



**Barry R. Davis, M.D., Ph.D.**

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**Degrees**

PhD (Applied Mathematics), Brown University, 1982  
ScM (Applied Mathematics), Brown University, 1981  
MD, University of California, San Diego School of Medicine, 1977  
BS (Life Sciences), Massachusetts Institute of Technology, 1973

**Appointments**

Guy S. Parcel Chair in Public Health, University of Texas School of Public Health  
Professor, Division of Biostatistics, University of Texas School of Public Health  
Director, Coordinating Center for Clinical Trials, University of Texas School of Public Health  
Director, Clinical Research Design, Texas Heart Institute  
James W. Rockwell Professor in Public Health, University of Texas School of Public Health  
(2006-2007)

## **Research and Professional Experience**

Dr. Davis' research and professional experience has been mainly in clinical trials. A main theme of his work concerns methodological and statistical approaches for designing, monitoring, and analyzing clinical trials. Dr. Davis is currently Director of the Coordinating Center for Clinical Trials (CCCT), a research center of the University of Texas School of Public Health (UTSPH). The CCCT has coordinated 16 major national and international cardiovascular and vision trials, including the landmark Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)1, for which Dr. Davis was the PI and Director. He has served as Director of the Division of Biostatistics at UTSPH, the President of the Society for Clinical Trials, Executive Director of Biostatistics at Amgen (the world's largest biotechnology company) and has served on many clinical trial data monitoring committees. Dr. Davis has worked on the development of methods for monitoring clinical trials and his research interests in biostatistical methodology include clinical trials, survival analysis, pharmacogenetics and epidemiological methods.

## **Keywords**

Biostatistics; clinical trials; pharmacogenetics; survival analysis

## **Awards and Honors**

Fellow, Society for Clinical Trials, 2007

Fellow, American Statistical Association, 1996

Fellow, American Heart Association, Council on Epidemiology, 1990

Fellow, American College of Preventive Medicine, 1992

UTHSC-Houston President's Scholar Award for Research, 2004

President, Society for Clinical Trials, 2000

ALLHAT selected as one of "Top Ten Achievements for 2002" by American Heart Association

Chair, Biometrics Section, American Statistical Association, 2003

Honorary member of the Chilean Society of Internal Medicine, 2003

Guy S. Parcel Chair in Public Health, University of Texas School of Public Health

James W. Rockwell Professor in Public Health, University of Texas School of Public Health (2006-2007)

Presidential Nominee, ENAR, International Biometric Society, 2005, 2008

## Major Grants Since 2000

Principal Investigator and Director, Clinical Trials Center for **Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)**, NHLBI. (\$101,198,107) 1999-2010.

Principal Investigator and Director, **Dissemination project of ALLHAT**, NHLBI. (\$3,721,028) 2003-2008.

Principal Investigator and Director, Clinical Trials Center for **Genetics of Hypertension Associated Treatments (GENHAT)**, NHLBI. (\$2,736,351) 1999-2006; Co-I 2006-2010.

Principal Investigator and Director, **Training Grant in Biostatistics at University of Texas School of Public Health**, NIGMS. (\$887,920) 2005-2006.

Principal Investigator and Director (original), Data Coordinating Center for **Cell-Based Therapy for Cardiovascular Research Network (CCTR)**, NHLBI. (\$17,882,096) 9/2006 only.

## Selected Publications from over 200

### 2009

Wright JT, Probstfield JL, Cushman WC, Pressel S, Cutler JA, **Davis BR**, Einhorn PT, Rahman, M, Whelton PK, Ford CE, Haywood LJ, Margolis KL, Oparil S, Black HR, Alderman MH, for the ALLHAT Collaborative Research Group. ALLHAT findings revisited in the context of subsequent analyses, other trials and meta-analyses. To appear in *Archives of Internal Medicine*.

Maitland-van der Zee AH, Peters P, Lynch AI, Boerwinkle E, Arnett DK, **Davis BR**, Leiendecker-Foster C, Ford CE, Eckfeldt JH. The effect of 9 common polymorphisms in coagulation factor genes (F2, F5, F7, F12 and F13) on the effectiveness of statins: The GenHAT Study. To appear in *Pharmacogenetics and Pharmacogenomics*.

