and strategic plans;
- Managers regularly review and held accountable for ACA performance measures;
- Facility operations and infrastructure improved to support ACA;
- Local ACA champions explicitly designated for clinic areas;
- Local financial resources used to support ACA directly;
- Facility has ACA oversight body.

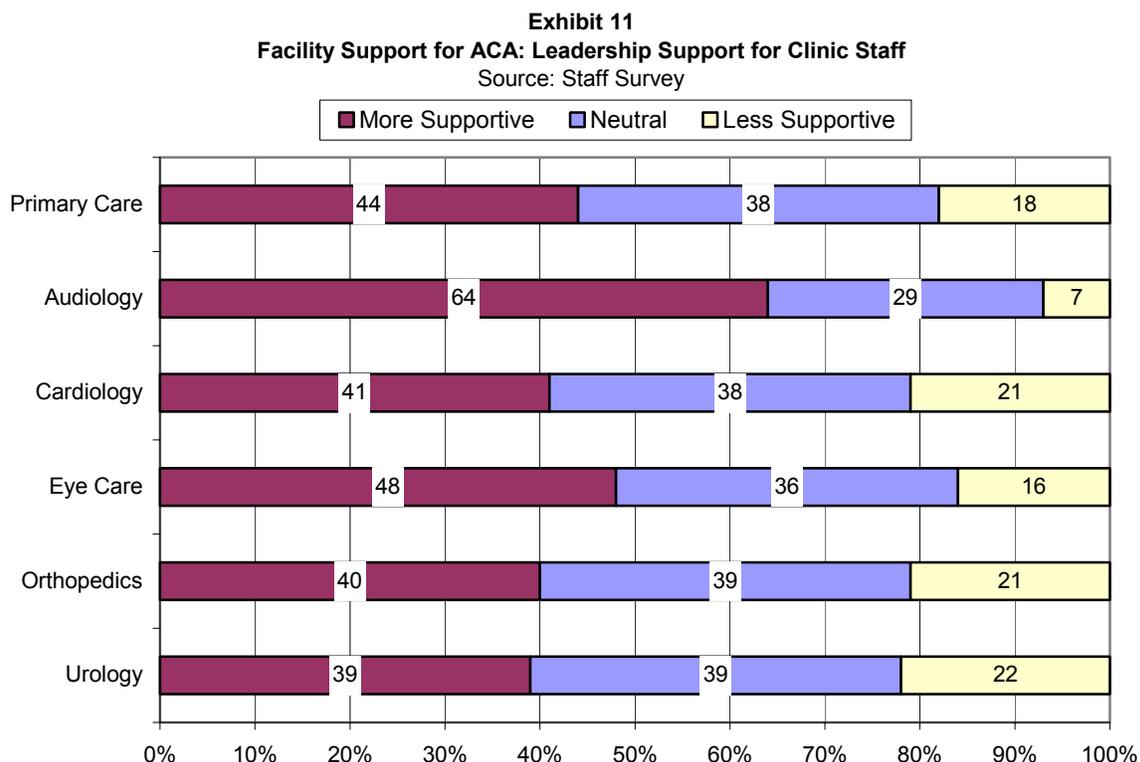
The structures and activities most likely to be reported were local POCs designated to support ACA (97% of facilities) and ACA-specific measures integrated into the facility's performance measures and strategic plans (92%). The structures and activities least likely to be used were clinical staff making ACA presentations at managerial meetings (63%) and having an ACA oversight body (68%).

The time spent by local POCs on ACA represents another level of investment in ACA at the facility. All POCs work on their ACA liaison and advocacy activities as collateral responsibilities, but they vary in the number of hours spent on them each week. As shown in Exhibit 10, 46% spend 1-5 hours a week while 32% spend more than 10 hours.

Exhibit 10	
Facility Support for ACA: Management Support and POC Effort (Percent of Facilities)	
Source: POC Interviews	
Management support	
Local POC designated to coordinate and champion ACA	97%
ACA measures integrated into facility performance measures and strategic plans	92%
Managers regularly review and held accountable for ACA performance measures	89%
Facility operations and infrastructure improved to support ACA	87%
Local ACA champions explicitly designated for clinic areas	82%
Local financial resources used to support ACA directly	82%
Facility has ACA oversight body	68%
Clinical staff make ACA presentations at managerial meetings	63%
Local POC time spent on ACA (per week)	
1 - 5 hours	46%
6 - 10 hours	22%
More than 10 hours	32%

3.2.3 Leadership support for clinic staff

Staff perceptions of leadership support to their efforts in implementing ACA, reducing wait times and making changes varied somewhat by the performance clinic area, as shown in Exhibit 11.¹ Audiology staff tended to see greater support, with almost two-thirds (64%) agreeing with positive statements about management support. In the other five performance clinic areas, less than 50% of staff agreed with positive statements about management support.



3.3 ACA Spread Activities

The third dimension of the implementation structure and activities domain encompasses the activities undertaken to spread ACA across the system. To encourage and support the diffusion of the ACA principles, the ACA initiative built an extensive infrastructure under the leadership of a national steering committee and a full-time national clinical director. In the field, the infrastructure includes a network of people designated to lead ACA in every VISN and most medical centers (called points of contact or POCs) and a network of clinical access coaches to catalyze peer networks of advocacy and support. The infrastructure, based on a spread model emphasizing information, communication and social networks, supports a growing network of training, information exchange, coaching and collaboration among clinical staff in VA medical centers.

In this section we look at spread activities at the facility level from three perspectives: 1) local POC accounts of what spread activities were undertaken or offered; 2) staff accounts of the activities in which they participated – to give a sense of how broad staff involvement was for each activity; and 3) staff reports of which activities they found the most useful. The data show that there has been considerable activity to spread ACA, that clinic areas use different strategies and that local strategies are more likely than national and VISN activities to have been used and judged by staff to be helpful.

¹ The eight-item scale to assess this construct included items relating to facility management (e.g. Senior management at this facility gives high priority to reducing appointment wait time) and clinic management (e.g. The leadership of my clinic area regularly reviews our progress in making change).

Note that the lists of activities in the POC analysis and staff survey analyses are not identical. A few items were modified to reflect differences in the roles and perspectives of the POCs and front-line staff. Cells in the exhibits are highlighted to indicate more frequently-cited strategies, with the darker blue indicating the highest frequencies. The shading here does not reflect any statistical tests of significant differences. Statistical tests of the strategies most closely related to ACA implementation will be reported in section 6.

3.3.1 POC reports of spread activities used

Spread activities were more likely to be targeted to specific clinic areas than conducted across all areas in a facility, as shown in Exhibit 12. The table presents the proportion of facilities reporting each activity in each clinic area, or, in the last column, targeted to all of the clinic areas across the facility. The lower proportions in the last column indicate that activities were more often targeted to selected clinic areas. Primary Care clinics were somewhat more likely than specialty clinics to participate in all but one of the activities. The exception is training of scheduling clerks, where only 67% of facilities reported it in Primary Care in contrast with 82% to 87% of the facilities in the specialty clinic areas.

Looking at other strategies and activities in the six clinic areas, the most frequently used were:

- Regularly assess progress and success of ACA strategies (96%-76%);
- Participate in ACA peer exchanges with other facilities in the VISN (95%-71%);
- Regularly discuss ACA in clinic meetings (95%-68%);
- National ACA website available (93%-88%);
- Reports on wait time and access presented regularly to clinic staff (93%-85%);
- Local access coaches work with clinic staff trying to implement ACA (91%-72%).

These frequently-used strategies and activities tend to be locally focused. Only two are direct VISN (peer exchanges) or national (website) activities. However, the national and VISN ACA infrastructure supports and facilitates the local activities.

The least-frequently reported activities were:

- Offer incentives and rewards for reducing wait times (36%-25%);
- Send our expert coaches to other facilities (30%-15%);
- Participate in original IHI collaborative (excluding primary care, 27%-17%).

Exhibit 12							
Spread Activities (Percent of Facilities Reporting Usage of Spread Activity)							
Source: POC Interviews							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Across all clinic areas*
Local training, feedback, information exchange and resources							
Assess progress regularly	96%	85%	88%	76%	83%	85%	68%
Reports presented to staff	93%	86%	88%	86%	85%	85%	66%
Training of scheduling clerks	67%	82%	87%	86%	83%	84%	66%
Use Hot Spot reports	83%	72%	77%	78%	78%	74%	64%
Share success stories across clinics	84%	77%	80%	81%	75%	79%	62%
Local access coaches work with staff	91%	72%	82%	76%	78%	78%	60%
Clinic meeting discussions	95%	77%	77%	75%	68%	68%	57%
Staff freed from regular duties for ACA	84%	68%	72%	72%	67%	69%	53%
Communities of practice formed	78%	66%	65%	61%	65%	63%	49%
ACA information widely communicated	82%	68%	67%	54%	60%	60%	49%
Written implementation plan	62%	45%	47%	44%	40%	40%	31%
Incentives and rewards offered	36%	31%	27%	29%	27%	25%	21%
National training							
National ACA website	93%	88%	93%	92%	90%	91%	75%
National clinical program guidance	89%	72%	72%	72%	67%	71%	53%
VHA training programs	87%	60%	58%	60%	60%	54%	43%
VA access expert meetings	79%	54%	50%	53%	50%	47%	39%
IHI Video Time Has Come	55%	35%	32%	36%	28%	29%	23%
IHI Mark Murray Technical Video	43%	26%	25%	26%	27%	25%	19%
Participate in original IHI collaborative	76%	17%	22%	22%	27%	18%	13%
VISN training							
Peer exchanges with other facilities	95%	78%	82%	78%	72%	71%	58%
VISN ACA website available	74%	66%	67%	72%	67%	71%	56%
ACA collaboratives within our VISN	49%	66%	58%	65%	60%	60%	48%
External access coaches work with staff	50%	37%	33%	36%	35%	34%	31%
Send our coaches to other facilities	30%	20%	17%	21%	17%	15%	13%

Percent of facilities using the spread activity across all six clinic areas.

3.3.2 Employee participation in spread activities

Staff participated in a wide range of spread activities, as shown in Exhibit 13. Not surprisingly, however, the proportions reporting participation in specific spread activities was lower than the proportion of facilities using those activities as reported by the POCs: not all clinic staff would be expected to participate in every activity. The activities in which the most staff participated, averaged across clinic areas (labeled Overall) were:

- Discussions of ACA at staff meetings (67% overall, with Audiology reporting 79% participation);
- Reviewing performance data relevant to ACA (55% overall, with Audiology reporting 65% participation).

No other activities were reported by the majority of staff across sites. However, five other activities showed average participation above 40%. Two of these were related to national training and information exchange:

- E-mail discussions (44% overall);
- Using resource materials and handbooks (42% overall).

The other three were related to local spread through social networks:

- Internal collaboratives (involving learning sessions, action periods and reporting) (42% overall);
- Consultation from a key messenger, opinion leader or champion (41% overall);
- Local colleagues serving as access experts or coaches (41% overall).

3.3.3 Helpfulness of ACA spread activities by employees

When asked to rate the helpfulness of the spread activities in which they participated personally, staff more often rated local activities as being very or extremely helpful (on a five-point response scale) than activities relating to national or VISN-level training, as shown in Exhibit 14. Staff only rated the helpfulness of activities in which they had participated. No single spread activity was dominant. All activities had at least a quarter of staff rating them as very or extremely helpful overall, but none had more than half of staff rating them that high.

The activities rated most helpful across clinic areas, were:

- Local colleagues serving as access experts or coaches (48% overall);
- Having special meetings about wait time reduction (47% overall);
- Reviewing performance data relevant to ACA (46% overall);
- Discussions of ACA at staff meetings (45% overall);
- Consultation from a key messenger, opinion leader or champion (45% overall);
- Internal collaboratives (involving learning sessions, action periods and reporting) (44% overall);
- Collecting specific data related to ACA (41% overall).

Audiology staff members tended to rate the local activities as being more helpful than the other performance clinic areas, with 8 out of 18 activities rated as very or extremely helpful by 50% or more of the staff.

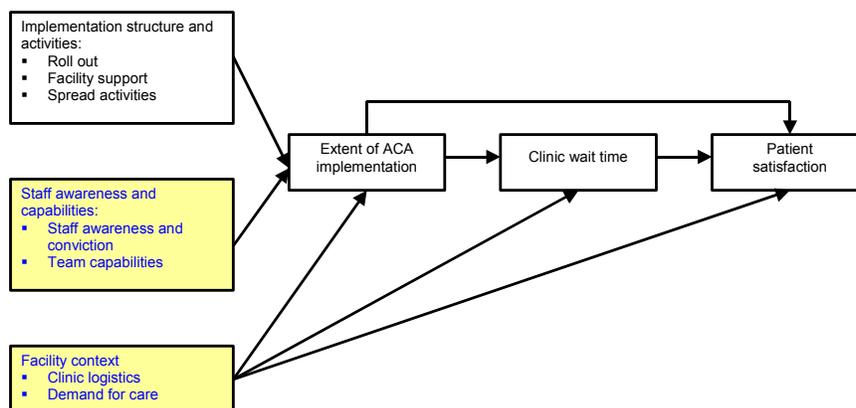
Exhibit 13							
Spread Activities (Percent Staff Reporting Involvement in ACA Spread Activities)							
Source: Staff Survey							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Overall*
Local training, feedback, information exchange and resources							
Discussion of clinic access at staff meetings	71%	79%	51%	56%	62%	55%	67%
Review of performance data	57%	65%	44%	48%	48%	51%	55%
Internal collaboratives (involving learning sessions, action periods and reporting)	43%	42%	33%	40%	43%	41%	42%
Consultation or other support from a key messenger / opinion leader / champion	44%	43%	31%	40%	39%	36%	41%
Local colleagues serving as access experts / coaches	43%	41%	32%	36%	40%	36%	41%
Special meeting or retreat regarding appointment wait time reduction	40%	42%	28%	38%	31%	34%	38%
Collecting specific data related to ACA	31%	42%	28%	39%	30%	32%	33%
Visits to or from other clinic areas in my facility that are working on ACA	20%	19%	20%	18%	25%	21%	20%
National training							
E-mail discussions	44%	59%	37%	45%	44%	38%	44%
Resource materials and handbooks	45%	38%	30%	38%	41%	36%	42%
Videos about reducing wait times	29%	21%	20%	23%	22%	21%	26%
Conference calls and/or other support from an access expert / coach	23%	39%	27%	29%	25%	27%	26%
VA conference calls	23%	39%	21%	22%	22%	21%	23%
VA Advanced Clinic Access website	18%	17%	17%	20%	20%	17%	18%
Visits or phone calls involving consultants from IHI or other organizations outside of VA	17%	16%	19%	21%	17%	19%	18%
VISN training							
Our VISN Advanced Clinic Access website	19%	25%	19%	22%	21%	18%	20%
Local colleagues participation in an "access road show" or other consultation activity	18%	14%	16%	17%	21%	20%	18%
Visits to or from other facilities that are working on ACA	17%	15%	16%	13%	17%	16%	16%

* Average involvement across the six clinical areas.

Exhibit 14 Spread Activities: Helpfulness of ACA Spread Activities Percent “Very” and “Extremely” Helpful (Combined) Source: Staff Survey							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Overall*
Local training, feedback, information exchange and resources							
Local colleagues serving as access experts / coaches	46%	55%	45%	56%	56%	44%	48%
Special meeting or retreat regarding appointment wait time reduction	46%	56%	40%	55%	46%	33%	47%
Review of performance data	45%	53%	44%	48%	48%	49%	46%
Discussion of clinic access at staff meetings	44%	52%	42%	48%	42%	45%	45%
Consultation or other support from a key messenger / opinion leader / champion	45%	52%	36%	47%	53%	41%	45%
Internal collaboratives (involving learning sessions, action periods and reporting)	45%	50%	41%	40%	40%	43%	44%
Collecting specific data related to ACA	40%	50%	34%	43%	42%	45%	41%
Visits to or from other clinic areas in my facility that are working on ACA	39%	44%	30%	29%	35%	27%	37%
National training							
Resource materials and handbooks	40%	39%	30%	29%	46%	40%	39%
Conference calls and/or other support from an access expert / coach	38%	49%	30%	33%	33%	27%	37%
Visits or phone calls involving consultants from IHI or other organizations outside of VA	34%	49%	35%	30%	26%	31%	34%
E-mail discussions	34%	33%	25%	34%	32%	31%	33%
VA Advanced Clinic Access website	33%	36%	13%	19%	24%	28%	29%
Videos about reducing wait times	31%	30%	24%	23%	36%	12%	29%
VA conference calls	28%	40%	13%	22%	20%	27%	27%
VISN training							
Visits to or from other facilities that are working on ACA	41%	56%	36%	40%	36%	10%	39%
Local colleagues participation in an “access road show” or other consultation activity	36%	33%	13%	36%	43%	27%	34%
Our VISN Advanced Clinic Access website	31%	27%	15%	15%	23%	22%	26%

* Average percent of “very” and “extremely” helpful (combined) ratings across all six clinical areas.

4. WHAT OTHER FACTORS MAY HAVE AFFECTED ACA IMPLEMENTATION?



The structures and activities used to introduce and support an innovative clinical practice are not the only factors that will influence the extent to which the innovation is actually put into practice. Implementation will also be affected by the awareness and capabilities of the clinical staff responsible for working with the innovation and by the organizational context in which they work.

This section introduces these concepts and the variables used to measure them in studying ACA. In contrast with the previous section in which we presented the structures and activities in detail in order to describe the approaches used to introduce and support ACA, our primary intent in this section is to introduce these other factors that were used in the statistical analyses presented in Section 6 to identify the strongest predictors of ACA implementation.

4.1 Staff Awareness and Capabilities

The opinions, knowledge and capabilities of the clinicians and other staff responsible for implementing a new clinical practice influence that implementation in many ways. The clinic staff are a filter through which the implementation structures and activities are passed. They are the people who actually put the innovation into practice. We expect two staff dimensions to be especially important. The first is staff awareness and conviction. Organizational change is more likely to be successful if staff hold two views: they must recognize that there is a problem – that there is a need and an urgency to change the way they work -- and they must believe that the proposed approach to solving it will be effective – that it will have the expected benefits and that it will work in this organization. The second dimension is the capabilities of the clinical team. Awareness and conviction alone will not ensure success. The team must also have the knowledge and skills needed to make changes and implement the new clinical practices, and is more likely to be effective if it functions inclusively and with authority as a team.

In this sub-section we look at these two dimensions of staff awareness and capabilities. Most staff recognized that long clinic wait times were a problem that VA was working to address. Approximately half agreed that ACA offered a solution, though many staff did not recognize the term ACA. Roughly half the staff were positive about the knowledge and skills and functioning of their clinic teams.

All findings are based on responses to the staff survey.

4.1.1 Staff awareness and conviction

There was wide recognition among clinic staff that reducing wait times was an important goal and that an effort was underway to reduce the number of days to wait to get an appointment. Combining these two survey items into a scale of problem recognition, over three-quarters of staff overall agreed there was a problem, as shown in Exhibit 15. Staff in Audiology reported the highest level of agreement (93%), with the other clinic areas ranging from 77%-82%. No more than 4% of staff in any one clinic area disagreed that there was a wait time problem that was being addressed.

Just over half the staff overall (53%) had been aware of the national wait time reduction efforts for more than a year, as shown in Exhibit 16. However, in two performance clinic areas, Cardiology and Orthopedics, one-third of the staff had first become aware of efforts to shorten wait times only in the previous six months, with 17% and 13% respectively only becoming aware when they read the survey.

Roughly half the staff (53%) also agreed that ACA was an effective way to reduce appointment wait time for their clinic area, as shown in Exhibit 17. Within performance clinic areas, agreement ranged from 44% in Urology to 59% in Orthopedics. Many of the rest of the staff were neutral with only 10-19% of staff expressing disagreement that ACA is effective.

