



Best Practices in Hypertension

Patient-Directed Blood Pressure (BP) Control in Patients with Chronic Kidney Disease (CKD)

Fletcher Allen Health Care/University of Vermont
Burlington, VT



MEDICAL GROUP PROFILE

- **Fletcher Allen Health Care (FAHC) is the main tertiary care health center in the Burlington, Vermont region.** It serves a population of 500,000 people living in portions of Vermont and New York State.
- **FAHC is made up of 30 patient care sites and 120 clinics.**
- **Renal Services is an 8-person academic nephrology/hypertension healthcare practice** with 3 clinics and 4,400 outpatient visits yearly. The renal clinic at FAHC serves as the subspecialty referral center for a suburban and rural population of about 500,000.

FUNDING

This project was completed without any additional budget or staff.

EXECUTIVE SUMMARY

This project was undertaken in 2006 as a consequence of the findings of a 2004 feasibility project that assessed whether involving patients in directing care of their own blood pressure (BP) would improve BP control in patients attending the renal clinic who were at high risk for adverse cardiovascular outcomes—chronic kidney disease (CKD), diabetes, hyperlipidemia or known cardiovascular disease. The specific objectives of the current project were to: (1) increase the percentage of people with CKD who have BP at goal ($\leq 130/80$ mmHg); and (2) increase patients' awareness of their BP goal and their capacity to achieve it by taking and reporting home BP.

Using Current Procedural Terminology (CPT) codes, FAHC identified all patients with CKD stages 1-5 and 9 who attend-

ed the renal clinic and encouraged them to participate in the BP @ Goal program at every visit. The project focused on increasing patients' capacity to monitor, analyze and direct BP treatment by providing each patient with education about the importance of BP control, the ability to measure their own BP, and an individual BP goal. "Patient-directed" changes in treatment were initiated by patients contacting clinic staff when their BP was not at goal or providing the list of their BP measurements every two weeks. Clinic staff contacted the physician and then the patient with the changes recommended by the physician within 2-3 days. All clinic BPs were recorded and tabulated each month and a summary of the results provided to clinic staff and physicians at 6 and 12 months. (The home BPs were used by the physician to determine the changes that were made for individual patients; however, they were not used as an outcome measure for the group. Only clinic BPs were collected and summarized as a group to get average values and proportion of the clinic patients who had BP at goal.) In addition, at 12 months, participating patients were surveyed to assess their knowledge of their BP goal. Also, at 12 months, FAHC evaluated potential explanatory factors for those not at goal.

Over the first 6 months, the proportion of the group at goal increased from 38 percent to 68 percent and has remained there. At the end of 12 months, 86 percent knew their BP goal and 52 percent were taking BP at home. The percentages of people at goal and those taking their BP at home have shown some variability but little overall change for more than 12 months. Of those not at goal at 12 months, 40 percent were within 10 mmHg of goal; 25 percent had SBP at goal on home measurements; changes in treatment were being made in 51 percent; and, for a variety of reasons, no treatment changes were deemed necessary by the patient's nephrologist in 49 percent. Of those not at goal, only 22 percent were taking medications from all 4 drug classes recommended for use in persons with difficult-to-control BP. All recordkeeping was done as part of normal clinic operations.

This current project has reinforced the initial findings that patient participation in the control of BP is effective and requires few extra clinic resources. The BP tracking tools and patient exit sheets developed and modified during and following the feasibility project have been incorporated into normal clinic practice. They are valuable tools for patients and clinic staff and for monitoring quality.

Efforts are underway to develop a checklist for physicians to enhance their ability to provide the right number and balance of medications to facilitate BP control. As part of what has become a quality improvement program, mechanisms are being developed to involve more patients in their own care, to report information to all participants more frequently, and to evaluate if these strategies are effective for further increasing the proportion of patients with CKD who have BP at goal.

GOALS AND OBJECTIVES

The overall goal of this project was to develop strategies allowing clinics and practices to increase the proportion of their patients who have BP at goal. The hypothesis was that building patient capacity to monitor, analyze and direct BP treatment would improve BP control for individuals and groups.