### 2008

**Davis BR**, Baraniuk S. Definitive Phase III and Phase IV Clinical Trials. *Handbook of Statistics 27 - Epidemiology and Medical Statistics* – Rao CR, Miller JP, Rao DC (Eds.) Elsevier, Amsterdam, 2008

Garey KW, Lai D, Dao-Tran TK, Gentry LO, Hwang LY, **Davis BR** (Feb 2008) Interrupted time series analysis of vancomycin compared to cefuroxime for surgical prophylaxis in patients undergoing cardiac surgery., *Antimicrobial Agents and Chemotherapy*, 52 (2), 446-51

Black HR, **Davis B**, Barzilay J, Nwachuku C, Baimbridge C, Marginean H, Wright JT, Basile J, Wong ND, Whelton P, Dart RA, Thadani U (Feb 2008) Metabolic and clinical outcomes in nondiabetic individuals with the metabolic syndrome assigned to chlorthalidone, amlodipine, or lisinopril as initial treatment for hypertension: a report from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial, *Diabetes Care*, 31 (2), 353-60

Heidenreich PA, **Davis BR**, Cutler JA, Furberg CD, Lairson DR, Shlipak MG, Pressel SL, Nwachuku C, Goldman L (Jan 2008) Cost-effectiveness of Chlorthalidone, Amlodipine, and Lisinopril as First-step Treatment for Patients with Hypertension: An Analysis of the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *Journal of General Internal Medicine*, 23:509-16

Wright JT, Harris-Haywood S, Pressel S, Barzilay J, Baimbridge C, Bareis CJ, Basile JN, Black HR, Dart R, Gupta AK, Hamilton BP, Einhorn PT, Haywood LJ, Jafri SZ, Louis GT, Whelton PK, Scott CL, Simmons DL, Stanford C, **Davis BR** (Jan 2008) Clinical outcomes by race in hypertensive patients with and without the metabolic syndrome: Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)., *Archives of Internal Medicine*, 168 (2), 207-17

Lynch AI, Boerwinkle E, **Davis BR**, Ford CE, Eckfeldt JH, Leiendecker-Foster C, Arnett DK (Jan 2008) Pharmacogenetic association of the NPPA T2238C genetic variant with cardiovascular disease outcomes in patients with hypertension., *JAMA : The Journal of the American Medical Association*, 299 (3), 296-307

Tonelli M, Sacks F, Arnold M, Moye L, **Davis B**, Pfeffer M (Jan 2008) Relation Between Red Blood Cell Distribution Width and Cardiovascular Event Rate in People With Coronary Disease. *Circulation*. 117(2):163-168.

**Cholesterol Treatment Trialists' (CTT) Collaborators.** (Jan 2008) Efficacy of cholesterol-lowering therapy in 18,686 people with diabetes in 14 randomised trials of statins: a meta-analysis., *Lancet*, 371 (9607), 117-25.

Cutler JA and **Davis BR**. Thiazide-type diuretics and beta-adrenergic blockers as first-line drug treatments for hypertension. *Circulation*, 117:2691-2704

Rahman M, Baimbridge C, **Davis BR**, Barzilay J, Basile JN, Henriquez JA, Huml, A, Kopyt N, Louis GT, Pressel SL, Rosendorff C, Sastrasinh S. Progression of Kidney Disease in Moderately Hypercholesterolemic, Hypertensive Patients Randomized to Pravastatin vs Usual Care: A report from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *American Journal of Kidney Disease*, 52:412-424

Patel AB, Kostis JB, Wilson AC, Shea ML, Pressel SL, **Davis BR**. Long-Term Fatal Outcomes in Subjects With Stroke or Transient Ischemic Attack Fourteen-Year Follow-Up of the Systolic Hypertension in the Elderly Program. *Stroke*, 39:1084-1089

Maitland van der Zee AH, Lynch AI, Boerwinkle E, Arnett DK, **Davis BR**, Leiendecker-Foster C, Ford CE, Eckfeldt JH. Interactions between the SNPs in the homocysteine pathway (MTHFR 677C>T, MTHFR 1298 A>C and CBSins) and the efficacy of HMG-CoA reductase inhibitors in preventing cardiovascular disease in high risk hypertensives: The GenHAT Study. *Pharmacogenetics and Genomics*, 18:651-656