Similarly, awareness of ACA was lower than the more general awareness that VA was making an effort to shorten wait times. More than one-third of staff overall (37%) first heard the term Advanced Clinic Access when they read the survey, as shown in Exhibit 18. The areas with the highest proportions of hearing the ACA term at time of survey were Cardiology (55%), Orthopedics (48%) and Urology (47%). This may indicate the process is being called different names in different clinic areas or not formally addressed in clinic practice.

Exhibit 15
Staff Awareness and Conviction: Problem Recognition
 Source: Staff Survey

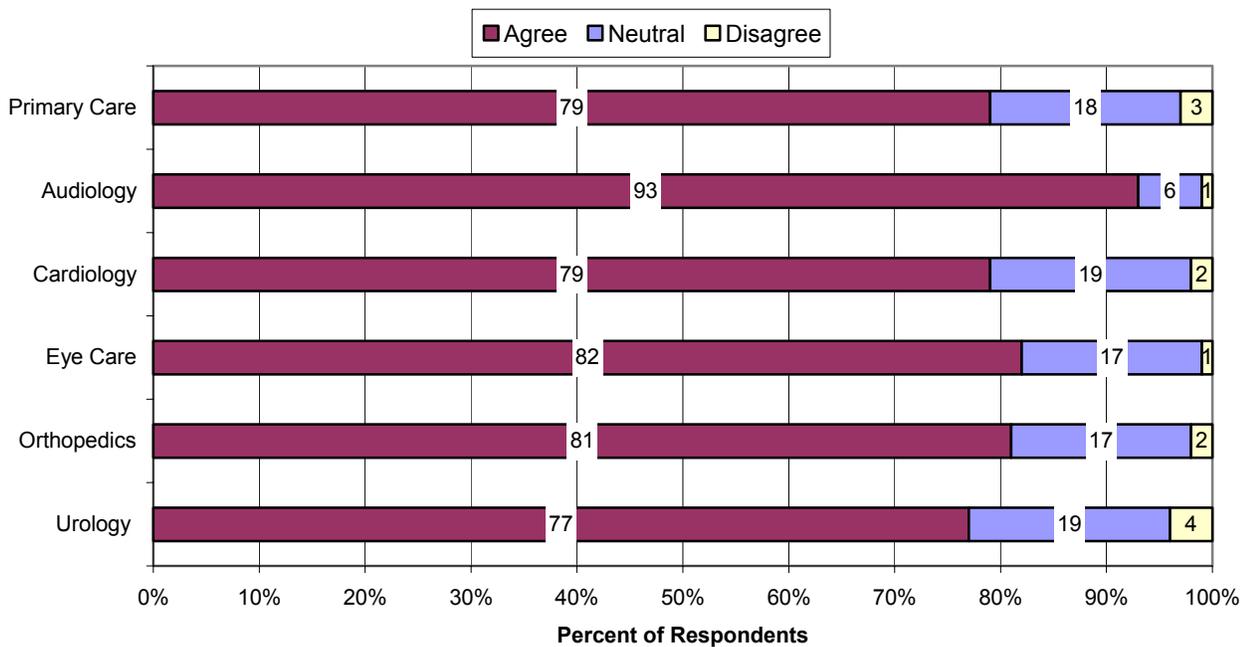


Exhibit 16 Staff Awareness and Conviction: When First Aware of Wait Time Efforts Source: Staff Survey							
When were you first made aware that VA was making a special effort to shorten the amount of time that veterans have to wait for an appointment?							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Overall*
When I read this questionnaire	6%	4%	17%	7%	13%	9%	8%
Within the past 6 months	21%	14%	18%	18%	23%	20%	20%
7 – 12 months	20%	21%	20%	22%	16%	14%	20%
13 – 24 months	24%	26%	17%	18%	21%	27%	23%
More than two years ago	29%	35%	29%	34%	28%	30%	30%

*Percent of facilities across the six clinic areas.

Exhibit 17
Staff Awareness and Conviction: Belief That ACA is Effective
 Source: Staff Survey

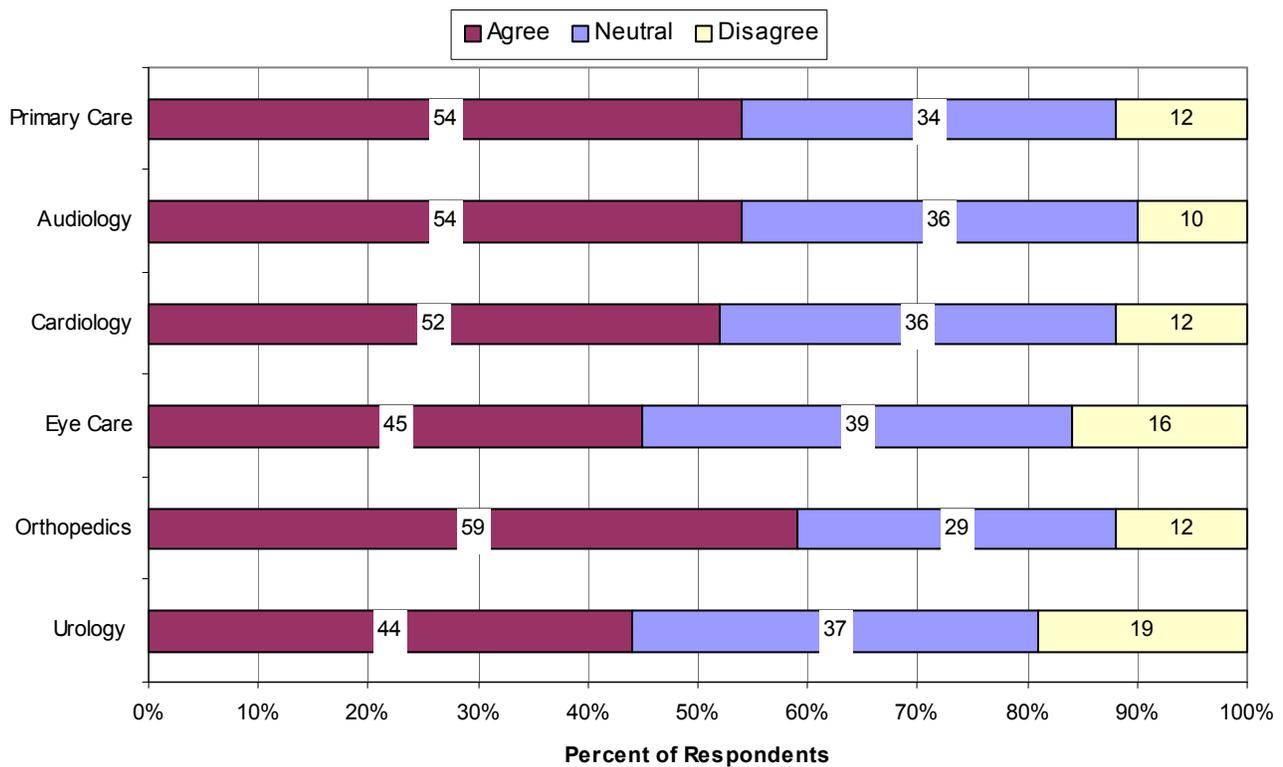


Exhibit 18							
Staff Awareness and Conviction: When First Aware of ACA							
Source: Staff Survey							
When did you first hear the term <i>Advanced Clinic Access</i>?							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Overall*
When I read this questionnaire	34%	23%	55%	39%	48%	47%	37%
Within the past 6 months	24%	23%	20%	22%	21%	23%	23%
7 – 12 months	16%	23%	11%	18%	12%	16%	16%
13 – 24 months	15%	20%	8%	12%	10%	8%	14%
More than two years ago	10%	10%	5%	10%	9%	7%	9%

* Percent of facilities across the six clinic areas.

4.1.2 Team Capabilities

Approximately half the staff overall were positive about both their team knowledge and skills and their team functioning, as measured by scales that clustered multiple survey items through factor analysis. Just under half of staff (49%) overall agreed that their clinic team had the knowledge and skills to effectively do their work and make changes to improve wait times. Agreement with the items in the knowledge and skills scale indicated that, in the staff view, the team used performance data, tested and learned from changes, and could adapt ACA to match the needs of their clinical area. Staff in Audiology reported the highest level of agreement on this scale (65%), with the other clinic areas ranging from 47% to 53%, as shown in Exhibit 19.

Overall, 50% of staff agreed that their clinic team functioned inclusively and with authority. Agreement with items in the team functioning scale indicated that the team had room for initiative and judgment; the team had authority to manage work as members want; members had substantial influence in managing care and influencing others to improve care; and all members participate and listen to each other. Again, staff in Audiology reported the highest level of agreement on this scale (64%), with the other clinic areas ranging from 46% to 58%, as shown in Exhibit 20.

Exhibit 19
Team Capabilities: Team Knowledge and Skill
 Source: Staff Survey

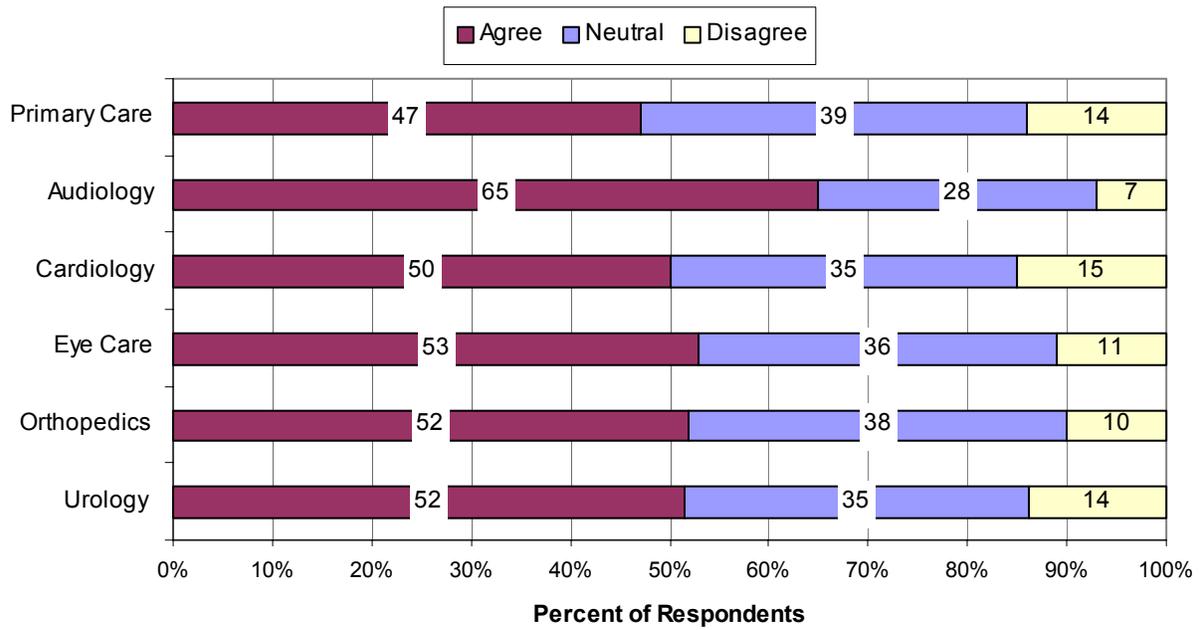
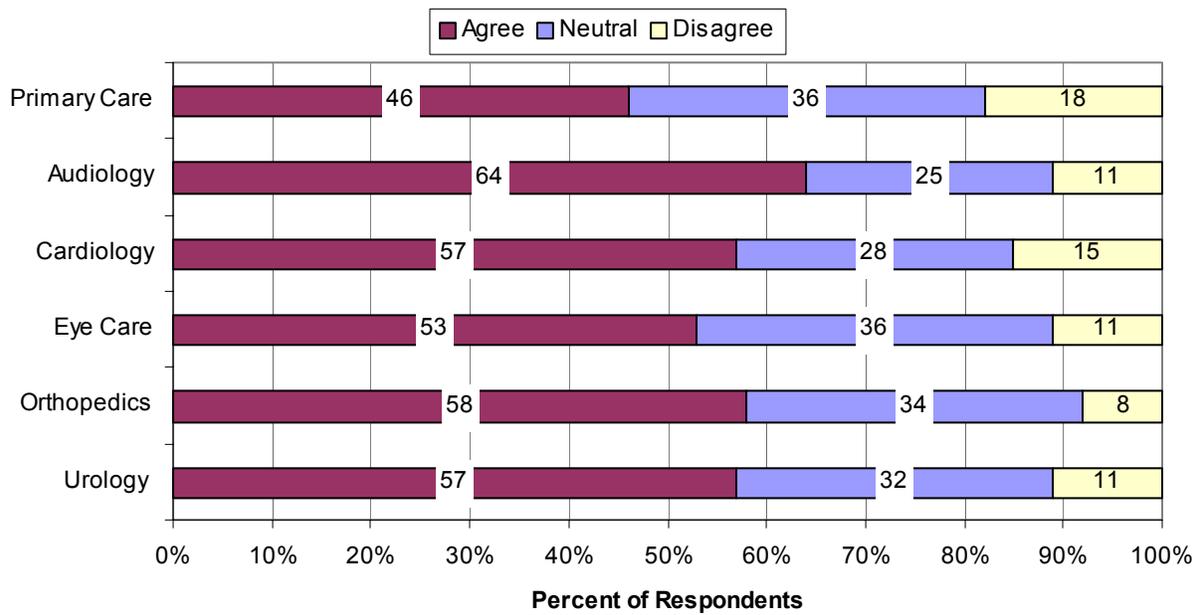


Exhibit 20
Team Capabilities: Team Functioning
 Source: Staff Survey



4.2 Facility Context

The context of the facility and the clinic area in which a new clinical practice is introduced will also affect its implementation. We expect two context dimensions to be particularly important in implementing ACA: clinic logistics and demand for care. Clinic logistics include physical and staff factors that may facilitate or hinder the implementation of new clinical practices. For example, an inadequate supply of exam rooms or support staff may hinder the implementation of new clinical practices. And more clinic staff and greater use of consulting physicians may facilitate new clinical practices because there are more resources to work with – or they may hinder innovation because the clinic area is more organizationally complex. Demand for care, as measured by patients on wait lists and volume of new patients, is an indicator of the size of the problems the clinics are facing in attempting to reduce their clinic wait times. Longer waiting lists and greater inflow of new patients may add urgency that facilitates the implementation of ACA as a solution to those problems.

Data on clinic logistics were obtained through the local POC interviews. (We compared these data with data collected through the Primary Care productivity survey and found them comparable; we used ours because we had them for all clinic areas.) Data on patient demand were obtained from VA administrative databases: the number of patients on the electronic wait list as a proportion of the total number of encounters for the specific month of July 2003 and the number of new patients that each clinic area at a facility was receiving for a given month. This value was based on the proportion of total new patient encounters scheduled as next available appointment over the total number of encounters during the month.

4.2.1 Clinic logistics

As would be expected, Primary Care clinics in the sample facilities were larger than the specialty clinics, as shown in Exhibit 21. Just under half of Primary Care clinic areas (48%) have 26-50 staff members and 30% have more than 50. None of the specialty clinic areas have this many staff.

In five of the clinic areas, more than half the facilities have between more than one exam room per clinician (with the sixth having 49%), as shown in Exhibit 21. Seventy percent of Primary Care clinics reported the having more than one exam room per provider.

Primary Care reported a higher percentage of having multiple support staff per provider (74%). In contrast, Audiology was most likely to have one or fewer support staff per provider (89%).

Two-thirds of the facilities used consulting physicians some or a great deal, as shown in Exhibit 22. This rating was made by POCs for the whole facility, not for individual clinic areas.

Exhibit 21						
Facility Context: Clinic Capacity (Percent of Facilities)						
Source: POC Interviews						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
Number of staff in clinic area						
1 - 5	0%	39%	36%	32%	42%	46%
6 - 10	0%	55%	46%	51%	47%	47%
11 - 25	22%	6%	18%	17%	11%	7%
26 - 50	48%	0%	0%	0%	0%	0%
More than 50	30%	0%	0%	0%	0%	0%
Number of exam rooms per clinician						
1 or less	30%	51%	41%	34%	35%	32%
1.01 - 2	67%	49%	56%	59%	59%	61%
More than 2	3%	0%	3%	7%	6%	7%
Number of support staff per clinician						
1 or less	26%	89%	44%	42%	32%	42%
1.01 - 2	54%	8%	48%	46%	60%	48%
More than 2	20%	3%	8%	12%	8%	10%

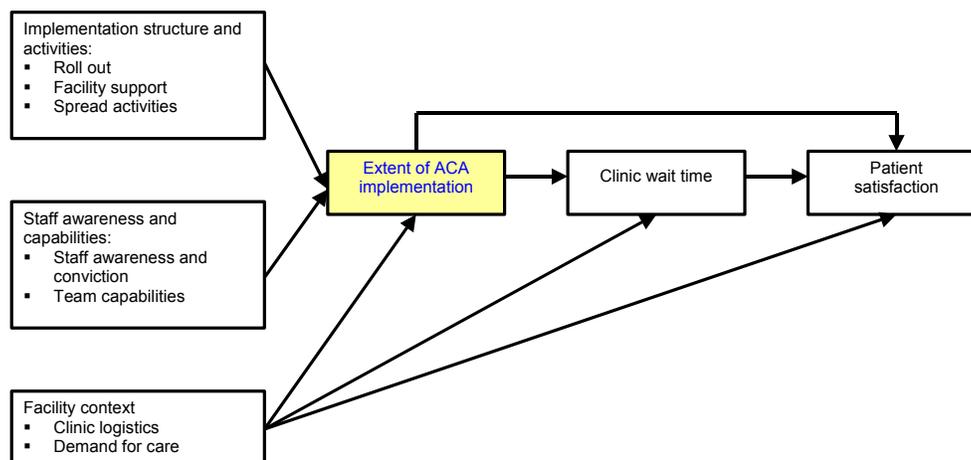
Exhibit 22	
Facility Context: Consulting Physicians (Percent of Facilities)	
Source: POC Interviews	
Use of consulting physicians	
Not at all	12%
A little	21%
Some	43%
A great deal	24%

4.2.2 Demand for care

While larger in volume, Primary Care had the lowest proportion of new patients seen in relation to total patients seen per month. Twenty-one percent of encounters were new patient visits. The specialty clinic areas reported a much higher rate of new patients seen per month, ranging from 40% to 56%. The number of patients on an electronic waiting list accounted for 12% of total patients in Primary Care. Orthopedics, Audiology and Eye Care clinics also had patients on waiting lists from between 3-9% of the total number seen. Cardiology and Urology had minimal numbers of patients on an electronic wait list. The results are summarized in Exhibit 23.

Exhibit 23						
Demand for Care						
Source: VA Administrative Databases						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
New patient inflow						
New patient encounters compared to total patient encounters	21%	56%	53%	33%	54%	40%
Patients on electronic waiting lists						
Patients on waiting list compared to total number of encounters	12%	8%	0%	9%	3%	0%

5. TO WHAT EXTENT WERE THE ACA 10 KEY CHANGE PRINCIPLES IMPLEMENTED?



Determining whether an innovative clinical practice is actually put into practice is a key step in analyzing the effectiveness of the innovation. Many innovative clinical practices have disappointing results, often not because innovation design failed but because the innovation was never implemented. In this analysis of ACA, we use the presence of the 10 key change principles as the measure of the extent to which ACA was implemented. (The 10 key change principles were described in section 2.)

In this section, we describe the implementation of ACA from two perspectives, the facility POCs and clinic staff. Perhaps not surprisingly given their different roles in the innovation, their perspectives and therefore their ratings differed. We expected the POCs to be more informed about ACA and, often with input from clinical leaders in the target clinic areas, to have an organizational overview of ACA and its progress – and possibly an inclination to see more progress than front line staff. We expected clinic staff to have first-hand experience with the changes being introduced but perhaps not the full conceptual understanding of the innovation to put the changes into the context of the 10 key change principles.