The specific objectives for the second stage of the project (quality improvement) were:

- 1 **To increase** the percentage of patients with CKD attending renal clinic who have BP at goal ($\leq 130/80$ mmHg)
- 2 **To increase** patients' awareness of their BP goal and expand capacity to achieve it
- 3 **To improve** physicians' ability to get patients' BP to goal

THE ISSUE

Despite the ready availability of evidence-based guidelines and effective antihypertensive strategies, only 34 percent of patients in the US with known hypertension have their blood pressure under control (NHANES 1999-2000).¹ The statistics are no better for those with CKD or diabetes who are at high risk for adverse cardiovascular and renal outcomes and most likely to benefit from better BP control: less than 25 percent are at goal, and there has been no improvement since the publication of *The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure* (JNC 7).² The Healthy People 2010 goal is 50 percent

of patients with hypertension at goal. In FAHC's renal practice at a tertiary care center, care is provided for people with difficult-to-control hypertension, renal dysfunction from a variety of causes, and organ transplants. Prior to conceiving the feasibility project, of 500 patients with hypertension seen in a 3-month period in 2003, only 33 percent were at goal.

Studies examining the use of clinic-directed BP management with nurse providers,³ pharmacist consultants,⁴ clinical reminder systems,⁵ computer-assisted BP control,⁶ automated telephone patient monitoring⁷ and patient education⁸ have generally shown positive results. However, most of these strategies require healthcare resources that may not be readily available to most clinics or physician practices. Treatment guided by patient self-monitoring of BP has also been shown to be successful as part of management in several trials, but not all.⁹ Nevertheless, people who monitor BP at home appear to achieve better BP control.¹⁰

These issues prompted the Renal Services division of FAHC to explore the feasibility of improving BP control by building patients' capacity to direct their own care while identifying factors involved in this approach. The feasibility project was completed in 2004 and the results are detailed in the 2006 edition of AMGA's *Best Practices in Managing Hypertension*. In summary, the results showed that patients not at goal who were provided with an individual BP goal, the ability to measure BP, and an effective mechanism for getting advice about how to achieve their goal were twice as likely to achieve their BP goal than those receiving usual care. This outcome was achieved within six months with minimal cost to the practice group. As a consequence, the Renal Services division agreed to incorporate the processes and instruments developed by the feasibility project into normal clinic practice, and to track effectiveness by recording and tabulating on a monthly basis the BP measurements for all patients with CKD seen in renal clinic for at least the next year. All measurements and results were collected and tabulated as part of routine office care. A team leader performed the analysis and reporting.

IDENTIFYING TARGET POPULATIONS AND TRACKING INFORMATION

Target Group

The renal clinic at FAHC serves as the subspecialty referral center for a suburban and rural population of about 500,000 people. Patients are between 18 and 90 years of age, with approximately equal numbers of males and females. More

than 70 percent of patients, or about 160 on any given month, who are followed regularly have CKD stages 1-5 and 9 documented by CPT codes. Follow-up patients are seen every 3-12 months and rarely, if ever, for 2 months consecutively.

Measurements

BP is measured according to JNC 7 guidelines by one of three clinic staff members using a sphygmomanometer, or when difficult to obtain, with an automated device. A second reading is taken if the first reading is higher than goal. This is done because in the feasibility study, when three BP measurements were taken over a five-minute period, the second two were typically lower than the first by an average of 3 mmHg. Most patients who take BP at home use automated devices.

Outcome Measures

Group outcomes (average BPs and percent of patients at goal) were assessed at baseline and monthly and reported to the physicians and staff at 6 and 12 months. At 12 months, an assessment of reasons for BP not being at goal was investigated by evaluating medications and physician decisions about changing medications, and by examining information recorded on the exit sheet and in the patients' charts for all patients seen in month 12. These findings were collated as group information (see Appendix 3 for example). An update of patients' knowledge of goal was assessed using the patient questionnaire from the feasibility study (see Appendix 2).

Main outcome measures were:

- 1 **Percentage of patients with clinic systolic BP at goal**
- 2 **Percentage of patients who knew their BP goal**
- 3 **Percentage of patients with capacity to influence their care (taking and recording home BP)**

For those not at goal, secondary outcome measures were:

- 4 **Percentage of patients with BP within 10 mmHg of goal**
- 5 **Percentage of patients with home BP at goal**
- 6 **Percentage of patients for whom treatment changes were being made**
- 7 **Percentage of patients who were taking an appropriate group of antihypertensive medications**

Tracking Processes

All the information for the primary outcome measures is recorded on the patient exit sheet; it includes CKD stage, BP, pulse, whether the patient is taking BP at home, whether BP is at goal at home, and changes in treatment for that visit. This information is then entered at a time convenient to the medical assistant and takes no more than two hours/month for the

whole group of patients. The team leader analyzes the results and sends reports of group data to the physicians by e-mail. At six and twelve months, she made presentations to the physicians, fellows, residents, students and clinic staff.