**Blood Pressure Lowering Treatment Trialists' Collaboration.** Effects of different regimens to lower blood pressure on major cardiovascular events in older and younger people: meta-analysis of randomised trials. *British Medical Journal*, 336:1121-1123

**Davis BR**, Kostis JB, Simpson LM, et al. Heart Failure with Preserved and Reduced Left Ventricular Ejection Fraction in ALLHAT. *Circulation* 118:2259-2267

**Blood Pressure Lowering Treatment Trialists' Collaboration.** Do men and women respond differently to blood pressure lowering treatment? Results of prospectively-designed overviews of randomized trials. *European Heart Journal*, 29:2669-2680

Nwachuku CE, Bastien A, Cutler JA, Grob GM, Margolis K, Roccella EJ, Pressel S, **Davis BR**. Management of High Blood Pressure in Clinical Practice: Perceptible Qualitative Differences in Approaches Utilized by Clinicians. *Journal of Clinical Hypertension*, 10:822-829

## 2007

Lynch AI, Arnett DK, **Davis BR**, Boerwinkle E, Ford CE, Eckfeldt JH, Leiendecker-Foster C (Nov 2007) Sex-specific effects of AGT-6 and ACE I/D on pulse pressure after 6 months on antihypertensive treatment: the GenHAT study., *Annals of Human Genetics*, 71 (Pt 6), 735-45

Barzilay JI, Cutler JA, **Davis BR** (May 2007) Antihypertensive medications and risk of diabetes mellitus., *Current Opinion in Nephrology and Hypertension*, 16 (3), 256-60

**Blood Pressure Lowering Treatment Trialists' Collaboration** (May 2007) Blood pressure-dependent and independent effects of agents that inhibit the renin-angiotensin system., *Journal of Hypertension*, 25 (5), 951-8

**Davis BR**, Arnett DK, Boerwinkle E, Ford CE, Leidecker-Foster C, Miller MB, Black H, Eckfeldt JH (Apr 2007) Antihypertensive therapy, the alpha-adducin polymorphism, and cardiovascular disease in high-risk hypertensive persons: the Genetics of Hypertension-Associated Treatment Study., *The Pharmacogenomics Journal*, 7 (2), 112-22

Maitland-van der Zee AH, Boerwinkle E, Arnett DK, **Davis BR**, Leidecker-Foster C, Miller MB, Klungel OH, Ford CE, Eckfeldt JH (Jan 2007) Absence of an interaction between the angiotensin-converting enzyme insertion-deletion polymorphism and pravastatin on cardiovascular disease in high-risk hypertensive patients: the Genetics of Hypertension-Associated Treatment (GenHAT) study., *American Heart Journal*, 153 (1), 54-8

Einhorn PT, **Davis BR**, Massie BM, Cushman WC, Piller LB, Simpson LM, Levy D, Nwachuku CE, Black HR (Jan 2007) The Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) Heart Failure Validation Study: diagnosis and prognosis., *American Heart Journal*, 153 (1), 42-53

## 2006

Barzilay JI, **Davis BR**, Cutler JA, Pressel SL, Whelton PK, Basile J, Margolis KL, Ong ST, Sadler LS, Summerson J (Nov 2006) Fasting glucose levels and incident diabetes mellitus in older nondiabetic adults randomized to receive 3 different classes of antihypertensive treatment: a report from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) , *Archives of Internal Medicine*, 166 (20), 2191-201

Piller LB, Ford CE, **Davis BR**, Nwachuku C, Black HR, Oparil S, Retta TM, Probstfield JL (Sep 2006) Incidence and predictors of angioedema in elderly hypertensive patients at high risk for cardiovascular disease: a report from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)., *Journal of Clinical Hypertension (Greenwich, Conn.)*, 8 (9), 649-56; quiz 657-8

Leenen FH, Nwachuku CE, Black HR, Cushman WC, **Davis BR**, Simpson LM, Alderman MH, Atlas SA, Basile JN, Cuyjet AB, Dart R, Felicetta JV, Grimm RH, Haywood LJ, Jafri SZ, Proschan MA, Thadani U, Whelton PK, Wright JT (Sep 2006) Clinical events in high-risk hypertensive patients randomly assigned to calcium channel blocker versus angiotensin-converting enzyme inhibitor in the antihypertensive and lipid-lowering treatment to prevent heart attack trial., *Hypertension*, 48 (3), 374-84