Facility POCs completed a matrix to summarize the extent of implementation for each of the 10 key changes for each clinic area in the spring of 2003. POCs were asked to report whether each change had been fully implemented or partially implemented in each clinic area. We created an implementation score for each clinic area by averaging the proportion of facilities reporting full implementation of each key change.

From the staff survey administered in the summer of 2003, there are two measures of implementation. First, staff were asked to indicate in which of the 10 key changes they had personally participated. We created a participation score for each clinic area by counting the number of key changes reported by each respondent and averaging the count across respondents. Second, staff rated their clinic area's overall implementation of the 10 key changes on a scale from "not at all" (1) to a "great extent" (5).

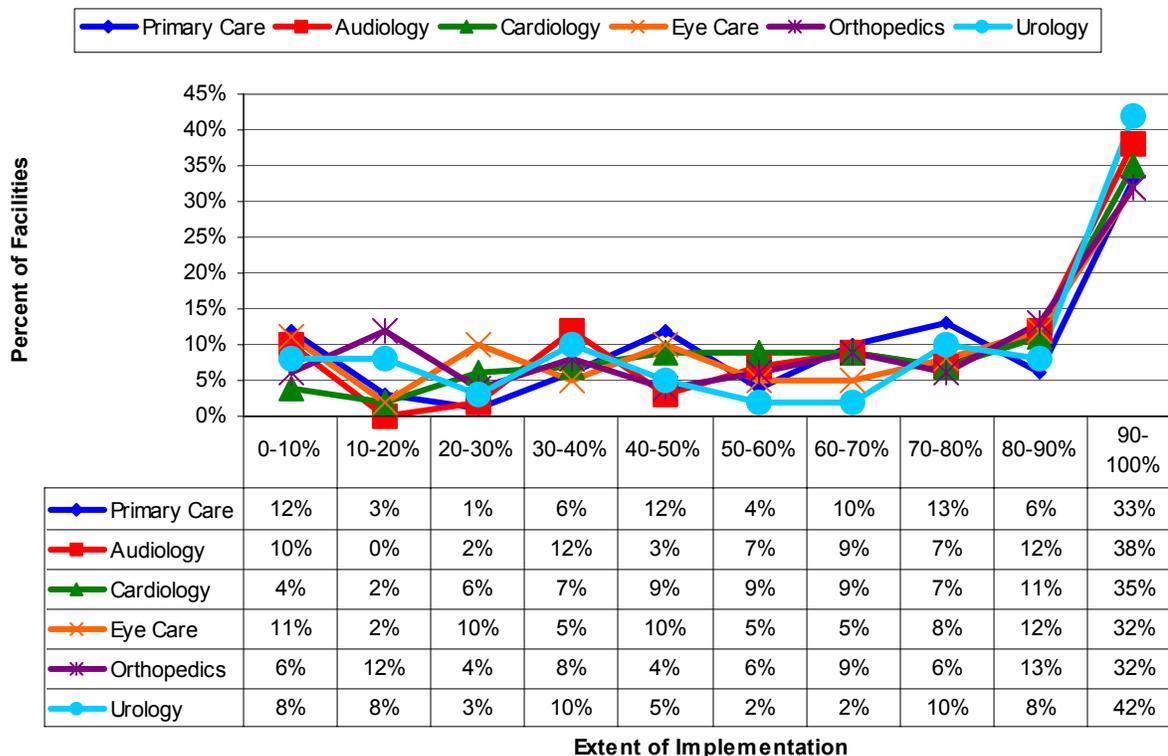
5.1 POC Ratings of Implementation

Looking across clinic areas, the key changes most likely to be fully implemented in the spring of 2003 were: optimizing rooms and equipment (74%), understanding supply and demand (71%), and synchronizing patient, provider and information (70%), as shown in Exhibit 24. The least likely to be fully implemented was reducing demand (51%).

Average full implementation of the ten key changes of ACA ranged from 59% to 66%, as shown in the bottom row of Exhibit 24. The distribution of responses underlying these means, as shown in Exhibit 25, reveals similar patterns across clinic areas: a substantial proportion of facilities in each clinic area (32% to 42%) reported that ACA was fully implemented in 90%-100% of their clinics; the other facilities were fairly evenly distributed in reporting from 0% to 90% of their clinics fully implementing ACA in each clinic area.

Exhibit 24 Implementation of ACA Principles (Percent of Facilities) Source: POC Interviews								
10 Key Change Principles	Implementation Level	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Mean across clinic areas
Work down the backlog	Full	51%	60%	67%	57%	55%	59%	58%
	Partial	41%	38%	28%	38%	41%	36%	38%
Reduce demand	Full	48%	47%	54%	49%	49%	54%	51%
	Partial	43%	40%	39%	38%	44%	38%	41%
Understand supply and demand	Full	77%	79%	72%	69%	63%	70%	71%
	Partial	19%	19%	22%	26%	30%	28%	24%
Reduce appointment types	Full	72%	65%	75%	65%	63%	67%	69%
	Partial	21%	27%	17%	25%	26%	21%	23%
Plan for contingencies	Full	68%	66%	60%	62%	57%	70%	63%
	Partial	28%	31%	36%	33%	35%	26%	31%
Manage the constraint	Full	52%	55%	55%	53%	50%	56%	54%
	Partial	41%	39%	36%	41%	38%	36%	38%
Optimize the care team	Full	61%	66%	62%	65%	56%	64%	63%
	Partial	35%	31%	33%	33%	39%	31%	33%
Synchronize patient and provider information	Full	67%	77%	73%	65%	66%	66%	70%
	Partial	29%	18%	25%	32%	31%	30%	27%
Predict patient needs	Full	64%	70%	63%	66%	65%	62%	65%
	Partial	32%	28%	33%	28%	31%	33%	31%
Optimize rooms and equipment	Full	73%	73%	75%	69%	70%	82%	74%
	Partial	21%	25%	22%	29%	23%	15%	22%
Mean full implementation across 10 key changes		63%	66%	66%	62%	59%	65%	64%

Exhibit 25
POC Ratings of Implementation of ACA Principles
 Source: POC Interviews



5.2 Staff Ratings of Implementation

Staff reports of participation in the 10 key changes, as of summer 2003, are generally consistent with POC reports of full implementation with some exceptions. Three of the key changes with the highest participation across clinic areas were also reported highest by the POCs: optimizing rooms and equipment (52%), understanding supply and demand (53%), and synchronizing patient, provider and information (54%) as shown in Exhibit 26. However, two additional key changes in the top group for staff participation were not rated high by POCs: reducing demand (52%) and working down the backlog (60%). ACA leadership speculate that the difference, especially in working down the backlog, may reflect staff reporting more general work on reducing wait times that was not connected with ACA, for example, removing patients from wait lists. The key change with least staff participation across clinic areas was reducing appointment types (31%), which is an important dimension of ACA and was reported higher by POCs.

The participation scores, which reflect the average number of key changes in which each staff member participated, indicate that Audiology staff tended to participate in the most key changes (6.20) while Cardiology staff participated in the fewest (3.90), as shown at the bottom of Exhibit 26.

In response to the overall implementation question, staff on average reported moderate implementation, with clinic areas ranging from 2.81 to 3.36, as shown in Exhibit 27. Staff in Audiology reported more extensive implementation than other clinic areas, which is consistent with their higher reports of key change participation. Looking at the distribution of responses in Exhibit 28, 39% of the Audiology

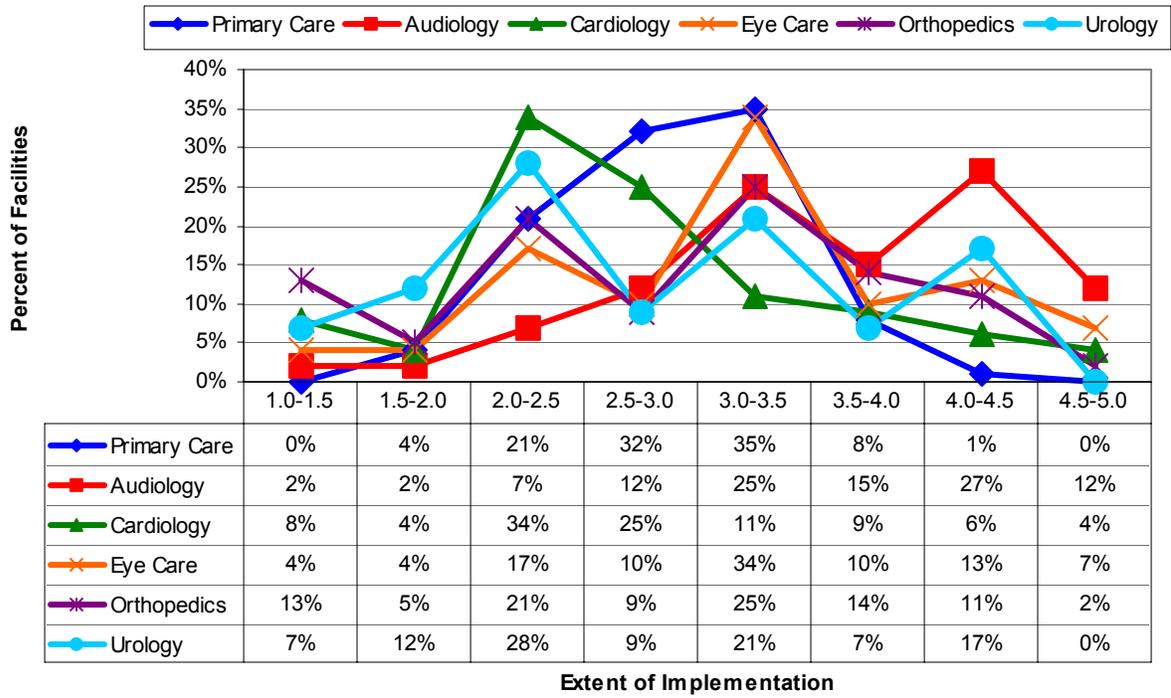
respondents rated implementation between 4 and 5, with 5 being “to a great extent.” In contrast, staff in Orthopedics reported the lowest implementation score, consistent with lowest rate of full implementation by the POCs (Exhibit 27). The distribution of responses shows that 39% of Orthopedics staff rated implementation below 2.5, with 3 being “moderate” (Exhibit 28). Also of note, Cardiology, while not having the lowest average rating, had the most staff (46%) rating implementation below 2.5.

Exhibit 26							
ACA Implementation: Staff Involvement in 10 Key Changes							
(Percent Staff Reporting Involvement)							
Source: Staff Survey							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Overall
Work down the backlog	53%	88%	61%	69%	69%	73%	60%
Reduce demand	51%	65%	49%	49%	52%	54%	52%
Understand supply and demand	52%	63%	43%	53%	61%	61%	53%
Reduce appointment types	27%	55%	21%	40%	41%	35%	31%
Plan for contingencies	41%	50%	33%	45%	47%	51%	42%
Manage the constraint	30%	56%	33%	44%	43%	45%	35%
Optimize the care team	46%	53%	38%	47%	48%	56%	47%
Synchronize patient, provider and information	51%	62%	45%	60%	63%	66%	54%
Predict and anticipate patient needs at time of appointment	47%	54%	33%	41%	47%	50%	46%
Optimize rooms and equipment	48%	74%	35%	66%	61%	60%	52%
Average number of 10 key changes participation per employee	4.46	6.20	3.90	5.14	5.29	5.50	4.73

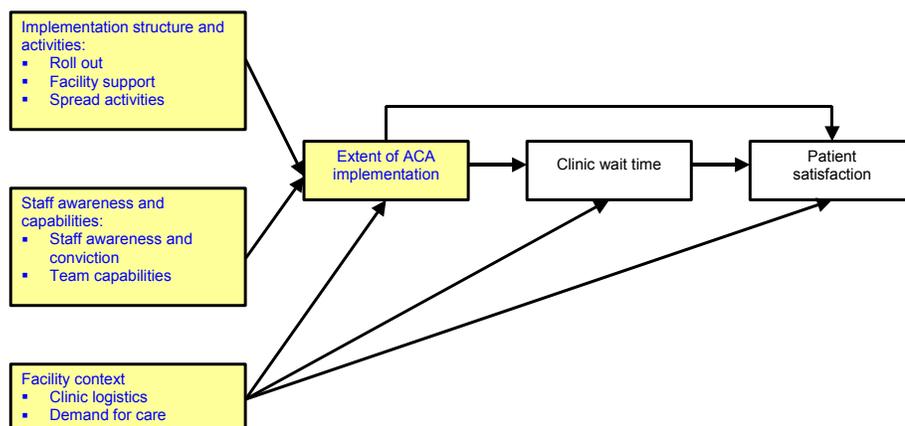
Exhibit 27							
ACA Implementation: Rating of Extent of Implementation*							
Source: Staff Survey							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	Overall
Extent 10 key change principles have been implemented	2.87	3.36	2.89	3.08	2.81	2.90	2.97

*Single survey item asking with a five-point response scale ranging from 1=“not at all” to 5=“to a great extent.”

Exhibit 28
Staff Ratings of Extent of ACA Implementation
 Source: Staff Survey



6. WHAT FACTORS WERE ASSOCIATED WITH ACA IMPLEMENTATION?



Understanding the factors that contribute to successful implementation provides useful lessons to managers and clinicians attempting to spread innovative clinical practices. To this point in the report, we have introduced and defined three broad categories of factors that we expected, based on organization change theory and our discussions with ACA steering committee members and VISN points of contact, to affect the extent of ACA implementation: (1) implementation structure and activities, (2) staff awareness and capabilities and (3) facility context. In this section, we address the question of whether and to what extent these efforts actually affected the implementation of ACA.

6.1 Methods

To address this question we used a systematic series of multivariate linear regression analyses to identify those factors that were predictors of the extent of ACA implementation at the 78 facilities that participated in the evaluation study. In this section, we describe the measures included and the key aspects of the regression analyses.

6.1.1 Measures

Predictor measures. The potential predictors of ACA implementation examined in this phase of the study included all the implementation structures and activities, staff awareness and capabilities factors, and facility context variables described in Section 3 and Section 4 of this report. By way of review, these predictors are listed in Exhibit 27. Detailed definitions can be found in the previous sections.

Outcome measure: extent of ACA implementation. As discussed in Section 5, the present study included two independent sources of information regarding the extent to which ACA had been implemented at each facility: (a) the implementation matrix completed by the facility POC (see Section 5, Exhibit 24); and (b) the staff survey (see Section 5, Exhibit 26). Both of these measures provided information specific to each of the six performance clinics. Interestingly, the correlations between the POC and staff-based measures at the facility level were relatively weak, ranging from .05 ($p=.70$) in Orthopedics to .24 ($p=.05$) in Primary Care. This suggests that the two perspectives are different and may provide non-redundant information regarding the implementation of ACA. Furthermore, both perspectives have face validity, and we had no theoretical basis for assuming that one would be more accurate than the other. Finally, it is possible that each measure was subject to bias from different sources. Facility POCs, on one hand, may have tended to overestimate the extent of ACA implementation in order to present themselves as more effective. The survey-based measure, on the other hand, may have systematically underestimated the extent of ACA implementation as a consequence of staff failure to recognize the official 10 key change principles listed in the questionnaire despite efforts to include examples of activities related to each principle in lay language. Considering all

Exhibit 29 Predictors of Extent of ACA Implementation		
Domain	Dimension	Variable
Implementation structures and activities	Roll out	<ul style="list-style-type: none"> • Time spent doing ACA • If not first, time between start of first clinic area and start of this clinic area • Percent of staff involved in ACA implementation
	Facility support	<ul style="list-style-type: none"> • Management support for ACA • Leadership support for clinic staff
	Spread activities	<ul style="list-style-type: none"> • Local information exchange and performance feedback (7 specific activities) • Local training and resources (5) • National training (7) • VISN training (5)
Staff awareness and capabilities	Staff awareness and conviction	<ul style="list-style-type: none"> • Awareness of wait time reduction efforts in general • Awareness of ACA in particular • Problem recognition • Belief in ACA as an effective solution
	Team capabilities	<ul style="list-style-type: none"> • Team knowledge and skills • Team functioning
Facility context	Clinical logistics	<ul style="list-style-type: none"> • Total number of staff • Support staff per clinician • Exam rooms per clinician • Extent of use of consultants
	Demand for care	<ul style="list-style-type: none"> • Patient inflow • Wait list volume

of these issues, we decided that a composite measure of ACA implementation would allow us to counterbalance the potential biases present in the individual measures while at the same time making use of all the information available, producing a more stable measure overall.

Because the POC-based and survey-based measures of ACA implementation involved entirely different metrics, we first standardized each measure by computing t-scores based on the mean and standard deviation of the facility-level scores. We then averaged the t-scores to create the composite ACA implementation measure. Basic descriptive statistics for this measure are reported in Exhibit 30.

Exhibit 30 Standardized Implementation Scores						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
N	78	65	61	70	58	64
Min	35.62	38.45	36.71	32.36	38.82	37.75
Max	61.38	64.05	69.44	62.81	64.61	63.66
Mean	49.62	52.55	50.25	50.6	49.54	50.38
Std Dev	6.07	6.67	6.76	6.36	6.51	6.54

6.1.2 Data analysis

Throughout these analyses it was necessary to balance several considerations. First, we had to exercise caution regarding the number of variables selected for inclusion in the prediction equation so as not to exceed recommended limits on the ratio of predictors to cases in multiple regression analysis. Although there is some variation in guidelines on this issue, most statistical texts recommend 10 to 40 cases per variable depending on the specific method of being used to build the prediction model, with an absolute minimum of four to five times more cases than variables.² Given a maximum of 78 facilities providing Primary Care in our evaluation study sample, and fewer cases in the clinical specialty areas, our regression models would need to contain no more than about 15 variables in order to conform to this minimum requirement. This precluded using the simple strategy of putting all 42 variables from the three domains into a single regression model to determine which were the strongest predictors of ACA implementation.

Another consideration was the complicated nature of the intervention itself. As described in Section 2, ACA consists of 10 key change principles. These principles involve inter-related concepts such as supply and demand, and their implementation requires multiple, linked strategies including, for example, a reduction in the number of different types of appointments, a shift from time slot management to panel management in Primary Care, using standard care protocols, the potential reassignment of tasks among the various types of clinicians, and the negotiation of service agreements between Primary Care and specialty providers. Under such circumstances it may be that some implementation activities, staff characteristics and/or facility features will be relevant to ACA implementation at many if not most sites. This uniformity -- i.e., lack of variation -- could in a regression model result in a non-significant finding for the variable in question and be misinterpreted as indicative of a lack of importance.

Third, the evaluation study was not a randomized control trial in which facilities were assigned to test certain specified elements of the 10 key change principles. Indeed, one could argue that such an approach would have been antithetical to the comprehensive nature of the ACA philosophy. Rather, the MDRC evaluation was an observational study designed to take advantage of the inevitable variation in process and outcomes present in a large, national-scale, non-mandated change effort. In such a complicated real-world setting, co-variation among factors is common -- a situation referred to as multicollinearity -- and consequently it can be difficult to sort out causal relationships and identify the specific contribution of any given predictor based on a single statistical test (e.g., its beta weight in a regression equation).

Given these circumstances we judged it appropriate not to strictly subscribe to a $p < .05$ criterion of statistical significance as the sole method for identifying meaningful results. Instead, while keeping the p value associated with a finding in mind, we also relied on effect size as measured by the proportion of variance in ACA implementation accounted for by the predictor in question, and the performance of the predictor across clinical areas, as a guide to noteworthy and potentially robust findings.

² Tabachnick, B.G. & Fidell, L.S. *Using multivariate statistics*. New York: Harper and Row, 1983.