INTERVENTIONS

Patient-Directed Care Plan

Each patient who is not yet taking his or her BP at home is given a BP goal, a brief education session by the physician or nurse about the importance of BP control, and information about treatment options including potentially beneficial lifestyle changes. The patient is encouraged to purchase an automated BP measuring device and trained to use it. Emphasis is placed on achieving the systolic BP goal. Each patient is directed to:

- 1 **Measure and record BP and pulse** (after rising in the morning and before taking any medications, and after supper in the evening) every day until BP is at goal and then once or twice a week for maintenance.
- 2 **Mail in readings** (in a clinic self-addressed envelope) to the clinic nurse every two weeks. If they are at goal, they may be instructed just to bring them to clinic visits.

The clinic nurse shows the BP information and clinic record to the patient's physician, who makes treatment changes if needed. The clinic nurse then informs the patient of the treatment changes and the need to continue to take BP twice a day for the next two weeks and again contact the clinic and/or send in BP sheets if BP is not at goal. This pattern is repeated until BP reaches goal.

Project Team

The project team includes the MD team leader, RN project manager, RN clinic nurse and medical assistant, who also helps with data entry. All team members work in the same geographic location and interact with each other daily. Other clinic members who participate are two receptionists, who triage all the calls and BP records, and six physicians, who continue to manage their own patients' care.

Patient Involvement

In order to be effective participants in their care, patients need, at a minimum, an understanding of the importance of the issue, identifiable goals, ways to track progress, information about what they can do to attain goals, and how to get help from the healthcare system to reach their goals. The following

tools were developed during the feasibility project to address these needs; they have been refined for inclusion into FAHC “usual care” practices.

- 1 **BP tracking sheets** for patients and physicians to assess if BP is at goal at home (Appendix 1)
- 2 **Patient exit sheet** that provides the patients with their goal, their current BP and pulse, and changes in management from that clinic visit as well as laboratory tests needed for the current and future visits and next appointment (Appendix 2).
- 3 **Educational materials** to help patients understand BP goals and treatments, including lifestyle changes. For these materials, FAHC uses information from the website of the National Heart Lung and Blood Institute of the National Institutes of Health (www.nhlbi.nih.gov). This information has been well-received.

Staff Contributions

The nurses and medical assistant have been key players in making this project work. They talk with patients about BP control and its importance, how to measure BP and how to fill out BP records. They also interface with the patient and physician so that changes in management between clinic visits can be made in a timely fashion and with minimal impact on physician time. Often the patient needs no management changes, but a call from the nurse reassures them that they are on the right treatment. The staff benefit from seeing good outcomes and the enthusiasm of the patients as they take more interest in and control over their BP.

Physician Involvement

Each patient’s antihypertensive care is regulated by his or her nephrologist in consultation with other healthcare providers if necessary. This takes minimal time, as the nurse provides the patient’s BP sheets, chart, and medication list to the physician for treatment changes, and then calls the patient with the physician’s recommendations.

The goal of this project was to enable patients to become more engaged in getting BP to goal as a strategy for improving overall BP control. One challenge was to persuade physicians to agree to this approach. This was accomplished by having the Renal Services division director highlight the importance of the project at unit meetings and in informal discussions with the individual nephrologists, presenting the project to all 7 physicians at a unit meeting, and getting the whole group to agree to participate in order to improve outcome quality. The nephrologists like to think of themselves as experts at both an individual

level and as a group. They are therefore stimulated to try any reasonable program that may improve patient outcomes and saw this project as worth trying. The preliminary survey of BP in the clinic population was also very important in helping physicians recognize that BP control was not ideal. Follow-up reports at 6 and 12 months have highlighted that although there was dramatic initial improvement in the proportion of patients at goal, there is still room for improvement. The physicians are now providing suggestions about how to improve treatment strategies.