Rahman M, Nwachuku C, Whelton P, Probstfield J, **Davis BR** (Jun 2006) Re: Hawkins RG, Houston MC Is population-wide diuretic use directly associated with the incidence of end-stage renal disease in the United States? A hypothesis. *Am J Hypertens*. 2005 Jun;18(6):744-9., *American Journal of Hypertension :Journal of the American Society of Hypertension*, 19 (6), 656-7

**Davis BR**, Piller LB, Cutler JA, Furberg C, Dunn K, Franklin S, Goff D, Leenen F, Mohiuddin S, Papademetriou V, Proschan M, Ellsworth A, Golden J, Colon P, Crow R (May 2006) Role of diuretics in the prevention of heart failure: the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial., *Circulation*, 113 (18), 2201-10

## 2005

**Davis BR** and Cutler JA. Data Monitoring in the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial. *Data Monitoring in Clinical Trials: A Case Studies Approach* DeMets, David L.; Furberg, Curt D.; Friedman, Lawrence (Eds.) Springer, 2005

**The National, Heart, Lung, Blood Institute Working Group on Future Directions in Hypertension Treatment Trials.** (2005) Major clinical trials of hypertension. What should be done next? *Hypertension* 46:1-6

**Cholesterol Treatment Trialists' (CTT) Collaborators**, (Oct 2005) Efficacy and safety of cholesterol-lowering treatment: prospective meta-analysis of data from 90,056 participants in 14 randomised trials of statins., *Lancet*, 366 (9493), 1267-78

Whelton PK, Barzilay J, Cushman WC, **Davis BR**, Iamathi E, Kostis JB, Leenen FH, Louis GT, Margolis KL, Mathis DE, Moloo J, Nwachuku C, Panebianco D, Parish DC, Pressel S, Simmons DL, Thadani U, ALLHAT Collaborative Research Group, (Jun 2005) Clinical Outcomes in Antihypertensive Treatment of Type 2 Diabetes, Impaired Fasting Glucose Concentration, and Normoglycemia: Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)., *Archives of Internal Medicine*, 165(12), 1401-9

**Blood Pressure Lowering Treatment Trialists' Collaboration**, (Jun 2005) Effects of Different Blood Pressure-lowering Regimens on Major Cardiovascular Events in Individuals With and Without Diabetes Mellitus: Results of Prospectively Designed Overviews of Randomized Trials., *Archives of Internal Medicine*, 165(12), 1410-9

Eason SL, Petersen NJ, Suarez-Almazor M, **Davis B**, Collins TC, (2005) Diabetes mellitus, smoking, and the risk for asymptomatic peripheral arterial disease: whom should we screen?, *The Journal of the American Board of Family Practice / American Board of Family Practice*, 18 (5), 355-61

Arnett DK, **Davis BR**, Ford CE, Boerwinkle E, Leidecker-Foster C, Miller MB, Black H, Eckfeldt JH (Jun 2005) Pharmacogenetic association of the angiotensin-converting enzyme insertion/deletion polymorphism on blood pressure and cardiovascular risk in relation to antihypertensive treatment: the Genetics of Hypertension-Associated Treatment (GenHAT) study., *Circulation*, 111 (25), 3374-83

Wright JT Jr, Dunn JK, Cutler JA, **Davis BR**, Cushman WC, Ford CE, Haywood LJ, Leenen FH, Margolis KL, Papademetriou V, Probstfield JL, Whelton PK, Habib GB, ALLHAT Collaborative Research Group, (Apr 2005) Outcomes in Hypertensive Black and Nonblack Patients Treated With Chlorthalidone, Amlodipine, and Lisinopril., *JAMA : The Journal of the American Medical Association*, 293(13), 1595-608

Rahman M, Pressel S, **Davis BR**, Nwachuku C, Wright JT Jr, Whelton PK, Barzilay J, Batuman V, Eckfeldt JH, Farber M, Henriquez M, Kopyt N, Louis GT, Saklayen M, Stanford C, Walworth C, Ward H, Wiegmann T, (Apr 2005) Renal Outcomes in High-risk Hypertensive Patients Treated With An Angiotensin-converting Enzyme Inhibitor Or a Calcium Channel Blocker Vs A Diuretic: a Report From the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial, *Archives of Internal Medicine*, 165(8), 936-46