To address all these issues, we used an iterative process that allowed us to limit the number of predictors in our regression models at any given step. First, we developed regression models separately for each of the three major domains: (a) implementation structure and activities, (b) staff awareness and capabilities, and (c) facility context. This was done independently for each of the six performance clinic areas. Simultaneous variable entry was used to build the models in all cases; those variables with significant (at $p < .10$) beta weights were identified.

We then consolidated the significant predictors from the three domains into a single model predicting extent of ACA implementation in a given clinic area. In this second, consolidated model we also included any variables that were significant predictors of ACA implementation in at least two of the other clinic areas if that variable wasn't already in the equation for the particular clinic area being modeled.

6.2 Findings

The two-step analysis process identified nine predictors that met the criteria for inclusion in the final prediction model. Organized by domain in our conceptual model, they include:

Implementation structure and activities

1. Local colleagues' participation in an "access road show"
2. Review of performance data
3. Resource materials and handbooks
4. Time spent working on ACA
5. Management support for ACA

Staff awareness and capabilities

6. Team knowledge and skills

Facility context

7. Patients on wait list
8. Number of exam rooms per clinician
9. Extent of use of external consulting physicians

The results of the simultaneous multiple regression analysis using these nine variables to predict the extent of ACA implementation in each of the six performance clinic areas is summarized in Exhibit 31. The beta weights for the statistically significant predictors in each clinical area appear in bold.

As conservatively estimated by the adjusted R^2 values, the percent of variance in extent of ACA implementation that could be accounted for by these variables ranged from 22% in Cardiology to 42% in Orthopedics. By social science standards, this level of outcome variance accounted for would generally be regarded as indicative of moderate to strong prediction models.³ More specifically for each clinical area:

Primary Care. A total of four predictors were significantly associated with ACA implementation in Primary Care. The strongest significant predictor was management support ($\beta = .36$). Two facility context variables were significant in the model: number of patients on the waiting list ($\beta = .22$) and number of exam rooms per clinician ($\beta = .28$). Team knowledge and skills was also found significant in the model ($\beta = .20$). Although not statistically significant, the use of resource materials ($\beta = .21$) also had a relatively strong beta weight in the Primary Care model and thus may also be making a meaningful contribution to successful ACA implementation. The total amount of variation explained by all predictors in the model was 35%.

Audiology. Two variables were significant predictors of the extent of ACA implementation in Audiology: reviewing performance data ($\beta = .29$), and using consulting physicians ($\beta = .27$).

³ Cohen, J. *Statistical power analysis for the behavioral sciences: revised edition*. Orlando: Academic Press, 1977.

Exhibit 31 Regression Models Predicting Extent of ACA Implementation (Significant β s are in red)						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
Implementation structure & activities						
• Time doing ACA	0.13	0.14	0.13	0.40	0.32	0.45
• Management support for ACA	0.36	0.19	0.25	0.06	0.31	0.09
• Review of performance data	0.00	0.29	0.23	0.32	-0.05	0.22
• Local colleagues participate in access road show, consultations	-0.18	0.15	-0.27	0.03	0.24	0.04
• Availability of ACA resource materials	0.21	-0.10	0.27	-0.11	0.20	0.28
Staff awareness and capabilities						
• Team has needed knowledge and skills	0.20	0.10	0.18	0.21	0.38	0.10
Facility context						
• Patients on wait list	0.22	0.03	0.07	-0.01	0.38	-0.04
• Exam rooms per clinician	0.28	-0.20	-0.12	-0.07	-0.04	0.26
• Use of consulting physicians	0.13	0.27	-0.02	0.13	0.28	-0.05
Adjusted R²	35%	34%	22%*	21%	42%	39%

Management support ($\beta = .19$) appears to also be an important, but not statistically significant, variable in the model. The total amount of variation explained was 34%.

Cardiology. Two variables from the implementation structure and activities domain were significant for Cardiology. Team knowledge and skills ($\beta = .18$) and POC management support ($\beta = .25$) were positively associated with ACA implementation from the said domain. However, participation in an ACA access road show ($\beta = -.27$) was negatively associated with ACA implementation. That is, this activity tended to be present where ACA implementation was less extensive. Additionally, reviewing performance data ($\beta = .23$) and using ACA resource materials ($\beta = .27$) demonstrated moderately strong positive associations with ACA implementation. Although not technically significant, the magnitude of the beta weight suggests that these were also important factors contributing to implementation. The total amount of variation explained was 22%.

Eye Care. Reviewing performance data ($\beta = .32$) and the amount of time the clinic spent working on ACA ($\beta = .40$) were two variables from the implementation structures and activities domain with significant associations. Team knowledge and skills ($\beta = .21$) also showed a significant positive association with ACA implementation. Use of external consulting physicians ($\beta = .13$) showed a positive but non-significant association as well. The total amount of variation explained was 21%.

Orthopedics. A total of six predictors were significantly associated with ACA implementation in Orthopedics, the most in any of the six performance clinic areas. Three of these were from the

implementation structure and activities domain: resource materials ($\beta = .20$), time spent doing ACA ($\beta = .32$), and management support ($\beta = .31$). Participation in an ACA “road show” ($\beta = .24$) was positively and relatively strongly associated with implementation, but not statistically significant. Additionally, two facility context variables were significant: proportion of patients on the waiting list ($\beta = .38$) and extent of use of consulting physicians ($\beta = .28$). Additionally, team knowledge and skills ($\beta = .38$) evidenced a significant positive association. The total amount of variation explained was 42%, the most among all clinic models.

Urology. Three implementation structure and activities factors were significantly associated with implementation in Urology: reviewing performance data ($\beta = .22$), using resource materials ($\beta = .28$), and time the clinic has spent doing ACA ($\beta = .45$). The number of exam rooms per clinician was also significant ($\beta = .26$). The total amount of variation explained in the model was 39%, the second highest value.

6.3 Interpretation and Discussion

We created a schematic summary to simplify the detailed findings regarding the factors that predicted ACA implementation in the six performance clinics. In Exhibit 32, the non-significant findings have been dropped, and the beta weights for the significant variables have been replaced by upward or downward arrowheads indicating positive and negative relationships to extent of ACA implementation, respectively.

Exhibit 32						
Factors Significantly Associated with Extent of ACA Implementation						
▲ Positive association / ▼ Negative association						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
Implementation structure & activities						
• Time doing ACA				▲	▲	▲
• Management support for ACA	▲		▲		▲	
• Review of performance data		▲		▲		▲
• Local colleagues participate in access road show, consultations			▼			
• Availability of ACA resource materials					▲	▲
Staff awareness and capabilities						
• Team has needed knowledge and skills	▲		▲	▲	▲	
Facility context						
• Patients on wait list	▲				▲	
• Exam rooms per clinician	▲					▲
• Use of consulting physicians		▲			▲	
Adjusted R²	35%	34%	22%*	21%	42%	39%

Examining these data we come to three major conclusions. First, these prediction models are quite robust, predicting as they do 21% to 42% of the variance in extent of ACA implementation – moderate to large effects for the social sciences. This suggests the factors identified as significant predictors in each clinic area with the evaluation study sample of 78 facilities are indeed important, and that this finding would likely generalize to the facilities outside the study sample.

Second, no single set of variables emerged as uniformly significant predictors across all six clinic areas. The lesson we take from this finding is that the implementation of a program of change as multi-faceted as ACA requires a variety of implementation strategies and the flexibility to customize the strategies employed so as to fit the history and processes typical of each clinic area.

Third, while just having noted the need for flexibility in implementation strategy, we also note that four variables were significant predictors in three or more clinic areas and are thus likely to be important considerations wherever an effort is made to implement this change: length of time doing ACA, management support for ACA, clinic staff review of ACA performance data, and clinic team knowledge and skills. All four variables were positively associated with ACA implementation; that is, the higher the dosage of the variable, the greater the extent of ACA implementation. The four key implementation factors include:

- **Greater length of time doing ACA**

The significant positive relationship between length of time doing ACA – measured in months since ACA was initiated in a clinic area in a facility -- and the extent of implementation in three specialty clinics reinforces the expectation that change takes time, especially in a complicated intervention such as ACA. At the same time, the lack of significance in Primary Care suggests that the relationship may only hold for a limited period, or at least that it is strongest in the early phases of implementation. ACA generally was introduced earlier in Primary Care than in specialty clinics. Within Primary Care, ACA began in 1999 or earlier in 43% of the facilities, whereas in other clinic areas this was true in only 8%-18% of the facilities. This suggests, then, that at a more mature stage of an intervention, such as achieved in Primary Care, additional time and experience in themselves do not contribute to substantially higher levels of implementation.

- **Greater management support for ACA**

Leadership support for an innovation is generally seen as an important ingredient in its success. In our analyses, we looked beyond the personal commitment and advocacy of leaders to examine the management structures and processes that were put into place to support ACA. To analyze management support, we created a summary score from POC responses to an interview question about which of the following management structures and activities had been used to encourage ACA at their facility:

- Local POC designated to coordinate and champion ACA;
- ACA measures integrated into facility performance measures and strategic plans;
- Managers regularly review and are held accountable for ACA performance measures;
- Facility operations and infrastructure improved to support ACA;
- Local ACA champions explicitly designated for clinic areas;
- Local financial resources used to support ACA directly;
- Facility has ACA oversight body.

Higher scores – indicating that more aspects of management support were present – were significantly associated with greater ACA implementation. The picture of effective management support for ACA that emerges from these data involves elevating the visibility of ACA, incorporating ACA in facility priorities, holding managers accountable for improvement-related performance, and targeting resources to remove obstacles to ACA implementation that are beyond the reach of the local departments.

- ***Clinic staff review ACA performance data***

The significant relationship between review of performance data and ACA implementation is consistent with the literature showing use of data and performance feedback to be effective strategies for changing clinical practice, especially among physicians. In the staff survey, we asked respondents to rate the helpfulness of a wide array of ACA educational and implementation strategies, including review of performance data, on a 5-point scale ranging from “not at all helpful” to “extremely helpful.” In the regression analysis, review of performance data was the strategy that had the strongest association with ACA implementation across performance clinic areas. This finding illustrates the quality improvement principle that in order to change a process or outcome, one must be able to measure it. In this instance, having trustworthy and timely wait time data – and providing the data to clinic teams providing care -- made it possible to assess the current level of the problem and to monitor the impact of improvement efforts.

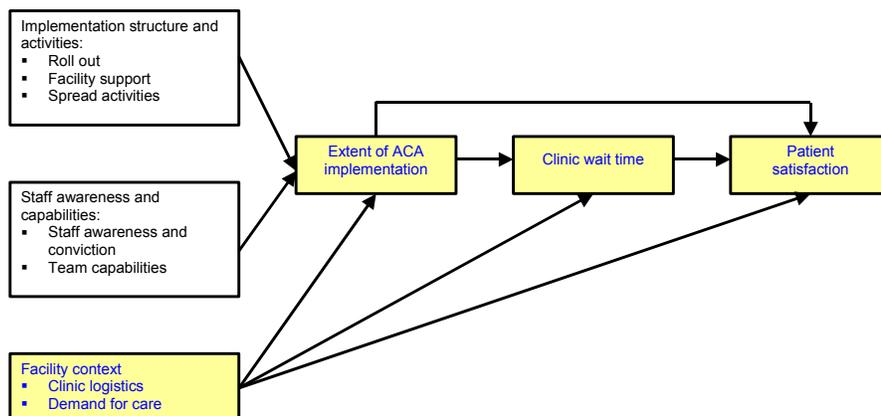
- ***Clinic teams have the knowledge and skill needed to do their work well and make changes successfully***

While staff opinions about an innovation will influence its implementation, as we argued earlier, awareness and conviction alone will not ensure success. The clinic team must also have the knowledge and skill needed to make changes and implement the new clinical practices. In our analyses, team knowledge and skill was a multi-item scale based on responses to eight items in the staff survey regarding the experience of clinic staff as they worked together to implement ACA. These items, which used a 5-point response scale ranging from “strongly disagree” to “strongly agree,” covered a variety of issues related to team learning and use of information:

- o Our team learns from the efforts of others to implement ACA in our facility;
- o Our team was able to easily adapt ACA ideas to match the needs of our clinic area;
- o Our team effectively applies knowledge and skill to get our work done well;
- o Our team has used performance data effectively to design and test changes;
- o Our team gets all the information we need to do our work;
- o Our team has identified measures that are tracked on a regular basis to assess our progress;
- o After we have implemented a change, team members think about and learn from the results;
- o This organization makes sure people have the skills and knowledge to work as a team.

Higher scores on this scale were significantly associated with greater ACA implementation. This suggests that teams with these characteristics are more likely to be effective in putting ACA into practice. The picture of the more effective team that emerges from these data is the one that seeks information, and is familiar with and utilizes some form of the “plan-do-study-act” method of process improvement, although team members may not necessarily know it by that name. Measurement and data are very important to these improvement methods, and the team both makes effective use of available data (e.g., on wait time) and/or implements new measures as necessary to monitor the impact of process changes.

7. TO WHAT EXTENT WAS ACA IMPLEMENTATION ASSOCIATED WITH SHORT CLINIC WAIT TIMES AND HIGHER PATIENT SATISFACTION?



A fundamental goal of ACA is to make care more accessible to veterans. The primary measure of accessibility used in the VA (and other systems) has been the length of time the patient must wait to get an appointment. From this focus, an important aim of ACA is to provide care whenever the patient wants it -- on the same day that it is requested if the patient desires. We expected that implementation of the ACA 10 key change principles would lead to shorter appointment wait time, and shorter wait time in turn would result in higher levels of patient satisfaction with wait time.

In addition to strategies that are directly related to improving the availability of appointments, ACA involves the redesign of many aspects of clinic operations that could improve the overall efficiency and effectiveness of the ambulatory care and service provided to veterans. Therefore, we expected that ACA might affect veterans' satisfaction with aspects of their ambulatory care beyond wait time.

In this section we examine the relationships between extent of ACA implementation, wait time, and patient satisfaction. The facility context variables were included in these analyses to control for their potential impact on wait time and patient satisfaction. More specifically, we addressed three questions:

- *Was greater ACA implementation related to shorter wait time?*
- *Was shorter wait time associated with higher levels of patient satisfaction with wait time?*
- *Were there any effects of ACA implementation on patient satisfaction with aspects of their ambulatory care other than wait time?*

Before turning to an examination of each of these questions, we provide an overview of the methods used.

7.1 Methods

7.1.1 Measures

Five sets of measures were used in these analyses:

Facility context. As described in detail in Section 4.2, six facility context variables were measured for this study: total number of staff in the clinic area, number of exam rooms per clinician, number of support staff per clinician, extent of use of consulting physicians, volume of new patients, and number of patients on the wait list. With the exception of the consulting physicians measure, which was based on POCs' judgments regarding their facility overall, these measures were computed separately for each of the six performance clinics. All facility context variables were evaluated as potential confounders and included in the regression models where appropriate based on the process and criteria described below.

Extent of ACA implementation. Extent of ACA implementation was measured using the composite measure described in Section 6.1.1. Briefly, this composite measure involved the combination of data from both the ACA implementation matrix completed by facility POCs and a rating of the extent of ACA implementation from the staff survey. Extent of ACA implementation was measured separately in this manner for each of the six performance clinic areas.

Wait time. Wait time was defined as the average number of days to the next available appointment in March 2003, as reported by the VSSC, and was likewise available for each of the six performance clinics. Where wait time was used as an outcome measure, as in the analyses related to question 1, it was entered as a continuous variable using average wait time. Where wait time was a predictor measure, as in the analyses related to questions 2 and 3, we created three groups of facilities based on average wait time: the 20 percent of facilities with the shortest average wait time, the 20 percent of facilities with the longest average wait time, and the remaining 60 percent in the middle of the wait time distribution. These groups were then represented in the regression equation by two dummy variables, with the middle wait time group serving as the holdout group. When serving as a predictor, this dummy variable approach could yield more interpretable results as compared to using wait time as a continuous variable. A significant finding using a continuous variable only allows one to make a general statement about the magnitude and direction (positive or negative) of the relationship. In addition to indications of magnitude and direction, however, a significant finding using dummy variables would also provide additional information regarding the location of meaningful threshold(s) along the distribution of the predictor.

Satisfaction with wait time. Patient satisfaction with wait time was measured using question three (Qx3) from the ambulatory care version of the VA Survey of the Health Experiences of Patients (SHEP) conducted by the Performance Analysis Center for Excellence (PACE), a division of the Office of Quality and Performance (OQP). To correspond with the wait time and other measures, we used the SHEP data for those survey respondents who had made outpatient visits during March 2003. The SHEP response rate for the period in question was excellent (72%). Of the 4972 respondents for March 2003 at the 78 facilities participating in the ACA evaluation study, an analysis of stop codes for the day of the target visit (i.e., the visit which qualified the veteran for inclusion in the SHEP sample) indicated that 1895 (38%) made only a Primary Care visit, defined as a visit to Primary Care/Medicine (stop code 322), Women's Clinic (323) or Geriatric Primary Care (350). In order to minimize the potential influence of patients' recollections of non-Primary Care visits on their evaluations, the patient satisfaction data used in these analyses was limited to that provided by this subset of "Primary Care only" respondents.

As noted, the specific SHEP variable used for the present purpose was question three, "Were you able to get an appointment as soon as you wanted?" Question three (Qx3) is typically included in the overall access satisfaction scale computed and reported by PACE. However, it was analyzed separately in the present study because Qx3 was regarded as the satisfaction measure that should be most closely related to wait time. At the facility level, the proportion of "yes" answers to Qx3 ranged from 48% to 100% with a mean of 78% (SD=12%)

Patient satisfaction with other aspects of ambulatory care. As for satisfaction with wait time, patient satisfaction with other aspects of their ambulatory care was based on the SHEP data from 1895 veterans who made Primary Care visits at the 78 evaluation study facilities in March 2003. Specifically, we used the nine standard multi-item Veteran Healthcare Service Standards (VHSS) scales routinely computed by PACE: access, patient preferences, patient education and information, emotional support, visit coordination, overall coordination, courtesy, pharmacy service, and specialty care.

Question three (Qx3) regarding satisfaction with wait time is one of the items typically included in the access scale. However, because of its special relevance as an outcome measure related to ACA, Qx3 was analyzed separately as described above. In order to eliminate redundancy in the analyses, we therefore computed a revised access scale score that did not include Qx3. Thus the revised access scale represented patients' evaluation of access-related experiences other than wait time.

7.1.2 Data analysis

The primary analytic method used to examine the three research questions was multiple linear regression with a hierarchical (ordered) entry of predictors into the equation.

In all cases, we wanted, first, to control for the effect of facility characteristics that might influence wait time and thereby confound our interpretation of the impact of ACA. Looking at the relationship between ACA implementation and wait time, for example, imagine two facilities where the same subset of the ACA 10 key changes had been successfully implemented. At Facility A the wait time for the next available appointment was 28 days, whereas at Facility B patients seeking the next available appointment could get one within 48 hours. On the basis of this variance in wait time across facilities with the same amount of ACA implementation, one might conclude that ACA had no impact on wait time. For a given dose of ACA, wait time may be short or it may be long. At Facility A, however, there was only one exam room available per clinician, 0.8 support staff per clinician, and a large number of patients on the wait list ready to jump into any available appointment slot that might open. At Facility B, on the other hand, there were 2.3 exam rooms per clinician, 1.5 support staff per clinician, and a short wait list. Without statistically controlling for the impact of these facility context variables, the impact of ACA could be masked. One could also imagine a scenario in which ACA was more easily and completely implemented at smaller facilities where wait times were already relatively low. A subsequent analysis of the impact of ACA implementation on wait time might incorrectly attribute success to ACA when in fact the shorter wait times at facilities with relatively high degrees of ACA implementation were due to the size and other characteristics of the facility.