OUTCOMES

In the 6 months following the feasibility project and before implementing the quality improvement project, the percentage of CKD patients with SBP at goal of ≤ 130 mmHg averaged 38 percent. At 6 months and 12 months after instituting the quality improvement project, 68 percent were at goal. At the end of 12 months, 86 percent knew their BP goal and 52 percent were taking BP at home. Of those not at goal at 12 months, 40 percent had SBP ≤ 140 mmHg; 25 percent had SBP at goal on home measurements; changes in treatment were being made in 51 percent; and, for a variety of reasons, no treatment changes were deemed necessary by the patient’s nephrologist in 49 percent. Of those not at goal, only 22 percent were taking medications from all 4 drug classes recommended for use in persons with difficult-to-control BP.

LEADERSHIP

The Director of Medical Subspecialty Services and the Medical Director of Renal Services (two leaders at FAHC) were very important in enabling FAHC to undertake the project. Leadership by the Renal Services director was very helpful in encouraging the physicians to take an interest in the project and tolerate small delays in the flow of clinic patients during the feasibility study. Both he and the Director of Medical Subspecialty Services provided critical in kind support (clinic space and personnel time) that was required for the additional BP measurements, patient education and feedback while the project was being developed. They and the Chair of the Department of Medicine supported the efforts of the physician team leader. The institution is very supportive of quality improvement measure, and FAHC plans to present a poster on its project for the next QI forum at the facility.

The leadership by the clinic nurse manager has been pivotal for problem solving and helping staff cope with relatively small

increases in workload that seemed large if the clinic was very busy. Also, her efforts were essential for helping clinic staff get in touch with the patients and their physicians and coordinate changes in treatment in a timely and efficient manner. Once the current project was underway, the processes seemed part of regular clinic activity and are now accepted as the norm.

PROJECT PLAN/TIMELINE

Feasibility Project Completed in 2005

Aug '05 - Feb '06	Baseline values with “usual care” CKD patient visits recorded; results presented to renal services physicians
March - May '06	Revised forms and processes developed and implemented
June - Sept '06	Patients monitor BP at home and interact with clinic personnel when returning forms; results collected and tallied monthly
Sept '06	Review of results, presentation to physicians, modifications made
March '07	Project report presented to physicians and clinic staff
April '07	Results presented at AMGA Best Practices in Managing Hypertension Conference in Arlington, Virginia.
May '07	Study of factors in patients with BP not at goal; survey of patient knowledge of BP goal
June - Sept '07	Ongoing monthly review of BP; development of check sheet for physicians to standardize treatment strategies for patients with BP not at goal
Oct 2007	Presentation of results to primary care physician group in the area and discussion of how to implement the program for their patients

IN RETROSPECT

Elements of Success

Following are the main factors which allowed this project to be successful and to continue after the feasibility study was completed:

- 1 Patients are continuing to actively participate in and remain excited about being involved in their own care. Their gratitude about improved management of BP has encouraged everyone on the staff to stay involved.

- 2 Small amounts of financial support for the extra staff time required for data entry engaged the staff and increased their interest and enthusiasm for the project in the early stages. However, it is the incorporation of the project processes into normal clinic operations that makes it possible to continue.
- 3 Presenting the results to all physicians and clinic staff confirmed that FAHC has an ongoing need to improve BP control in high-risk patients.
- 4 The usefulness of the tools that were developed for both patients and staff improves overall clinic operations and helps patients attain better BP control.
- 5 Recognition that with minimal cost and impact on clinic personnel time, the project has resulted in improved BP control in a significant proportion of high-risk patients has been gratifying to the staff and physicians.

Challenges

- 1 The biggest operational challenge was to introduce the project without disrupting the clinic flow. FAHC modified the BP-taking procedure used in the feasibility project to take less time without losing value.
- 2 The main patient challenge was and continues to be helping patients understand when they are at goal and when they are not. FAHC developed color-coding for the BP recording sheet (something a patient stated worked for him), indicating if there are more SBPs in the green than the red, the person is at goal. However, not everyone grasps this concept, and the clinic is working on how to improve their understanding of “being at goal.” Another challenge was that although the majority of patients who took BPs at home were recording them on the sheets, some were not sending in the readings. One method that helped resolve this barrier was to give the patients an envelope addressed to the clinic (without a stamp), which is now done routinely.
- 3 The main physician challenge is to get physicians to reexamine medication options for their patients who are not at goal. Feeding back group data encourages physicians to look more carefully at each individual situation. FAHC also plans to provide a checklist for physicians to help determine if they really do have patients on the optimal treatments.