Kostis JB, Wilson AC, Freudenberger RS, Cosgrove NM, Pressel SL, **Davis BR**, SHEP Collaborative Research Group, (Jan 2005) Long-term Effect of Diuretic-based Therapy on Fatal Outcomes in Subjects With Isolated Systolic Hypertension With and Without Diabetes., *The American Journal of Cardiology*, 95(1), 29-35

## 2004

Schabath MB, Grossman HB, Delclos GL, Hernandez LM, Day RS, **Davis BR**, Lerner SP, Spitz MR, Wu X, (Dec 2004) Dietary Carotenoids and Genetic Instability Modify Bladder Cancer Risk., *The Journal of Nutrition*, 134(12), 3362-9

Best PJ, Berger PB, **Davis BR**, Grines CL, Sadeghi HM, Williams BA, Willerson JT, Granett JR, Holmes DR Jr, PRESTO Investigators, (Nov 2004) Impact of Mild Or Moderate Chronic Kidney Disease on the Frequency Of Restenosis: Results From the PRESTO Trial., *Journal of the American College of Cardiology*, 44(9), 1786-91

**Davis BR**, Ford CE, Boerwinkle E, Arnett D, Eckfeldt J, Black H, (Aug 2004) Imputing Gene-treatment Interactions When the Genotype Distribution Is Unknown Using Case-only and Putative Placebo Analyses--a New Method For the Genetics of Hypertension Associated Treatment (GenHAT) Study., *Statistics in Medicine*, 23(15), 2413-27

Kenchaiah S, **Davis BR**, Braunwald E, Rouleau JL, Dagenais GR, Sussex B, Steingart RM, Brown EJ Jr, Lamas GA, Gordon D, Bernstein V, Pfeffer MA, Survival and Ventricular Enlargement Trial, (Aug 2004) Antecedent Hypertension and the Effect of Captopril on the Risk of Adverse Cardiovascular Outcomes After Acute Myocardial Infarction With Left Ventricular Systolic Dysfunction: Insights From the Survival And Ventricular Enlargement Trial, *American Heart Journal*, 148(2), 356-64

**Davis BR**, Furberg CD, Wright JT Jr, Cutler JA, Whelton P, ALLHAT Collaborative Research Group, (Jul 2004) ALLHAT: Setting the Record Straight., *Annals of Internal Medicine*, 141(1), 39-46

Kao J, Tobis J, McClelland RL, Heaton MR, Davis BR, Holmes DR Jr, Currier JW, Investigators in the Prevention of Restenosis With Tranilast and Its Outcomes Trial, (Jun 2004) Relation of Metformin Treatment to Clinical Events in Diabetic Patients Undergoing Percutaneous Intervention., *The American Journal of Cardiology*, 93(11), 1347-50, A5

Rahman M, Brown CD, Coresh J, **Davis BR**, Eckfeldt JH, Kopyt N, Levey AS, Nwachuku C, Pressel S, Reisin E, Walworth C, (May 2004) Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial Collaborative Research Group, The Prevalence of Reduced Glomerular Filtration Rate in Older Hypertensive Patients and Its Association With Cardiovascular Disease: a Report From the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial, *Archives of Internal Medicine*, 164(9), 969-76

Barzilay JI, **Davis BR**, Bettencourt J, Margolis KL, Goff DC Jr, Black H, Habib G, Ellsworth A, Force RW, Wiegmann T, Ciocon JO, Basile JN, (Mar 2004). Cardiovascular outcomes using doxazosin vs. chlorthalidone for the treatment of hypertension in older adults with and without glucose disorders: a report from the ALLHAT study, *J Clin Hypertens*, 6(3), 116-125

Mathew V, Gersh BJ, Williams BA, Laskey WK, Willerson JT, Tilbury RT, Davis BR, Holmes DR Jr., (Feb 2004) Outcomes in patients with diabetes mellitus undergoing percutaneous coronary intervention in the current era: a report from the Prevention of REStenosis with Tranilast and its Outcomes (PRESTO) trial, *Circulation*, 109(4), 476-480

Dickersin K, **Davis BR**, Dixon DO, George SL, Hawkinse BS, Lachin J, Peduzzi P, Pocock S, Society for Clinical Trials (2004) The Society for Clinical Trials supports United States legislation mandating trials registration, *Clin Trials*, 1 (5), 417-20