To identify such potential confounders, we examined in each clinic area the correlations between the outcome measure in each analysis and all six of the facility context variables. Any context variable correlated with wait time at $\geq .10$ (absolute magnitude) was included in the regression model predicting wait time in that clinic area. Correlations of this order of absolute magnitude would generally be considered indicative of a relatively weak relationship inasmuch as they signify about 1% overlap (shared variance) between the variables involved. However, we elected to err on the side of caution and included these variables in the prediction equation so as to take their influence on the outcome, although small, into account.

In all cases the unit of analysis was the VA facility at the STA5A level of differentiation (i.e., campuses within integrated facilities were treated as separate units).

7.2 Was greater ACA implementation related to shorter wait time?

The hypothesis tested in this phase of the analysis was that, other things being equal, a higher degree of ACA implementation would be associated with shorter wait times. This hypothesis was examined in all six performance clinic areas.

7.2.1 Analysis and findings

We looked first at the correlations between wait time and the six facility context variables to identify factors that might confound the relationship between ACA implementation and wait time. Basic descriptive statistics for all context variables and their correlations with wait time are reported in Exhibit 33. In Primary Care, no statistically significant relationships were observed. The two strongest correlations were observed between wait time and (a) the total number of Primary Care staff ($r = 0.14$), and (b) the extent of use of consulting physicians at that facility ($r = -0.17$).

Inasmuch as these exceeded our strength of relationship criterion ($.10$), both variables were included in the prediction equation in Primary Care. A similar selection process was applied to the facility context variables in the other five clinic areas.

After controlling for the relevant facility context variables, extent of ACA implementation predicted a statistically significant amount of the remaining variance in wait time in three clinic areas: Primary Care, Orthopedics, and Urology. The regression analysis results are summarized in Exhibit 34.

In Primary Care, two facility context variables -- number of Primary Care staff and extent of use of consultants -- were entered into the prediction equation first and, as indicated by the change in R^2 for that

Analysis Synopsis

Outcome

Wait time (continuous variable)

Predictors

- (1) Selected facility context variables
- (2) Extent of ACA implementation

Clinic Areas

Separate analyses for all six clinic areas

step, accounted for 4% ($p=.27$) of wait time variance. Adding the ACA implementation measure to the prediction equation then increased the percent of variance in wait time accounted for by a significant 7% ($p=.03$), resulting in a significant regression model overall, $F(3,71) = 2.71, p=.05$. Further, the relationship between ACA implementation and wait time was in the predicted direction: greater ACA implementation was associated with shorter wait time.

In Orthopedics, extent of ACA implementation predicted an additional 14% ($p=.005$) of the variance in wait time over and above the 2% ($p=.32$) accounted for by the number of exam rooms per clinician.

In Urology, three facility context variables were entered into the prediction equation first: number of support staff per clinician, extent of use of consultants, and wait list volume. Together these three variables accounted for 34% ($p<.0001$) of the variance in Urology wait time. After taking the influence of these variables into account, extent of ACA implementation accounted for an additional 5% ($p=.04$) of the remaining wait time variance.

The wait time prediction models for Audiology, Cardiology and Eye Care were not statistically significant.

7.2.2 Interpretation and discussion

Extent of ACA implementation was a modest to moderately strong predictor of shorter wait time in Primary Care, Orthopedics, and Urology.

In Urology and Primary Care, extent of ACA implementation accounted for 5% and 7% of the variance in wait time, respectively, after controlling for the influence of relevant facility characteristics on wait time. This amount of variance accounted for would generally be regarded as indicative of a modest effect size in the social sciences – that is, somewhere between small (2%) and medium (13%). In Orthopedics, extent of ACA implementation predicted 14% of the variance in wait time over and above that which could be predicted by facility characteristics. An effect of this size would generally be regarded as being of medium magnitude in the social sciences – a solid and robust finding.

In Primary Care and Orthopedics, the facility context variables accounted for only 2-4% of the variance in wait time. In Urology, however, the three facility context variables included in the prediction model – number of support staff per clinician, extent of use of consultants, and wait list volume – together accounted for 34% of wait time variance. This represents a substantial effect size in an absolute sense, and was by far the strongest relationship between facility context variables and wait time among the six performance clinics, suggesting that facility context as defined here plays a greater role in determining wait time in Urology than it does in Primary Care or the other specialties that were studied. One implication of this finding is that Urology staff may need to give these factors a higher priority when deciding how to implement ACA. Thus, for example, it may be that early implementation of certain 10 key changes such as working down the backlog, optimizing the care team, and optimizing rooms/equipment that are often related to context factors such as use of consultants, wait list volume, and the support staff to clinician ratio will be more important to the success of ACA in Urology than in other clinic areas.

The particular direction of the relationship between the facility context factors and wait time in Urology was also interesting. As indicated by the negative sign of the beta weight (Exhibit 34), greater use of consulting physicians was associated with lower wait time in Urology ($\beta = -.24$). One interpretation of this finding would be that the use of consulting physicians to increase the supply of care available in Urology was effective in reducing the amount of time that veterans had to wait to get an appointment. Any interpretation of the impact of consulting physicians in a *particular* clinic area needs to be made with caution, however, because this variable is based on the facility POC's judgment about the extent of consultant use at their medical center *overall*.

On the other hand, the other two facility context variables included in the Urology wait time prediction model both had a positive relationship with wait time. The positive relationship between wait list volume and wait time ($\beta = .47$) indicates that those facilities with more veterans on the Urology wait list tended to be the facilities where wait times were longer.

Exhibit 33						
Facility Context Variables: Basic Descriptive Statistics and Correlation with Wait Time by Clinic Area						
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology
Staff size						
Minimum	10	1.25	1.20	.06	.30	.02
Max	119	21.00	24.00	19.00	16	19.00
Mean	45.11	5.51	7.19	7.47	5.58	5.33
SD	24.62	3.00	4.64	3.87	3.28	3.36
Correlation	.14	-.11	-.01	.05	-.08	.03
Exam rooms						
Minimum	.50	.50	.50	.50	.50	.50
Max	4.00	2.00	3.00	3.50	4.00	4.00
Mean	1.67	1.28	1.48	1.57	1.60	1.70
SD	.57	.43	.50	.58	.68	.69
Correlation	-.07	.06	.05	.04	-.14	-.06
Support staff						
Minimum	.28	.20	.20	.21	.25	.10
Max	5.00	3.00	4.50	7.00	5.00	5.40
Mean	1.67	.77	1.25	1.42	1.32	1.38
SD	.93	.44	.84	1.04	.78	.92
Correlation	.00	.03	.08	.05	.04	.16
Use of consultants						
Minimum	1.00	1.00	1.00	1.00	1.00	1.00
Max	4.00	4.00	4.00	4.00	4.00	4.00
Mean	2.78	2.78	2.82	2.79	2.74	2.78
SD	.95	.93	.93	.98	.92	.93
Correlation	-.17	.00	-.03	-.13	-.08	-.20
Wait list						
Minimum	0%	0%	0%	0%	0%	0%
Max	.008%	2.13%	1%	3.26%	1.31%	8%
Mean	.0001	8%	0%	.09%	.30%	0%
SD	.0009	.33%	0%	.45%	.19%	1%
Correlation	-.08	.09	-.03	.04	.01	.48***
Inflow						
Minimum	9%	17%	10%	13%	19%	9%
Max	31%	135%	310%	80%	202%	118%
Mean	45%	56%	54%	43%	54%	40%
SD	35%	21%	41%	15%	28%	16%
Correlation	-.04	-.30**	-.08	-.07	.11	-.09

Exhibit 34						
Effect of ACA Implementation on Wait Time: Hierarchical Regression Results						
Predictor	Primary Care N=73	Audiology N=60	Cardiology N=59	Eye Care N=64	Orthopedics N=51	Urology N=56
Step 1: Enter Control Variables						
Total number of staff	.11	-.16				
Number of support staff per clinician						.18
Number of exam rooms per clinician					-.07	
Use of consulting physicians	-.12			-.10		-.24*
New patient volume		-.33**			.06	
Wait list volume						.47**
Change in R ²	.04	.12		.02	.03	.34*
F	1.39	3.76		1.12	.76	9.03**
Step 2: Enter Primary Predictor						
Extent of ACA implementation	-.26*	-.07	-.11	-.13	-.38*	-.25*
Change in R ²	.07*	.00	.01	.02	.14*	.05*
F	5.19*	.29	.70	1.07	7.77**	4.37*
Model Overall						
Overall R ²	.10*	.12	.01	.04	.17	.39
Adjusted R ²	.06*	.07	-.01	.00	.12	.35
F	2.71*	2.57	.70	1.10	3.17*	8.30**

Note. Table entries are standardized regression coefficients (betas) unless otherwise noted.

*p<=.05 **p<=.01

The positive relationship between number of support staff per clinician and wait time ($\beta = .18$) in Urology is more difficult to understand. The positive direction of the relationship means that as the number of support staff per clinician increased, so did wait time. Intuitively one would expect that a higher ratio of support staff to clinicians would be indicative of greater capacity, and that this in turn would be associated with *shorter* rather than longer wait time. Such a relationship should hold true within a certain range of supply and demand. If however the volume of patients is particularly high, then the number of support staff available per clinician may have little additive impact on efficiency if the basic number of clinicians is simply not adequate. In such situations a high support staff to clinician ratio could serve as a proxy for "large facility," and it may be in this capacity that the observed positive relationship should be interpreted. It should also be noted that, of the three facility context variables included in the Urology prediction model, support staff per clinician was the only one that was not statistically significant in and of itself. Thus caution should be taken not to over-interpret this finding.

As of the March 2003 data collection period used in this study, we did not observe any substantial impact of ACA on wait time in Audiology, Cardiology or Eye Care.

7.3 Was shorter wait time associated with higher levels of patient satisfaction with wait time?

A key goal of ACA was to improve veterans' satisfaction with wait time in VA. The assumption was that veterans would notice and respond favorably to the shorter wait times brought about through the implementation of the ACA 10 key changes. In this section we describe the analyses conducted to test this hypothesis. More specifically, we examined whether, after taking potential confounding facility

context variables into account, Primary Care patients at facilities with shorter wait times were more satisfied with that aspect of their health care than were Primary Care patients at facilities with longer wait times. This hypothesis was examined in Primary Care only because that was the clinic area for which patient satisfaction data were available from the SHEP survey.

7.3.1 Data analysis and findings

Looking first for potential confounders, we examined the correlations between Qx3 and the facility context variables measured for this study; see Exhibit 38. Four of the six correlations exceeded the .10 threshold for inclusion in the prediction model: total number of staff ($r = -.25$), exam rooms per clinician ($r = .13$), support staff per clinician ($r = .18$), and extent of use of consulting physicians ($r = .18$).

The regression analysis was performed in a hierarchical manner, with the facility context variables entered first.

After controlling in this way for the influence of these potential confounding factors, the wait time group dummy variables representing facilities with the shortest and the longest wait times were entered to determine whether wait time accounted for a significant amount of the remaining variance in patient satisfaction.

The overall regression model was statistically significant, $F(6,68) = 2.26$, $p = .05$. The four context variables together accounted for 11% ($p = .09$) of the variance in veterans' satisfaction (Qx3). Wait time itself then accounted for an additional 6% ($p = .09$) of variance in veterans' satisfaction. Detailed regression results are reported for the Qx3 prediction model in Exhibit 39.

7.3.2 Interpretation and discussion

Shorter wait time was modestly related to higher satisfaction with wait time among veterans visiting Primary Care. Exhibit 35 depicts this finding by dividing the facilities into five groups (quintiles) based on their average wait time and reporting the percent of veterans in each group who answered "yes" in response to Qx3, "Were you able to get an appointment as soon as you wanted?" In general, there were more "yes" responses at facilities with shorter wait times than there were at facilities with longer wait times. In the shortest wait time group, where the average appointment wait was 13.6 days or less, 84 percent of veterans said that they had received their appointment as soon as they had wanted it. This compares to only 74 percent "yes" among those at facilities with the longest wait times (38.1 days or more).

The relationship between wait time and Qx3 was not entirely linear, however. At facilities where the average appointment wait ranged between 29.1 and 38 days, 81 percent of veterans answered "yes" to Qx3 in comparison to only 72 percent and 74 percent "yes" in the next shortest and next longest wait time groups, respectively. No immediate reason for the spike in satisfaction among veterans at this group of facilities with relatively long wait times was evident.

The other point that should be made about these findings is that the overall regression model predicting response to Qx3 was significant ($p < .05$). However, neither the amount of variance in Qx3 predicted by the four facility context variables that were included in the prediction equation (11 percent; $p = .09$), nor the incremental variance accounted for by wait time (6 percent; $p = .09$), were significant in and of themselves using the conventional .05 criterion. Nonetheless, we believe there are several reasons why the observed relationship is interpretable as representing a real trend in the data. First, the amounts of variance accounted for (6 and 11 percent respectively for wait time and the facility context factors) would be regarded as representing modest to moderate effects for the social sciences.⁴ Secondly, according to Mallows' C(P) statistic – a measure of total squared error that can be compared to a criterion value (n of variables in the prediction equation at that step, plus one) to determine whether the regression model in

Analysis Synopsis

Outcome

Qx3 (Satisfaction with wait time)

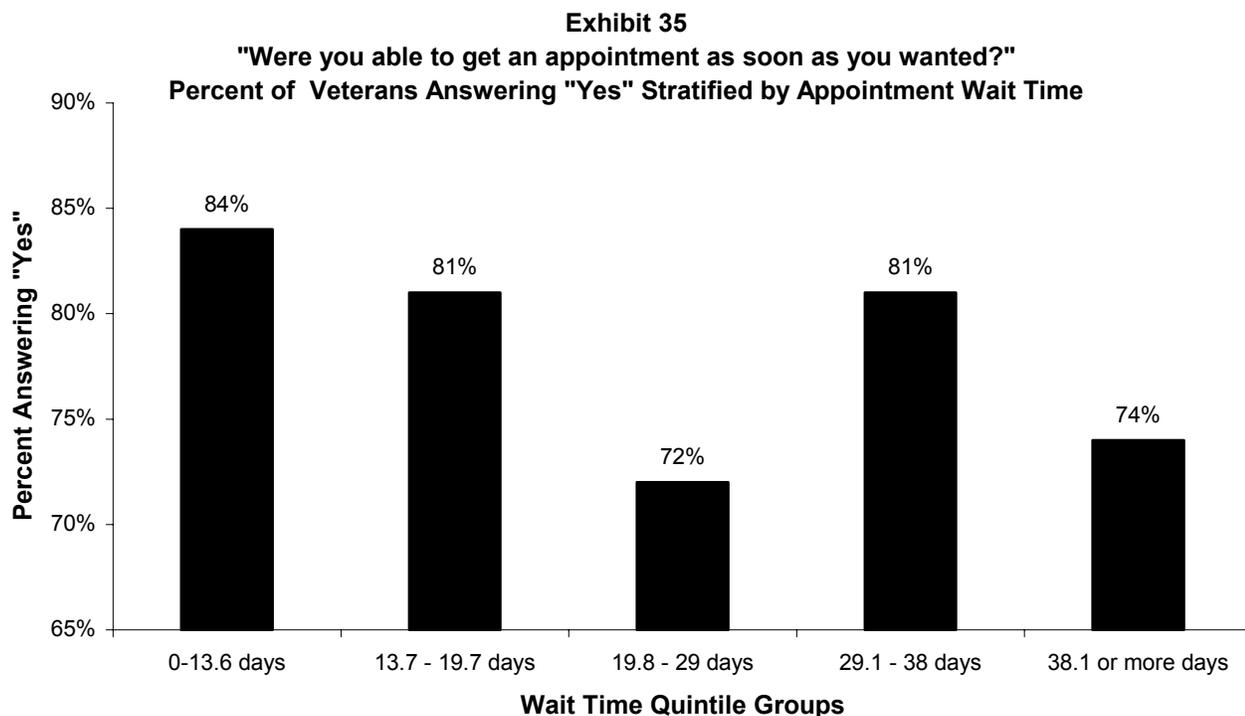
Predictors

- (1) Selected facility context variables
- (2) Wait time (groups)

Clinic Areas

Primary Care

⁴ Cohen, 1977



question is over or under-specified – the seven variable model including the two wait time group dummy variables was a better model than the model containing only the four facility context factors. Finally, a retrospective power analysis based on the actual effect sizes indicates that this regression analysis had power to confirm a statistically significant effect of wait time on patient satisfaction of the observed magnitude of about .58. This compares to the .80 commonly regarded as the criterion for adequate statistical power, and suggests that it is reasonable to interpret the results based on the size of the effects (in this case, modest to moderate in magnitude) even though they did not strictly achieve conventional criteria for statistical significance.

7.4 Were there any effects of ACA implementation on patients' satisfaction with aspects of their ambulatory care other than wait time?

ACA involves multiple, inter-related changes that could impact efficiency and effectiveness at many points in the care delivery process. Some of the 10 key change principles such as "work down the backlog" and "reduce appointment types" are focused on quickly improving the availability of appointment slots. ACA also involves strategies such as "optimize the care team" and "reduce demand" that have longer implementation and impact time horizons and that require more fundamental changes in what tasks are done by which staff members and at what frequency. Theoretically, these changes will also ultimately move the system closer to the ideal of on-demand access. The effect of such changes on patients' experience and satisfaction are potentially complex and not easy to predict, however. It is not clear, for example, what the impact of some demand-reduction and care-team optimization strategies such as group or telephone or electronic encounters involving providers other than the Primary Care physician will be on patients' perceptions of the coordination and continuity of their care. It is conceivable that these changes may succeed in connecting patients with providers more quickly, but in a way that engenders profound concerns among patients about the overall quality of that more readily accessible care.

It is also possible that ACA may have some degree of direct impact on patient satisfaction rather than or in addition to an impact mediated by shorter wait time.

Finally, it is simply good evaluation science to check for both positive and negative unintended consequences on a broad array of outcomes relevant to any intervention.⁵

For these reasons we examined both (a) the relationship between *wait time* and veterans' satisfaction with a wide range of dimensions of their ambulatory care beyond wait time, and (b) the relationship of *ACA implementation itself* with veterans' satisfaction.

The unit of analysis was again the VA facility at the STA5A level of differentiation (i.e., campuses within integrated facilities were treated as separate units). Because adequate patient satisfaction data was only available for primary care, this analysis was restricted to that clinic area.

7.4.1 Data analysis

Our goal in this phase of the analysis was to explore the possibility that ACA might affect veterans' satisfaction with aspects of their care other than wait time. Further, we were interested in testing for both a mediated and a direct relationship between ACA implementation and veterans' satisfaction. The mediated relationship refers to the path in the conceptual model in which ACA implementation leads to short wait time, which in turn leads to higher satisfaction. The direct relationship refers to the possibility of a direct connection between ACA implementation and satisfaction, in addition to any impact related to wait time reduction.

Multiple regression was used to model the relationship between wait time and satisfaction, representing the mediated impact of ACA. Separate regression models were computed for each of the nine satisfaction measures. The content of the SHEP VHSS scales is summarized in Exhibit 36; basic descriptive statistics are reported in Exhibit 37.

As before, in these analyses we also wanted to control for the influence of facility characteristics that might co-vary with wait time and also influence the outcome measure (patient satisfaction). To identify such potential confounders, we examined the correlations between the nine satisfaction measures and the six facility context variables measured for this study. Exhibit 38 reports the correlation between these variables and the patient satisfaction measures, including the previously analyzed Qx3 (see section 7.3). Those context variables with correlation coefficients of .10 or greater in absolute magnitude with any given SHEP satisfaction measure were included in the regression model for that satisfaction measure. In each case the regression analysis was performed in a hierarchical manner, with the facility context variables entered first. After controlling in this way for the influence of these potential confounding factors, the wait time group dummy variables representing facilities with the shortest and the longest wait times were entered to determine whether wait time accounted for a significant amount of the remaining variance in patient satisfaction.