LESSONS LEARNED

Overall, FAHC should have engaged the clinic staff earlier and enlisted their overall support more completely so they felt ownership in the project from the beginning. FAHC plans to correct this problem as part of the process for expanding the project to primary care practices.

Key conclusions from the project:

- 1 Patients' participation in the control of their BP is feasible, effective and welcomed by patients.
- 2 Patients' knowledge of their BP goal is not enough to allow them to achieve it. They need to have ways of determining if they are *at goal* or *not at goal* and what to do next.
- 3 Patients' BPs are still not controlled as well as the clinic would like. To monitor how the clinic is doing and make changes, FAHC needs to track BP control on an ongoing basis.
- 4 BP control programs with patients measuring BP at home and contacting the clinic or healthcare provider for changes in treatment can be run without extra clinic visits, and thus could be useful for patients in other (especially rural and underserved) settings. FAHC plans to pursue this.
- 5 The BP tracking sheets and exit sheets are really useful to patients and staff.
- 6 Patients in the clinic's service area used mail rather than email to send in BP records. Providing envelopes addressed to the clinic encourages higher responses.
- 7 Physicians need regular feedback to recognize the need to make treatment modifications and overcome inertia.
- 8 Staff members' participation in the project increased their understanding of BP measurement, goals and treatments, and recognition of the value of studies as part of patient care.
- 9 One can always learn from patients.

RECOMMENDATIONS FOR IMPROVEMENT

- 1 Establish baseline data for the target population. Present these data prior to initiating an intervention to establish the need for the intervention and importance of the issue.
- 2 Before starting the project, think about how the success or failure of the intervention can be used in the future.
- 3 Feasibility projects or the feasibility phases of larger projects using the local patient population refine the issue for individuals who will participate in any quality improvement effort.
- 4 Look at all tools, information sheets, clinic practices, etc., to make sure they are reliable, practical and understandable, and use time efficiently. There are always unforeseen issues in the best-planned projects and the solution is to look for them, recognize them and make changes promptly.
- 5 Before beginning the project, inform anyone likely to be affected in any way about what you want to do before starting and deal with issues they might see as real or perceived problems. This stops obstacles from being erected and encourages support from sources which you may not have thought you needed.
- 6 Engage staff in the project and provide them with information about all aspects of the project early on and throughout the project. Giving project staff some type of financial incentive (even a small one) can provide a sense of ownership and promotes involvement in and enthusiasm for the project.
- 7 Always be prepared to modify your approach if new information or processes become available.

REFERENCES

- 1 National Health and Nutrition Examination Survey, 1999-2000. National Center for Health Statistics. www.cdc.gov/nchs/about/major/nhanes/NHANES99_00.htm.
- 2 Wang YR. 2007. "Lack of effect of guideline changes on hypertension control for patients with diabetes in the U.S." 1995-2005. *Diabetes Care*, 30(1): 49-52.
- 3 Gray T. 2003. "A look at how three groups have kept their patients hypertension in check." *ACP Observer*, 23(7): 16.
- 4 Vivian, EM. 2002. "Improving blood pressure control in a pharmacist-managed hypertension clinic." *Pharmacotherapy*, 22(12): 1533-1540.
- 5 Sanders KM, Satyvavolu A. 2002. "Improving blood pressure control in diabetes: limitations of a clinical reminder in influencing physician behavior." *Journal of Continuing Education in the Health Professions*, 22(1): 23-32.
- 6 Montgomery A, Fahey T. 1998. "A systemic review of the use of computers in the management of hypertension." *Journal of Epidemiology and Community Health*, 52:520-525.
- 7 Friedman RH, Kazis LE, Jette A, Smith MB, Stollerman J, Torgerson J, Carey K. 1996. "A telecommunications systems for monitoring and counseling patients with hypertension. Impact on medication adherence and blood pressure control." *American Journal of Hypertension*, 9(4): 285-292.
- 8 Muhlhauser I, Sawicki PT, Didjurgeit U, Jorgens V, Trampisch HJ, Berger M. 1993. "Evaluation of a structured treatment and teaching programme on hypertension in general practice." *Clinical and Experimental Hypertension*, 15(1): 125-142.
- 9 Utility of blood pressure monitoring outside of the clinic setting. *AHRQ Evidence Report/Technology Assessment*, 63: 12/16/2002.
- 10 Cappuccio FP, Kerry SM, Forbes L, Donald A. 2004. "Blood pressure control by home monitoring: meta-analysis of randomised trials." *British Medical Journal*, 329(7458): 145.

FOR ADDITIONAL INFORMATION

Contact

VIRGINIA L. HOOD, MBBS, MPH
RENAL SERVICES, FAHC
1 SOUTH PROSPECT STREET
BURLINGTON, VT 05401
Phone: 802- 847-2534
Fax: 802-847-8736
Email: VIRGINIA.HOOD@VTMEDNET.ORG

Appendix 1

PATIENT BP TRACKING SHEET

IS MY BLOOD PRESSURE AT GOAL

RECORD YOUR BLOOD PRESSURE

Write a "1" in column 1 (green) if your SBP is 130 or lower
 Write a "1" in column 2 (red) if your SBP is higher than 130

Column 1

Column 2

Date	Time	SBP Systolic (Top)	DBP: Diastolic (Bottom)	Pulse	SBP 130 or lower	SBP higher than 130
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
	Am					
	Pm					
Your Name				Totals		

If your BP is not at goal, contact Renal Services at 802-847-3572 or mail this sheet to us.

Please bring this sheet to your next doctor's visit if you have not mailed it.

ADD UP EACH COLUMN
 If this total is HIGHER
 You are at YOUR BP GOAL

ADD UP EACH COLUMN
 If this total is HIGHER
 You are at NOT at your BP GOAL

Appendix 2

PATIENT EXIT SHEET

NEPHROLOGY OFFICE VISIT

Name _____

New Patient Yes No

DOB (Mo) _____ (Day) _____ (Yr) _____

CKD Stage _____ or NA _____

Weight _____

MRN _____ DOS _____

BLOODWORK TODAY

NEPH PROFILE IRON STUDIES LIPID PANEL CYA HEMAGRAM IPTH FK506

URINE TODAY

PROT/CREAT URINALYSIS STONE PROFILE MICROALBUMIN URINE CULTURE BENCE JONES

BLOODWORK PRIOR TO NEXT VISIT

NEPH PROFILE IPTH CYA HEMAGRAM LIPID PANEL FK506 IRON STUDIES LIVER PANEL

URINE PRIOR TO NEXT VISIT

PROT/CREAT RATIO URINALYSIS –CLINIC STONE PROFILE MICROALBUMIN

RADIOLOGY/VASCULAR

RENAL ULTRASOUND VEIN MAPPING DR WEISE ULTRASOUND FISTULA EVALUATION DUPLEX RENAL SCAN

MEDICATION CHANGES

DIET

LOW SODIUM LOW POTASSIUM DASH DIET EXERCISE

BLOOD PRESSURE GOAL

Today's BP _____ Pulse _____

130/80 or less, more than half the time

Takes BP at home Y N

140/90 or less, more than half the time

BP at goal at home Y N

REFERRAL

DIETICIAN _____ DIALYSIS OPTIONS _____ TRANSPLANT OPTIONS _____ OTHER _____

FOLLOW UP VISIT _____ MONTHS _____ WEEKS PROVIDER SIGNATURE _____

Patient to be followed up by PA in: RRM St Albans CVH Time _____

Appendix 3

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF
(POWERPOINT PRESENTATION)

Project Goal

To develop a strategy that will allow clinics or practices to increase the proportion of their patients who have BP at goal by increasing patient capacity to adhere to and direct their own care

Appendix 3 (con't)

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF
(POWERPOINT PRESENTATION)

Next Steps after 2004 Feasibility Project

Modify BP tracking tool for general clinic use

Inform all clinic patients of their BP goal

Make study tools available to all patients

Encourage patients to take the initiative to
contact us when BP is not at goal

Track clinic BP in all patients and periodically
monitor and report percent achieving goal

Appendix 3 (con't)

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF
(POWERPOINT PRESENTATION)