We also examined the possibility that ACA may have a direct impact on patient satisfaction rather than or in addition to an impact that was mediated by shorter wait time. To test this hypothesis we repeated the regression analyses described above, but added the extent of ACA implementation measure to the equations predicting the nine SHEP satisfaction measures in a final step. Thus these analyses examined the percent of variance in patient satisfaction that could be accounted for by ACA implementation after taking the impact of facility context and wait time into account.

Analysis Synopsis: Mediated Impact of ACA

Outcome

SHEP VHSS Scales (separate analysis for each of the nine satisfaction dimensions)

Predictors

- (1) Selected facility context variables
- (2) Wait time (groups)

Clinic Areas

Primary Care

Analysis Synopsis: Direct Impact of ACA

Outcome

SHEP VHSS Scales (separate analysis for each of the nine satisfaction dimensions)

Predictors

- (1) Selected facility context variables
- (2) Wait time (groups)
- (3) Extent of ACA implementation

Clinic Areas

Primary Care

⁵ Weiss, J. *Evaluation Research: Methods for Assessing Program Effectiveness*. Englewood Cliffs: Prentice-Hall, Inc., 1972

Exhibit 36 Measures of Veterans' Satisfaction with Care: The SHEP VHSS Scales			
Scale Name	Abbreviation	N of Items	Sample Item
Access	AXCS	6	How long after the time when your appointment was scheduled did you wait to be seen?
Patient Preferences	PREF	5	Were you involved in decisions about your care as much as you wanted?
Patient Education	INFO	7	When you asked questions, did you get answers you could understand?
Emotional Support	EMOT	3	Did you have confidence and trust in the provider you saw?
Visit Coordination	VCORD	5	Did you know who to call if you needed help or had more questions after you left your appointment?
Overall Coordination	OCORD	6	How well organized was the clinic you visited?
Courtesy	CTSY	2	Overall, how would you rate the courtesy of your provider?
Pharmacy	RX	2	Overall, how would you rate VA pharmacy services during the past two months?
Specialist Care	SPEC	4	Were you given enough information about why you were to see your VA specialist?

Exhibit 37 Measures of Veterans' Satisfaction: Facility-Level Basic Descriptive Statistics					
Scale Name	Abbreviation	Min	Max	Mean	SD
Access	AXCS	59	100	79	9
Patient Preferences	PREF	68	95	82	5
Patient Education	INFO	55	94	73	8
Emotional Support	EMOT	65	96	83	7
Visit Coordination	VCORD	68	98	84	7
Overall Coordination	OCORD	56	95	76	8
Courtesy	CTSY	84	100	96	4
Pharmacy	RX	66	100	85	9
Specialist Care	SPEC	58	100	80	9

Exhibit 38 Correlations between Patient Satisfaction and Facility Context Variables						
	Staff	Exam rooms	Support staff per provider	Use of consulting physicians	Wait list	Patient volume
Appointment (Qx3)	-.25**	.13	.18	.18	-.01	.06
Access	-.31**	.07	.08	.00	-.05	.04
Patient Preferences	-.02	-.09	.08	-.03	-.03	-.08
Information	-.10	-.07	.09	.06	-.08	.00
Emotional Support	.06	-.17	.04	-.07	-.06	-.10
Visit Coordination	-.03	.06	.15	.14	-.16	.01
Overall Coordination	-.13	-.04	.14	.18	-.04	.03
Courtesy	-.03	-.08	.18	.10	.03	.12
Pharmacy	-.17	.07	.21*	.07	-.06	-.04
Specialist	-.13	-.18	.07	-.02	-.10	-.04

Number of facilities varied from 75 to 78.

* = $p < .10$ ** = $p < .05$

7.4.2 Findings

In terms of the mediated impact of ACA, wait time was found to be a statistically significant predictor of three satisfaction measures: visit coordination, courtesy and pharmacy service scales. The percent of variance accounted for by the facility context variables in all three of models was in the 6-7% range. The percent of remaining variance in patient satisfaction accounted for by wait time ranged was 7% in the case of visit coordination and courtesy, and 11% in the case of pharmacy service. In the case of patient preferences (PREF) and patient education and information (INFO), it should be noted that none of the facility context variables qualified for inclusion in the prediction model. Detailed results from these multiple regression analyses are reported in Exhibit 39, which also includes the previously-discussed results for Qx3 (see Section 7.3).

With regard to a direct relationship between ACA and veterans' satisfaction, only the model predicting satisfaction with specialty care was statistically significant. Furthermore, the valence of the relationship between ACA and specialty care satisfaction was negative. Because just one of the models was significant from this series of analyses, a complete table of results for all nine satisfaction dimensions is not presented here. The relevant statistics for the significant specialty care prediction model are quoted in section 7.4.3.

7.4.3 Interpretation and discussion

Shorter wait times were associated with higher satisfaction in three non-access domains of ambulatory care: courtesy, visit coordination, and pharmacy service. These results suggest that where wait times are short, it is also the case that staff tend to be more courteous, the visit itself is better coordinated, and pharmacy service is more efficient. Although it cannot be determined definitively from these observational data, one possible causal mechanism that is consistent with these findings is that the

Exhibit 39										
Relationship between Wait Time and Patient Satisfaction in Primary Care: Hierarchical Regression Results										
Predictor	Qx 3	Axcs	Pref	Info	Emot	Vcord	Ocord	Ctsy	Rx	Spec
Step 1: Enter Control Variable(s)										
Total number of staff	-.16	-.30*					-.07		-.12	-.11
Exam rooms per clinician	.08				-.17					-.19
Support staff per clinician	.16					.14	.14	.20	.21*	
Extent of use of consultants	.11					.14	.15			
Patient inflow								.12		
Wait list volume						-.18				
Change in R ²	.11	.10	NA	NA	.03	.06	.05	.05	.07	.06
F	2.07	7.82**	NA	NA	2.16	1.63	1.33	1.82	2.84	2.18
Step 2: Enter Wait Time										
Shortest Wait Group	.16		-.02	.03	-.03				.24*	.19
Longest Wait Group	-.15	-.16	.04	.06		-.27*	-.09	-.27*	-.19	
Change in R ²	.06	.03	.00	.00	.03	.07	.01	.07	.11	.03
F	2.26	2.22	.08	.14	.04	5.77*	.59	5.46*	2.96	2.70
Model Overall: All Predictors										
Overall R ²	.17	.12	.00	.00	.03	.14	.06	.12	.18	.09
Adjusted R ²	.09	.10	-.02	-.02	.00	.09	.01	.08	.14	.05
F	2.26	5.08**	.08	.14	1.09	2.75*	1.14	3.11*	3.97**	2.39

Note. Table entries are standardized regression coefficients (betas) unless otherwise noted.

NA = Not applicable; none of the facility context variables met the criteria for inclusion in the prediction model for this dimension of patient satisfaction.

implementation of ACA is responsible at least in part for this particular constellation of enhanced performance. For example, one hypothesis regarding the link between shorter Primary Care wait times and higher pharmacy service satisfaction is that the shorter wait times mean that veterans who need to be seen by a VA Primary Care provider before being able to change or fill their prescriptions at a VA pharmacy, are encountering fewer delays in seeing that provider. This greater efficiency is in turn making the entire process involved in getting a prescription filled a more positive one.

A similar mechanism may also underlie the trend toward higher satisfaction with specialty care we observed among veterans at facilities with shorter Primary Care wait times, although as reported in Exhibit 39, the overall regression model predicting satisfaction with specialty care approached but did not achieve statistical significance ($F=2.39$, $p=.07$).⁶

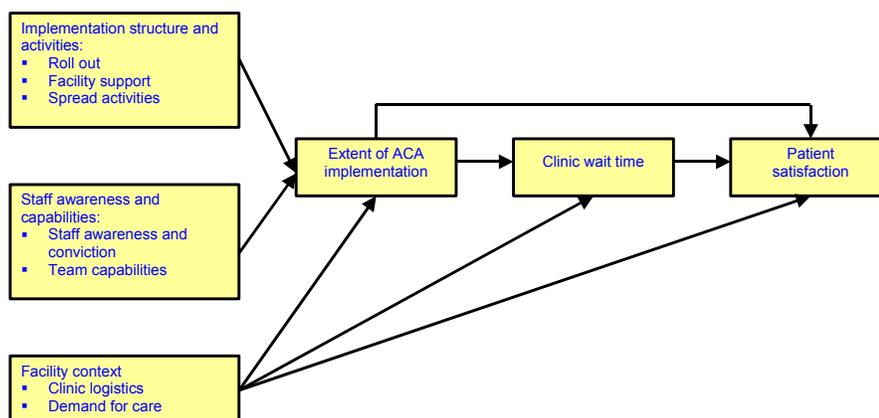
⁶ The SHEP survey includes a section in which respondents are asked to evaluate any specialist care they may have had over the past two months. The scale consists of four items regarding: (1) the wait time to get an appointment with a specialist; (2) the respondent's understanding of the purpose of the

In addition to these analyses of the relationship between wait time and veterans' satisfaction, we also constructed a parallel series of prediction models in which extent of ACA implementation was used to predict satisfaction directly, after controlling for both confounding facility characteristics and wait time. Only one of these regression models produced a significant result. In the model predicting satisfaction with specialty care, facility context variables and wait time accounted for 9 percent of the variance in the SHEP specialty care scale ($p=.14$). Adding the ACA implementation scale into the equation increased the variance predicted by 5.7 percent ($p=.03$), bringing the total to almost 15 percent ($p=.04$).

However, the sign of the beta weight for ACA implementation in this regression equation was negative, indicating that *greater* ACA implementation was associated with *lower* specialty care satisfaction. One possible explanation for this negative relationship may be related to the use of referral guidelines, or service agreements. One technique that serves multiple ACA principles with regard to specialty care, including both the reduction of demand and managing constraints, is the use of service agreements. These agreements often attempt to define more precisely the circumstances that warrant specialty care referral and thereby typically encourage Primary Care physicians to assume responsibility for more of their patients' care prior to seeking a referral. The reciprocal issue of "graduating" patients from specialty care back to their Primary Care provider is also often explicitly addressed by these agreements as part of an overall strategy to get the right care to the patient at the right time and thereby make more efficient use of more scarce resources such as specialists. However, the introduction and/or more consistent application of such service agreements might be perceived by veterans as a limitation of access to specialty care and manifest itself as lower satisfaction scores on the specialty care section of the SHEP survey.

specialty referral; (3) whether the specialist had all the necessary information at the time of the visit; and (4) the overall quality of the visit with the specialist.

8. SUMMARY AND CONCLUSIONS



Advanced Clinic Access has received considerable attention in VA since the Department began the initiative to diffuse ACA principles across the system in January 2000. Since that time, reduction of wait times has been a high priority in VA as the number of veterans seeking VA care has expanded dramatically. ACA has been seen as a promising strategy not only for reducing wait times but also for more broadly redesigning clinics to be both patient-focused and efficient. The ACA initiative developed an extensive infrastructure to support the diffusion of ACA with points of contact designated to lead ACA in every VISN and most medical centers and a growing network of clinical access coaches to catalyze peer networks of advocacy and support, all under the leadership of a national clinical director and steering committee.

Progress through summer 2003

In this context of high attention to wait times and the extensive network of activities to promote and support ACA, the MDRC evaluation found that efforts to spread ACA had resulted in strong progress in many areas by the summer of 2003, though the story was still mixed. This variation is to be expected given the scope and complexity of change attempted, particularly when attempted without a national mandate.

Awareness. By the summer of 2003, as indicated by the ACA staff survey results, most staff in the six ACA target clinic areas were aware that wait times for clinic appointments were a high priority problem in VA. This is a positive finding because organizational change is more likely to be successful if staff recognize that there is a need and an urgency to change the way they work.

Fewer staff were familiar with ACA – at least under that label – or believed it was an effective strategy for reducing wait time. Another factor in the success of organizational change is that staff believe that the proposed approach to solving the problem or reaching a new goal will be effective – that it will have the expected benefits and that it will work in their organization. The opinions, knowledge and capabilities of the clinicians and other staff responsible for implementing a new clinical practice influence that implementation in many ways. As the people who actually put the innovation into practice, the clinic staff are the filter through which the implementation structures and activities pass. While awareness of ACA and its expected benefits may have increased since last summer, there is likely to be a need for continuing efforts to educate staff, including clinicians, about ACA.

ACA Implementation. By the summer of 2003, implementation of ACA was underway but varied across facilities and target clinic areas. We defined implementation in terms of the use of the ACA 10 key change principles. Rather than simply looking at success in reducing wait time, we thought it necessary to determine the extent to which clinics were actually using the 10 key changes. Determining whether an innovative clinical practice is actually put into practice is a key step in understanding its effectiveness. Many innovative clinical practices have disappointing results, often not because innovation design failed but because the innovation was never implemented.

According to POC reports in the spring of 2003, a substantial proportion of facilities in each clinic area (ranging from 32% to 42%) reported that ACA was fully implemented in 90%-100% of their clinics. Implementation in the other facilities ranged widely in all target clinic areas from 0-90%. According to the staff survey in the summer of 2003, staff generally reported moderate ACA implementation but with substantial variation among clinic areas. Staff in Audiology reported higher implementation than other clinic areas, with 39% of respondents rating implementation between 4 and 5 on a five-point scale with 5 being "to a great extent." Staff in Orthopedics and Cardiology reported the lowest implementation with 39% and 46%, respectively, rating implementation below 2.5, with 3 being "moderate."

According to both the POCs and staff and looking across clinic areas, the key change principles most likely to be fully implemented were optimizing rooms and equipment, understanding supply and demand, and synchronizing patient, provider and information. The least likely to be fully implemented was reducing demand.

While we expect the levels of ACA implementation have risen since last summer given the expanding levels of ACA diffusion, we would not expect full implementation in all clinics in all clinic areas across VA. Periodic monitoring of the implementation of the 10 key changes, not only in the original six target clinics but in the additional clinics receiving attention in FY2004, would provide important information for targeting education and technical assistance to areas where implementation is lagging.

Factors affecting ACA implementation

Identifying factors associated with successful implementation provides useful lessons for future diffusion of ACA and potentially for the diffusion of other innovative clinical practices. The diffusion of ACA has been a complex undertaking. We identified and measured many variables in three domains -- (1) implementation structure and activities, (2) staff awareness and capabilities, and (3) facility context -- that we expected to affect ACA implementation. To identify from this large group of variables the factors most strongly affecting ACA implementation, we conducted a series of multiple regression analyses. The analyses indicate, first, that the models do well in predicting variation in ACA implementation, meaning that we have a fairly good understanding of the factors that make a difference in implementing ACA. Second, there is not a single formula for successful implementation of innovative clinical practices. The variables that predict implementation differ for each clinic area. Third, despite these differences, there is a limited set of robust factors that have a high likelihood of contributing to successful implementation of clinical innovations across clinical areas. These are:

- Greater length of time implementing the innovation;
- Greater management support for the innovation;
- Clinic staff reviewing performance data;
- Clinic teams having the knowledge and skill needed to do their work well and make changes successfully.

These findings offer important lessons for VA managers and clinical leaders who are striving to diffuse effective new clinical practices successfully, and to VISN leaders who are working to transform their VISNs into learning organizations that can efficiently implement evidence-based practices. Unlike the findings about the progress of ACA diffusion, these lessons are not limited to a single point in time, but are expected to hold as ACA and other clinical innovations move forward.

Relationships between ACA, wait time and patient satisfaction

The guiding expectation behind the implementation of ACA in VA is that it will improve veterans' access to care. It is expected that clinics with greater ACA implementation will be more likely to offer good access – with access measured by short wait times – than clinics that do not adopt ACA principles, and that in turn veterans would be more satisfied with access at the former facilities than the latter. To test these expectations, we conducted a series of multiple regression analyses of (1) the relationship between ACA implementation and wait time; (2) the relationship between wait time and patient satisfaction; and (3) the relationship between ACA implementation and patient satisfaction. In all analyses, we first controlled for potentially confounding facility context factors.

Our expectations that ACA would be associated with improved patient access and satisfaction were confirmed in some but not all areas. Analyses of the relationships between ACA implementation and wait time as of March 2003 showed that greater implementation of ACA in Primary Care, Orthopedics and Urology was associated with shorter wait times. This confirms the expectation that use of ACA principles can contribute to the reduction of appointment wait time. Our analyses did not show significant relationships between ACA and wait time in the other clinic areas, perhaps because their work on ACA was still fairly new at the time analyzed. These relationships should continue to be tracked.

In addition, the threshold pattern in Primary Care and Orthopedics indicates that, at least in some clinic areas, ACA implementation had to reach a critical mass before it affected wait times substantially. This suggests that it is not enough to introduce one or two key changes by themselves, but that the value of ACA comes from the clinic redesign associated with the implementation of a larger set of the 10 key changes.

As hypothesized, shorter wait times in Primary Care were significantly related to higher patient satisfaction with their ability to get an appointment when wanted (Qx3). One unexpected finding that deserves further exploration was high satisfaction in facilities with average wait times in the middle of the range (between 29.1 and 38 days). The finding that shorter wait time was also significantly related to veterans' satisfaction with coordination of care, courtesy and pharmacy service provides preliminary evidence that ACA is having an impact on clinic redesign beyond reduction in wait time.

In exploring the possibility of a direct impact of ACA on aspects of care other than wait time, we found only one significant factor, satisfaction with specialty care. In this case the relationship was negative, indicating that greater ACA implementation was associated with lower satisfaction with specialty care. The finding may simply reflect the unique characteristics of the subsample used in this analysis. Alternatively, it may signal an unintended consequence of service agreements: that the greater control over access to specialty care brought about through the use of service agreements may be experienced as a restriction by veterans and could lead to lower satisfaction with that aspect of their care. This interpretation is speculative, but the relationship warrants further investigation.

Worklife and quality of care

An added note not discussed previously, we also asked staff in the survey about their impressions of the effects of changes made to shorten appointment wait time in two areas: perceived effects on their worklife and perceived effects on the quality of care and service to veterans.

While we were developing the survey, we heard anecdotes about the effects of the changes being made to shorten wait time, particularly through the adoption of ACA, running the gamut from concerns that using the model would make their work more difficult to enthusiastic commitment that, having adopted ACA, they would never return to the old way of doing business. To obtain a systematic perspective, we asked staff to rate their agreement with a statement that the changes made their worklife easier. As of summer 2003, opinions were in fact split with roughly one-quarter to one-half of staff by clinic areas agreeing that the changes to shorten wait time had made their worklife easier and somewhat higher proportions disagreeing (37% to 48%), as shown in Exhibit 40. The disagreement that worklife is easier may stem from incomplete ACA implementation, for example, from the difficulties of not having supply and demand in balance or from managers who do not understand ACA principles and therefore keep adding new patients when they see open spaces in a schedule. Moreover, the large proportions of staff giving neutral opinions suggests that many staff had not formed firm opinions at the time of the survey. More recent experiences, as the innovation and its dissemination have matured, may have moved those opinions in one direction or the other. It would be worth assessing their opinions again.

As we have discussed in earlier sections, the premise of diffusing ACA principles was to improve veterans' access to care. We thought it important to determine in our study that the high priority given to reducing wait times was not having negative unintended consequences on quality of care. Recognizing that clinic staff have the closest experience of care to veterans, we asked in the survey about their agreement with a statement that changes to shorten wait time were improving the quality of care and service to veterans. As of summer 2003, the majority of staff agreed that service quality had improved

(54% to 65% by clinic area), as shown in Exhibit 41. This is encouraging but not perfect and should be monitored in the future.

Exhibit 40
Changes Made to Shorten Appointment Wait Time Have Made My Work Life Easier
 Source: Staff Survey

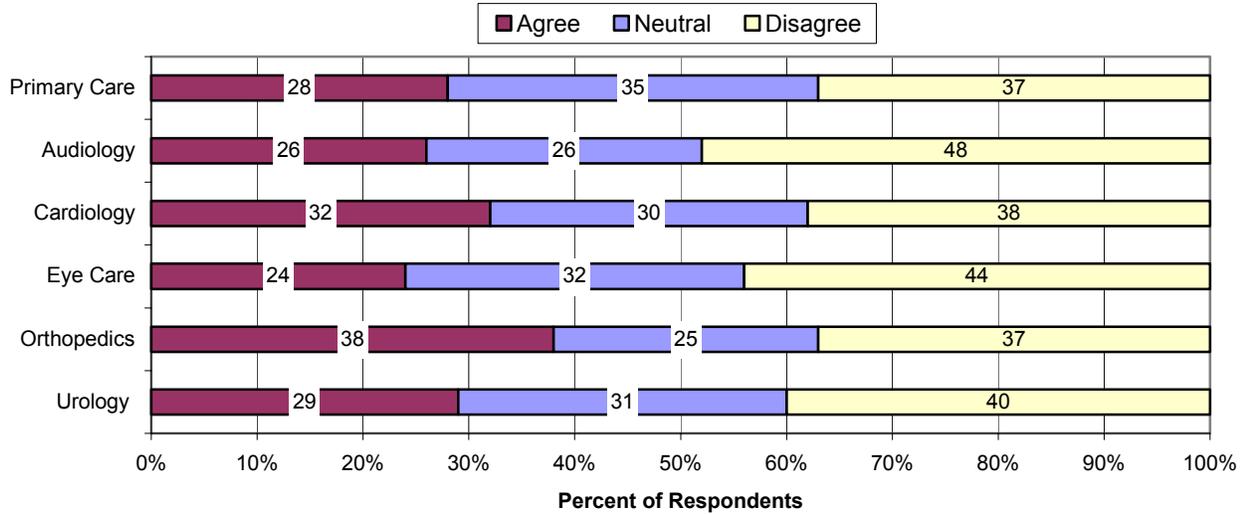
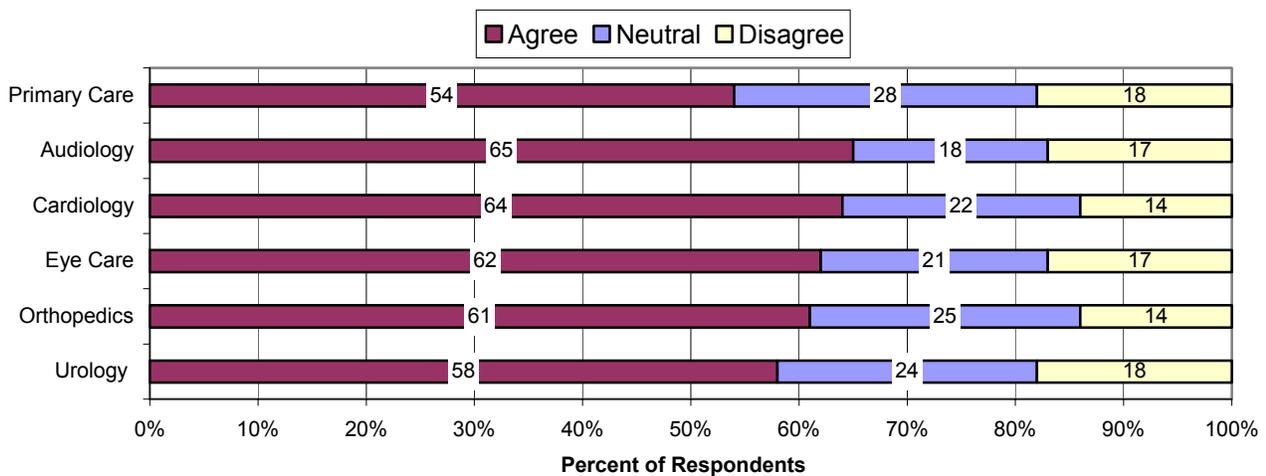


Exhibit 41
Changes Made to Shorten Appointment Wait Time Have Improved Quality of Care and Service We Provide to Veterans
 Source: Staff Survey



**Appendix A:
Methodology**

APPENDIX A: Methodology

This appendix describes the data sources and analytic methods used in the MDRC evaluation of Advanced Clinic Access (ACA).

A.1 Data Collection

A.1.1 Facility Selection

The goal of the site selection process was to identify three groups of 25 facilities each: those demonstrating short average wait time, those with moderate average wait time, and those with longer average wait time. The basic analytic strategy was to then compare these groups on various measures, including extent of ACA implementation, to identify the factors associated with short clinic wait times.

More specifically, the site selection process involved three considerations:

- **Clinic wait time.** Facilities were rank ordered on the basis of the percentage of performance clinics that had achieved an average wait time of 30 days or less in July 2002. The performance clinics were Primary Care, Audiology, Cardiology, Eye Care, Orthopedics and Urology. Nationwide these percentages ranged from 0 to 100. Twenty-five facilities were then selected at the top of the distribution, and another 25 facilities were selected from the bottom. In the middle of the distribution there was a cluster of 27 facilities where 50% of the performance clinics had achieved average wait times of 30 days or less. Given that this number of facilities was so close to the quota of 25, this entire cluster was selected as the moderate wait time group.
- **Capacity and wait list usage.** Each facility in the short average wait time group was then checked with regard to capacity usage and the use of waiting lists in order to screen out facilities where short wait times might be attributable to excess capacity or the use of off-line wait lists. One such facility was identified and a substitute facility was selected.
- **Facility size and location.** Finally, the resulting sample of facilities was reviewed to ensure that the sites were dispersed geographically and varied in size. Consideration was given to limiting the study to those facilities with wait time data for at least five of the six performance clinics. However, this criterion would have eliminated smaller facilities and thereby limited the diversity of study sites. Consequently it was not used.

The 78 facilities selected using this process are listed in Appendix B.

A.1.2 POC Interviews

Structured interviews were conducted with the ACA point of contact (POC) at 76 of the 78 (97%) sample facilities. The interview process began in January 2003 and was completed in April 2003. Three MDRC researchers conducted the interviews. A training and feedback session was held after the first two interviews to review the process and ensure that the interviews were being conducted in a similar manner.

Participants were sent a copy of the questions in advance of the interview. The interview required 30-45 minutes on average and focused on four areas: (1) the timing and sequence of ACA roll out at the facility; (2) the extent and type of support for and opposition to ACA; (3) the methods used to spread ACA; and (4) various facility context characteristics, such as the number of support staff in each clinic area. The interview protocol was pilot tested at four facilities in the sample before being administered to the remaining facilities in the study. Some minor changes were made to the protocol following group review of these initial interview results, but these changes did not affect the comparability of the data collected before and after the pilot phase. A copy of the interview protocol is included as Appendix C.

A.1.3 Implementation of Ten Key Change Principles Matrix

Along with the interview questions, the facility points of contact also received a grid form, or matrix, on which they were asked to report for each performance clinic: (1) the total number of patient care clinics in that area, and (2) the number of those clinics that had (a) fully implemented and (b) partially implemented each of the ACA 10 key changes. To help standardize these data, facility POCs were also given a list of

key change definitions that had been reviewed by the evaluation study field advisory committee. Of the 76 facilities where contact was established with the POC, completed ACA implementation grids were obtained from 74 (97%). In some cases, the facility point of contact did not have sufficiently detailed knowledge of the extent of ACA implementation in some of the specialty clinic areas, and a representative from that area was identified and completed the form. A copy of the key change implementation matrix is located in Appendix D.

A.1.4 Staff Survey

The staff survey consisted of four sections. In the first section, "General Background," employees were asked to indicate the clinical area(s) in which they worked, the amount of time spent in each area, their supervisory status, professional role, job/organizational tenure, and to also indicate their level of awareness of VA efforts to improve appointment wait time in general and regarding the ACA initiative in particular. In the second section, "Changes to Improve Clinic Access", staff were asked to indicate their involvement in activities related to each of the ACA ten key changes, and to report on their participation in various ACA spread activities, and to evaluate the effectiveness of those spread activities. The section concluded with an overall evaluation on the extent of ACA implementation, and question about support and barriers to ACA implementation. The third section of the questionnaire, "Working as a Team," consisted of items adapted from an instrument used in prior health care evaluation efforts⁷ and focused on issues such as team knowledge and skills, team functioning, problem recognition, and leadership support for clinic staff. In the final section, "Summing Up," employees were asked for their perceptions of the impact of ACA on their own work life, on the quality of patient care, and on patients' satisfaction with care and service. A copy of the employee survey instrument is included as Appendix E to this report.

The facility POCs in each sample facility, or their designees, served as liaisons to distribute the surveys to the field. In preparation for the survey administration, each POC reported the number of total staff for each performance clinic area in his/her facility. The evaluation team mailed surveys for the total number of staff reported plus 10% to the POC for distribution in the six performance clinic areas. The surveys were distributed in sealed envelopes containing the survey instrument and a postage-paid business return envelope addressed to an external data entry vendor. A cover letter signed by Laura Miller, Deputy Under Secretary for Health for Operations and Management, explaining the purpose of the survey, providing general instructions, and urging completion of the questionnaire was also enclosed. Because of union concerns about confidentiality, no names or individual identification numbers were included on either the envelopes or surveys. Survey tracking numbers included only the facility number. POCs reported their receipt of the survey packages and the number of surveys actually distributed to the evaluation team by fax. To follow up on non-respondents, the evaluation team sent a second package of surveys approximately two weeks after the first mailing. Since there was no record of which staff had completed the surveys in response to the first mailing, all staff received the second mailing.

A total of 3,870 completed surveys were returned for a response rate of 42%. A total of 326 respondents did not identify one of the six performance clinic areas as the place where they spent the majority of their time. Data from these surveys could not be included in any analysis relating to ACA implementation in a specific performance clinic area. Exhibit A.1 displays the number of surveys sent and received, and the response rate, for the six performance clinics.

⁷ G. Ross Baker, Department of Health Administration, University of Toronto, Toronto, Ontario, Canada, 2000.

Exhibit A.1							
Response Rate Information for Performance Clinics in the ACA Evaluation							
Source: Staff Survey							
	Primary Care	Audiology	Cardiology	Eye Care	Orthopedics	Urology	All Clinics
Surveys Sent	5545	613	875	902	524	594	9053
Surveys Received	2214	263	286	340	200	241	3544
Response Rate	40%	43%	33%	38%	38%	41%	39%

A.1.5 Appointment Wait Time, Number of Patient Encounters, and Number of Veterans on Wait Lists

Three variables were downloaded from databases created and maintained by the VISN Support Service Center (VSSC):

- The average next available appointment wait time;
- The number of patient encounters, used in computing patient volume and in the calculation of the proportion of patients who had been placed on the appointment wait list;
- The number of veterans on the electronic wait list (EWL); a veteran was placed on the EWL if he/she was unable to get an appointment within 90 days of the date an appointment was requested.

These data were obtained for March 2003 for each performance clinic at each facility in the evaluation study sample at the STA5A level (i.e., the level at which campuses within consolidated facilities are distinguished).

A.1.6 Patient Satisfaction

Outpatient satisfaction data for the month of March 2003 was obtained from the Survey of the Health Experiences of Patients (SHEP). The SHEP instrument is administered nationally by the Performance Analysis Center for Excellence (PACE), a division of the Office of Quality and Performance (OQP). Response rates are routinely above 60 percent. The primary component of the SHEP instrument is a modified version of the Picker Institute ambulatory care patient satisfaction survey and includes questions about a comprehensive array of patient experiences including access to care, coordination of care, continuity of care, patient education, patient preferences, emotional support, specialist care and pharmacy service. Also included are overall judgments regarding the quality of care received. Scale scores representing veterans' evaluations of these aspects of care were computed using the standard algorithms employed by OQP/PACE to create the Veteran Healthcare Service Standards (VHSS) measures.

A limitation of the SHEP instrument when used with veterans, who often make visits to multiple clinicians during a given visit to the health center, is the potential for ambiguity as to which clinic area the respondent has in mind when answering the survey questions. To minimize the potential for such confounding, the patient satisfaction data used in the present study was based on the subset of respondents who had only been to Primary Care during the medical center visit that qualified them for the SHEP survey. For this purpose a Primary Care visit was defined by three DSS stop codes: 322 (Women's Clinic), 323 (Primary Care), and 350 (Geriatric Primary Care). The March 2003 SHEP database contained responses from a total of 5,523 veterans who had received care at one of the 78 medical centers participating in the ACA evaluation study. Of this sample, 39% (2,156) fulfilled the "Primary Care visit only" criterion for use in the present study.

A.2 Analyses

A.2.1 Creation of Scales and Variables

- Management Support for ACA:** Facility POCs identified specific management structures and activities that had been employed to facilitate the implementation of ACA. A scale indicative of the degree of management support for ACA was created by summing the total number of “yes” responses to a checklist of eight activities. Thus possible values for the scale ranged from 0 to 8.
- Extent of ACA Implementation:** A scale representing extent of ACA implementation was constructed by combining staff members’ perception of the extent of ACA implementation at their clinic, reported in the staff survey, with the judgments of the facility POCs regarding the extent of 10 key change implementation in each clinic area at their facilities. Staff survey responses were aggregated at the performance clinic level for each facility before being combined with the facility POC ratings. The values for both components were reported on a different metric; staff ratings of the overall extent of ACA implementation in their clinic area ranged from 1 to 5 whereas the POCs had used a 1 to 10 scale. Therefore, scores were standardized to a mean of 50 and a standard deviation of 10 before being averaged together.
- Team Survey Scales:** Four team survey scales were created based on items from the “Working as a Team” section of the ACA staff survey. We conducted a principal components factor analysis with varimax rotation on the 28 items. Four components were identified as having eigenvalues greater than one. Scales were created by averaging the responses to those questions with loadings of .40 or higher on each of the four factors. Exhibit A.2 reports the number of items, internal consistency reliability (Cronbach alpha coefficient), and a sample item for each of these four scales.

Exhibit A.2 Staff Survey Scale Properties Source: Staff Survey			
Scale	Number of items	Internal consistency	Example item
Team knowledge and skills	10	.92	Our team effectively applies knowledge and skill to get our work done well.
Team function	8	.92	Our team listens to and considers the ideas of every team member.
Leadership support to clinic staff	7	.89	The leadership of my clinic area regularly reviews our progress in making change.
Problem recognition	2	.71	Our team members agree that reducing the number of days that veterans wait to get an appointment is a very important goal.

A.2.2 Analyses

Basic statistics – frequency distributions, means and percentages – were used in Sections 3 through 5 to describe the sample and to summarize the results for key evaluation study variables.

Both descriptive and inferential statistics were used in Sections 6 and 7. Descriptive statistics (means, standard deviations and ranges) were reported for the various multi-item scales created for the study. Inferential analyses consisted of evaluating the significance of the variables described in Sections 3 through 5 as predictors of the extent of ACA implementation, appointment wait times, and patient satisfaction. Multivariate linear regression with hierarchical entry of variables was the principal statistical technique used. Each section of the report describes in further detail the independent and dependent variables involved in each regression model, and the results obtained.

Appendix B
Sample Medical Centers

Appendix B
Sample medical centers for Advanced Clinic Access evaluation

VISN 1	VISN 9	VISN 18
Togus, ME	Huntington, WV	Albuquerque, NM
White River Junction, VT	Lexington, KY	Amarillo, TX
Manchester, NH	Louisville, KY	Prescott, AZ
Northampton, MA	Memphis, TN	El Paso, TX
VISN 2	Nashville, TN	VISN 19
Canandaigua, NY	VISN 10	Ft. Harrison, MT
Bath, NY	Columbus, OH	Cheyenne, WY
VISN 3	VISN 11	Denver, CO
Montrose, NY	Ann Arbor, MI	Grand Junction, CO
Northport, NY	Battle Creek, MI	VISN 20
VISN 4	Danville, IL	Anchorage, AK
Altoona, PA	Detroit, MI	Boise, ID
Clarksburg, WV	Indianapolis, IN	Portland, OR
Philadelphia, PA	Marion, IN	Seattle, WA
Pittsburgh, PA	Saginaw, MI	Spokane, WA
VISN 5	VISN 12	White City, OR
Baltimore, MD	Chicago, IL	VISN 21
Washington, DC	Hines, IL	Reno, NV
VISN 6	Madison, WI	San Francisco, CA
Durham, NC	Tomah, WI	Martinez, CA
Hampton, VA	Milwaukee, WI	VISN 22
Asheville, NC	VISN 15	Las Vegas, NV
VISN 7	Kansas City, MO	Long Beach, CA
Atlanta, GA	St. Louis, MO	Loma Linda, CA
Birmingham, AL	VISN 16	San Diego, CA
Columbia, SC	Fayetteville, AR	Los Angeles, CA
Dublin, GA	Houston, TX	VISN 23
Montgomery, AL	Jackson, MS	Fort Meade, SD
Tuscaloosa, AL	Little Rock, AK	Minneapolis, MN
VISN 8	Muskogee, OK	St. Cloud, MN
Gainesville, FL	VISN 17	Iowa City, IA
Tampa, FL	San Antonio, TX	
	Temple, TX	

Appendix C
Point of Contact Interview Protocol

Section 1. Advanced Clinic Access and Its Spread

I would like to begin by talking about where and how Advanced Clinic Access began in your facility. By Advanced Clinic Access I mean the many changes in policies and procedures designed to get veterans the medical care they need in a timely manner. These changes are known as the ten key changes. Implementation can range from one key change through all ten key changes.

In this interview I will use the term clinic area. By clinic area I mean a service or a group of clinics at the DSS level such as primary care, audiology or urology at the level of aggregation above “Dr. Smith’s Tuesday afternoon clinic”. Questions in this interview will concentrate upon the six major performance clinics of primary care, audiology, cardiology, eye care, orthopedics and urology because these are the clinic areas that are the focus of the Advanced Clinic Access initiative nationally. If your facility has implemented Advanced Clinic Access in other clinic areas such as mental health, or podiatry, please mention it.

Your responses should reflect activity at your facility, not affiliated CBOCs and outpatient clinics, that is the STA5A level.

1. At your facility, what clinic area implemented Advanced Clinic Access (ACA) **first**?
2. What clinic area implemented Advanced Clinic Access **next**?
[Ask until all six clinic areas are accounted for.]
3. Approximately when did those efforts begin in terms of month and year?
4. In that clinic area (clinic areas) did the entire clinic area implement ACA or did it start with a specific clinic or team?
- 5a. About how many **providers** were involved in that initial implementation?
(Does the provider number include nurse practitioners and nurses or it is only physicians?)
- 5b. About how many other staff were involved in that initial implementation?
6. *(If one clinic or team)* About how many individuals are in that clinic area overall?
(providers and other staff)
7. What percent of clinics in *[insert name of specialty clinic area or primary care]* are **currently** working towards implementing Advanced Clinic Access?
8. Typically, how many exam rooms are available per clinician at one time?
[If needed to clarify: How many exam rooms are available, stocked with appropriate supplies, with patients in them ready for the exam so all the clinician has to do is enter and do the exam?]
9. Typically, how many support staff are available per clinician in each clinic area?
10. In giving me the number of support staff per clinician what types of support staff positions were you including?

Section 2. Advanced Clinic Access and Spread Activities at the Facility Level

Now I would like to talk about specific activities and strategies that have been used to encourage and support the spread of Advanced Clinic Access at your facility.

11. Which of the following management structures and activities encourage Advanced Clinic Access at your facility? *[Read list. Multiple responses allowed.]*

1. A local POC is designated to coordinate and champion ACA
2. Local ACA champions have been explicitly designated for clinic areas
3. The facility has an ACA oversight body
4. ACA measures are integrated into facility performance measures and strategic plans.
5. Managers regularly review and are held accountable for ACA performance measures
6. Local financial resources have been used to support ACA directly (e.g., contract with physicians to help work down the backlog)
7. Clinical staff make presentations about ACA at managerial meetings
8. Facility operations and infrastructure have been improved to support ACA (e.g., telephone answering services improved or functions moved to create clinic space)

12. Are there any other management structures and activities you would like to mention that are in place at your facility for spreading ACA?