2006-2007 Project Objectives

Specific objectives for the second phase of this project were to increase

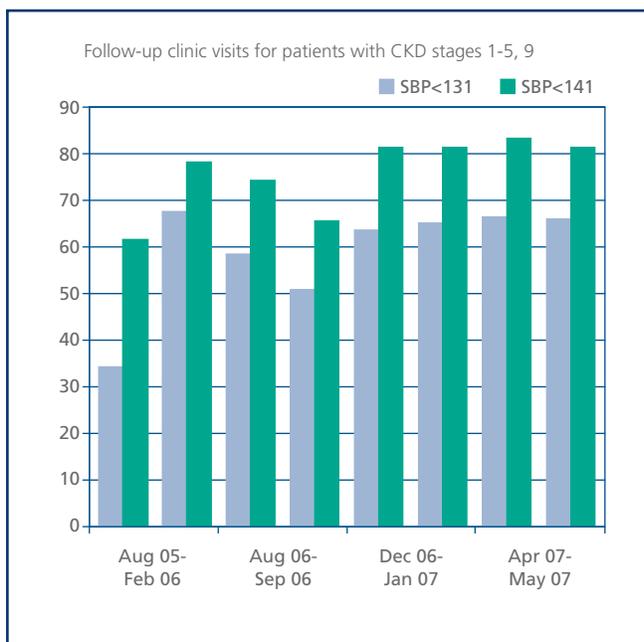
The percent of people at high risk for CVD in FAHC renal clinic with BP < 130/80 mmHg

Patient awareness of BP goal and capacity to achieve it by taking and reporting home BP

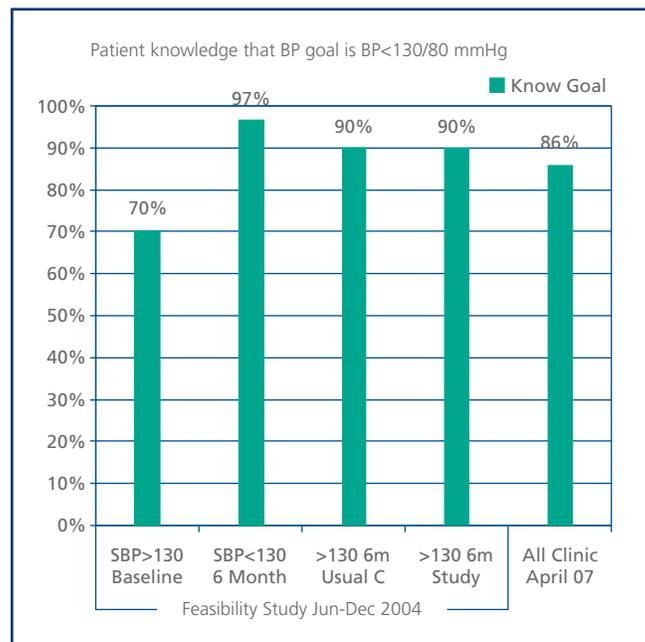
Appendix 3 (con't)

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF (POWERPOINT PRESENTATION)

Follow-Up Clinic Visits



Patient Knowledge



Appendix 3 (con't)

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF
(POWERPOINT PRESENTATION)

May 2007 FAHC Renal Clinic
CKD Patients Stage 3-5, 9
Features of the 35% of
Patients with BP Not at Goal

SBP < 141 mmHg 40%

BP at home at goal25%

Changes made in 51%

No changes in.....49%

(1% orthostatic, 28% "change not needed at this time")

Appendix 3 (con't)

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF
(POWERPOINT PRESENTATION)

May 2007 FAHC Renal Clinic CKD Patients Stage 3-5, 9 Potential Explanations for the 35% of Patients with BP Not at Goal

Pulse > 65/min 16/30	53%
No Diuretic	38%
No ACEi/ARB	35%
No Alpha/beta or Beta blocker.....	32%
Not on ≥ 3 drugs	38%
Not taking BP at home	32%

Of those on ≥ 4 drugs, only 59% were taking at least one from each of the following classes of antihypertensive medications - diuretic, ab/b blocker, acei/arb, ccb-dhp

Appendix 3 (con't)

GROUP OUTCOMES AS REPORTED TO PHYSICIANS AND STAFF
(POWERPOINT PRESENTATION)

Key Elements for Success of BP@goal Project

Patients knowing their BP, knowing their goal
and seeking advice from their provider when
their BP was not at goal

Providers responding with appropriate changes
in treatment outside of regular clinic visits
(each 1-2 weeks if needed)

Tracking clinic BP in all patients and periodically
reporting percent achieving goal

Getting staff and patients excited about
the project



Provided as an educational service by AMGA and Daiichi Sankyo, Inc.

1422 DUKE STREET, ALEXANDRIA, VA 22314-3403
TEL: (703) 838-0033 FAX: (703) 548-1890 WWW.AMGA.ORG

©2008 American Medical Group Association and Daiichi Sankyo, Inc.
All rights reserved.