13. Are there strong champions for ACA in this facility?

1. Yes → Continue to Question 14
2. No → Skip to Question 17

14. Are the champions opinion leaders at your facility?

- a. Yes
- b. No

15. Who are the champions?

[Multiple responses allowed. Do not read list.]

1. Facility Director
2. Chief of staff
3. Nurse executive
4. Facility POC
5. Service or service line chiefs (specify service/clinic area)
6. Front-line physicians (name, service/clinic area)
7. Other front-line providers
8. Administrative/non-clinicians in the clinic areas
9. Other (specify): _____

16. How do these champions demonstrate their support?
[Read list. Multiple responses allowed. Specific champions do not need to be connected to a specific activity.]
1. Lead by example by implementing ACA themselves
 2. Promote ACA to other facility staff
 3. Promote ACA to senior leadership and middle management (e.g., presentations to explain ACA, report on progress at meetings)
 4. Provide training or expert consultation for other clinic areas in this facility
 5. Participate in IHI access coach calls and meetings
 6. Other (specify _____)
17. Are there strong resisters to ACA at your facility?
1. Yes
 2. No  Skip to Question 19
18. Are they opinion leaders at your facility?
1. Yes
 2. No
19. To what extent do you utilize consulting physicians at your facility?
1. Not at all
 2. A little
 3. Some
 4. A great deal
20. To what degree are they invested in implementing ACA?
1. Not at all
 2. A little
 3. Some
 4. A great deal
21. In your efforts to facilitate ACA at your facility, how much active support have you received from your VISN point of contact? Would you say you've had ...
1. No support at all
 2. A little support
 3. Some support
 4. A great deal of support
22. Is ACA your full-time responsibility or a collateral duty?
1. Full-time responsibility
 2. Collateral duty
23. Typically, how many hours do you spend on ACA activities each week?
- _____ Number of hours

		Across Clinic areas	Primary Care	Audiology	Orthopedics	Eye Care	Cardiology	Urology	Have Not Done
11.	Staff are freed from regular duties to participate in ACA activities such as team meetings, training, collaboratives.								
12.	Training and education is provided for scheduling clerks.								
13.	Incentives and rewards are offered for reducing waiting times.								
14.	We have shown the IHI "The Time Has Come" video.								
15.	We have shown the IHI Mark Murray technical video.								
16.	Other (specify)								

[Note: IHI "The Time Has Come" video is on Advanced Clinic Access and the IHI "Mark Murray Technical Video" is on the Ten Key Changes for improving access.]

		All Clinic areas	Primary Care	Audiology	Orthopedics	Eye Care	Cardiology	Urology	Have Not Done
9.	The National ACA website.								
10.	Other _____								

26. Of all the things you have done as the Facility POC, which **one** has been the most important in **fostering** the adoption of Advanced Clinic Access at your facility?

27. In your opinion, what have been the **three** greatest **obstacles** to the adoption of Advanced Clinic Access at your facility?

28. Is there anything else you would like to mention? What else should we know about the adoption of ACA at your facility?

29. What else is going on at your facility to reduce waiting times?
(Probe: Are there other strategies other than ACA that you are using to reduce waiting times?)

Appendix D:
Matrix of Implementation of 10 Key Change Principles

Implementation of 10 Key Change Principles

Please complete this spreadsheet to summarize the implementation in your facility of the 10 key changes associated with the Institute for Healthcare's (IHI) program to reduce waiting times. Please report implementation as of January 2003. Definitions of the 10 key changes are given on the next page.

For each target clinic area, please:

A. List the total number of clinics in that area.

B. Report the number of clinics that have fully implemented and the number that have partially implemented each of the 10 IHI key changes. Clinics that are not using any of the 10 IHI key changes should not be included in either group. Because of this, the numbers in this section may not add up to the total number of clinics.

Please return the completed spreadsheet by April 11 to david.mohr2@med.va.gov. Thank you.

Facility name: _____

		Audiology	Cardiology	Eye Care	Orthopedics	Primary Care	Urology
A. Total number of clinics in each clinical area:							
B. Ten Key Changes:							
1. Work down the backlog	Fully Implemented						
	Partially Implemented						
2. Reduce demand	Fully Implemented						
	Partially Implemented						
3. Understand supply and demand	Fully Implemented						
	Partially Implemented						
4. Reduce appointment types	Fully Implemented						
	Partially Implemented						
5. Plan for contingencies	Fully Implemented						
	Partially Implemented						
6. Manage the constraint	Fully Implemented						
	Partially Implemented						
7. Optimize the care team	Fully Implemented						
	Partially Implemented						
8. Synchronize patient and provider information	Fully Implemented						
	Partially Implemented						
9. Predict and anticipate patient needs	Fully Implemented						
	Partially Implemented						
10. Optimize rooms and Equipment	Fully Implemented						
	Partially Implemented						

List of 10 Key Change Principles With Definitions Used in Facility Point of Contact Report

Work down the backlog (for example, by adding extra overbook slots to schedules, extending clinic hours, adding clinic sessions, reviewing wait list to see if medical needs could be met by phone call or other means)

Reduce demand (for example, by extending reappointment intervals, creating alternatives to face-to-face visits, and using referral guidelines)

Understand supply and demand (for example, by knowing how many appointment slots a clinic has, knowing what the provider panel size cap is, knowing how many patients come in, call in, or are scheduled each day for the clinic)

Reduce appointment types (for example, by reducing the number of separate clinic profiles, standardizing the length of appointments)

Plan for contingencies (for example, by anticipating and planning for situations like provider leaves and the annual flu vaccination season)

Manage the constraint (for example, by figuring out where the “logjams” occur in your patient care process and figuring out actions to deal with them)

Optimize the care team (for example, by using standard protocols, matching patient needs to skills of appropriate team members, not necessarily always a physician)

Synchronize patient, provider and information (for example, by starting clinic on time, checking charts for completeness, accuracy and presence at appointment)

Predict and anticipate patient needs at the time of the appointment (for example, by using regular clinic team “huddles” to communicate and deal with possible situations that may arise, using clinical reminders to get as much done in each visit as possible)

Optimize rooms and equipment (for example, by having the same supplies available in each exam room, making sure supplies are continuously stocked, using “open” rooming)

**Appendix E:
ACA Staff Survey**

Advanced Clinic Access Survey

The Veterans Health Administration has embarked on a nation-wide effort to improve veterans' access to health care. This effort is officially known as **Advanced Clinic Access (ACA)** and involves many changes in policies and procedures designed to get veterans the medical care they need in a timely manner. Some facilities have been working to put ACA into practice for some time; other facilities are just getting started.

This questionnaire concerns your experiences with ACA so far. Please complete the questionnaire even if you have not heard about Advanced Clinic Access before, because some of the ACA changes may have been implemented in your clinic area without being called Advanced Clinic Access by name.

This survey is anonymous, confidential and voluntary. Your VA facility station number appears on the questionnaire, but no individual tracking number is used. The facility station number will allow us to combine your responses with those provided by other staff at your facility for purposes of group data analysis. The questionnaire also includes some demographic and background questions. This information will allow us to combine your responses with those from others with similar backgrounds to create large groups such as "all physicians" or "all managers." To preserve the anonymity of individual respondents, at no time will results for any group of less than 10 be reported.

Management Decision and Research Center
Health Services Research and Development Service
Department of Veterans Affairs

Acknowledgement. Portions of this survey were adapted from the RAND Improving Chronic Illness Care Evaluation Healthcare Organization Survey for Breakthrough Series Team Members (Wave 2). The teamwork section of the survey has been adapted from an instrument developed by Professor G. Ross Baker, Department of Health Administration, University of Toronto, Toronto, Ontario, Canada.

Section 1. General Background

1. In what clinic area do you currently work? *If you work in more than one clinic area, please check all that apply and go to question 2 next. If you work in only one clinic area, go to question 3 after answering this question.*

- Primary Care
- Audiology
- Cardiology
- Eye Care
- Orthopedics
- Urology
- Other (please specify _____)

*If "other" is the **only** answer that you selected, please skip to question 43 on page 10.*

2. If you work in more than one clinic area, where do you spend most of your time? *If you spend equal time in more than one clinic area, please "x" here and also choose one clinic area below to use as the basis for your answers to this survey.*

- Primary Care
- Audiology
- Cardiology
- Eye Care
- Orthopedics
- Urology

*Please think of **this one clinic area** as you answer the remainder of the survey.*

3. How many hours per week do you usually work in this clinic area? *Do not include overtime or other extra hours in your count.*

- Less than 8 hours per week (less than 1 work day)
- 8 to 15 hours per week (1 to 1.9 work days)
- 16 to 23 hours per week (2 to 2.9 work days)
- 24 to 31 hours per week (3 to 3.9 work days)
- 32 to 39 hours per week (4 to 4.9 work days)
- 40 hours per week (5 work days)
- More than 40 hours per week

4. What is your level of supervisory responsibility in this clinic area?

- None
- Team leader
- First line supervisor
- Manager

5. What is your role in this clinic area?

- | | |
|--|---|
| <input type="checkbox"/> Physician, Surgeon, Psychiatrist,
Ophthalmologist, Dentist | <input type="checkbox"/> Optometrist |
| <input type="checkbox"/> Physician Assistant | <input type="checkbox"/> Technical staff (pharmacy technician, dietary
technician, EKG technician, optometry technician
etc.) |
| <input type="checkbox"/> Medical Assistant | <input type="checkbox"/> Social Worker |
| <input type="checkbox"/> Nurse Practitioner, Clinical Nurse
Specialist, Advanced Practice Nurse | <input type="checkbox"/> Psychologist |
| <input type="checkbox"/> Registered Nurse | <input type="checkbox"/> Other clinical (respiratory therapist, physical
therapist, phlebotomist, etc.) |
| <input type="checkbox"/> Licensed Practical Nurse | <input type="checkbox"/> Program Support Assistant or Scheduling Clerk |
| <input type="checkbox"/> Nursing Assistant | <input type="checkbox"/> Other (please specify) |
| <input type="checkbox"/> Pharmacist | |
-

6. How long you have worked in this clinic area?

- 6 months or less
- More than 6 months, but less than one year
- 1-2 years
- 3-4 years
- 5-10 years
- More than 10 years

7. How long have you worked for the VA overall?

- 6 months or less
- More than 6 months, but less than one year
- 1-2 years
- 3-4 years
- 5-10 years
- More than 10 years

8. When were you first made aware that VA was making a special effort to shorten the amount of time that veterans have to wait for an appointment?

- When I read this questionnaire
- Within the past 6 months
- 7-12 months ago
- 13-24 months ago
- More than two years ago

9. When did you first hear the term **Advanced Clinic Access**?

- When I read this questionnaire
- Within the past 6 months
- 7-12 months ago
- 13-24 months ago
- More than two years ago

Section 2. Changes to Improve Clinic Access

10. Below is a list of general types of changes that can be used to improve clinic access. These are the 10 key principles of the Advanced Clinic Access (ACA) program. You may know them by different names.

Which if any of these efforts to improve veterans' access to care have **you been directly involved in?** You may check more than one. You should check all changes that you were involved in regardless of whether the change was successful or not.

- Work down the backlog** (for example, by adding extra overbook slots to schedules, extending clinic hours, adding clinic sessions, reviewing wait list to see if medical needs could be met by phone call or other means)
- Reduce demand** (for example, by extending reappointment intervals, creating alternatives to face-to-face visits, and using referral guidelines)
- Understand supply and demand** (for example, by knowing how many appointment slots a clinic has, knowing what the provider panel size cap is, knowing how many patients come in, call in, or are scheduled each day for the clinic)
- Reduce appointment types** (for example, by reducing the number of separate clinic profiles, standardizing the length of appointments)
- Plan for contingencies** (for example, by anticipating and planning for situations like provider leaves and the annual flu vaccination season)
- Manage the constraint** (for example, by figuring out where the "logjams" occur in your patient care process and figuring out actions to deal with them)
- Optimize the care team** (for example, by using standard protocols, matching patient needs to skills of appropriate team members, not necessarily always a physician)
- Synchronize patient, provider and information** (for example, by starting clinic on time, checking charts for completeness, accuracy and presence at appointment)
- Predict and anticipate patient needs at the time of the appointment** (for example, by using regular clinic team "huddles" to communicate and deal with possible situations that may arise, using clinical reminders to get as much done in each visit as possible)
- Optimize rooms and equipment** (for example, by having the same supplies available in each exam room, making sure supplies are continuously stocked, using "open" rooming)
- Other (Please specify _____)

- None of these changes have been attempted in my clinic area. →
- Not sure if any of these changes have been attempted in my clinic area yet. →

If "none" or "not sure," skip to question 15 on page 7.

11. The next questions concern various activities designed to help staff learn about the Advanced Clinic Access (ACA) program and then put the ACA changes into practice. Some of these activities may have been conducted by staff from the Institute for Healthcare Improvement (IHI), while other activities may have been organized by your VISN headquarters or by individuals in your own facility or clinic area. Not all activities may have been done at your facility.

How much have the following resources helped your clinic area improve access? *Please give us your opinions about the activities conducted in your clinic area in which **you personally participated**. If you did not participate in an activity or if an activity was not tried in your clinic area, please mark “Didn’t Participate/Use.”*

		Not At All Helpful	A Little Helpful	Some-what Helpful	Very Helpful	Ex-tremely Helpful	Didn't Participate/Use
A.	Internal collaboratives (involving learning sessions, action periods, and reporting back)	1	2	3	4	5	9
B.	Veterans Health Administration conference calls	1	2	3	4	5	9
C.	E-mail discussions	1	2	3	4	5	9
D.	Visits to or from other clinic areas in my facility that are working on ACA	1	2	3	4	5	9
E.	Visits to or from other facilities that are working on ACA	1	2	3	4	5	9
F.	Visits or phone calls involving consultants from IHI or other organizations outside of VA	1	2	3	4	5	9
G.	Resource materials and handbooks	1	2	3	4	5	9
H.	Videos about reducing wait times (such as “The Time Has Come” video or the Mark Murray technical video on ten key changes for improving access)	1	2	3	4	5	9
I.	Consultation or other support from a key messenger / opinion leader / champion from this facility	1	2	3	4	5	9
J.	Local colleagues serving as access experts / coaches	1	2	3	4	5	9

13. In your opinion, what are the **three** most important factors that have **supported** the implementation of the Advanced Clinic Access (ACA) changes in your clinic area?

- Sufficient clinic space or added clinic space
- Sufficient resources or added resources to improve access
- Success in recruiting and retaining clinical staff
- Success in recruiting and retaining support and technical staff
- Strong clinical champions for ACA
- Active support for ACA from upper facility management
- Enough time to plan and implement ACA
- Sufficient knowledge and skills to implement ACA
- Staff freed from regular duties to work on ACA
- Providers willing to change their practice patterns
- Support and technical staff willing to change their operations
- Success in educating veterans that practice changes will benefit them
- High priority attention to reduce waiting times from facility, VISN and/or Central Office leadership
- Other/specify: _____

14. In your opinion, what are the **three** greatest **obstacles** to the implementation of the Advanced Clinic Access (ACA) changes in your clinic area?

- Lack of space
- Lack of resources and budget constraints
- Increase in new patient workload
- Difficulty in recruiting and retaining clinical staff
- Difficulty in recruiting and retaining support and technical staff
- Scheduling software inadequate to support ACA
- Resisters to ACA who are highly-regarded in the facility
- Lack of support for ACA from upper facility management
- Providers unwilling to change their practice patterns
- Support and technical staff unwilling to change their operations
- Lack of time to plan and implement ACA
- Lack of knowledge and skills to implement ACA
- Difficulty in educating veterans that practice changes will benefit them
- Other/specify: _____

Section 3. Working as a Team

The next questions are about working as a team with other members of your clinic area to reduce the amount of time veterans wait for an appointment. Please circle the number that best represents the extent to which you agree or disagree with these statements based on your experience over the **past six months**.

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't Know
15	This organization makes sure people have the skills and knowledge to work as a team.	1	2	3	4	5	9
16	After we have implemented a change, team members think about and learn from the results.	1	2	3	4	5	9
17	In making changes, our team was able to easily adapt ACA ideas to match the needs of our clinic area.	1	2	3	4	5	9
18	Our team effectively applies knowledge and skill to get our work done well.	1	2	3	4	5	9
19	Our team learns from the efforts of others to implement ACA in our facility.	1	2	3	4	5	9
20	A team that does a good job in this organization gets special rewards or recognition.	1	2	3	4	5	9
21	Senior management at this facility supports our work by doing such things as talking about ACA at "town meeting" events.	1	2	3	4	5	9
22	Senior management at this facility regularly reviews our progress in making change.	1	2	3	4	5	9
23	Senior management at this facility gives high priority to reducing appointment wait time.	1	2	3	4	5	9
24	The leadership of my clinic area supports our work by doing such things as talking about ACA at staff meetings.	1	2	3	4	5	9

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't Know
25	The leadership of my clinic area regularly reviews our progress in making change.	1	2	3	4	5	9
26	The leadership of my clinic area gives high priority to reducing appointment wait time.	1	2	3	4	5	9
27	Our team has been able to use performance data effectively to design and test changes.	1	2	3	4	5	9
28	Our team gets all the information we need to do our work.	1	2	3	4	5	9
29	Our team has identified measures that are tracked on a regular basis to assess our progress.	1	2	3	4	5	9
30	Official appointment wait time data for our clinic area is accurate.	1	2	3	4	5	9
31	Our team has the authority to manage its work pretty much the way members want to.	1	2	3	4	5	9
32	In our team there is a great deal of room for initiative and judgment in the work that we do.	1	2	3	4	5	9
33	The members of our team have substantial influence in managing care and influencing others to make improvements in care.	1	2	3	4	5	9
34	When our team attempts to make an improvement, we involve those staff who are most affected by the change in the planning.	1	2	3	4	5	9

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Don't Know
35	Certain individuals in our team have special skills and knowledge that the rest of us count on.	1	2	3	4	5	9
36	When our team does not know something it needs to know in order to do its work, there are people available to teach or help.	1	2	3	4	5	9
37	When our team tries to make a change that will reduce appointment wait time, one or more well-respected members of staff support our efforts with their time and encouragement.	1	2	3	4	5	9
38	Our team members agree that reducing the number of days that veterans wait to get an appointment is a very important goal.	1	2	3	4	5	9
39	The members of our team realize that a major effort is underway to reduce the number of days that veterans wait to get an appointment.	1	2	3	4	5	9
40	The ACA program is an effective way to reduce appointment wait time for my clinic area.	1	2	3	4	5	9
41	Members of our team participate in the team's decisions.	1	2	3	4	5	9
42	Our team listens to and considers the ideas of every team member.	1	2	3	4	5	9

Section 4. Summing Up

		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
43	The changes my team made to shorten appointment wait time have spread to other units within my clinic area .	1	2	3	4	5	9
44	The changes my team made to shorten appointment wait time have spread to other clinic areas within my facility.	1	2	3	4	5	9
45	The changes made to shorten appointment wait time in my clinic area have improved the quality of care and service we provide to veterans.	1	2	3	4	5	9
46	The changes made to shorten appointment wait time in my clinic area have made my work life easier.	1	2	3	4	5	9

		Very Dis-satisfied	Dis-satisfied	Neither Satisfied Nor Dis-satisfied	Satisfied	Very Satisfied	Don't Know
47	How satisfied do you think veterans are with the service provided in your clinic area?	1	2	3	4	5	9
48	Considering everything, how satisfied are you with your job?	1	2	3	4	5	9

Thank you for completing this survey!
Please return this survey in the enclosed self-addressed envelope to:

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C/o Atlantic Research and Consulting
109 State Street
Boston, MA 02109

06/11/03