



Welch Allyn  
*Advancing Frontline Care*



HYPERTENSION



DIABETIC  
RETINOPATHY



CARDIOLOGY SCREENING  
AND DIAGNOSIS



VISION DISABILITIES  
IN CHILDREN



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## Primary care is at the forefront of population health.

Primary care clinicians represent the front lines of a complex healthcare system. You are tasked not only with treating acute and chronic conditions, but also with identifying health risk factors early to help improve patient outcomes and keep system costs lower.



At Welch Allyn, we advance the capabilities of frontline care providers with smarter tools to help you identify, diagnose and manage many of the most prevalent health issues your practice sees every day.

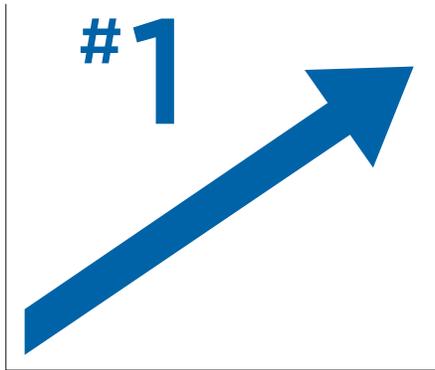
**Together, we can do more to advance frontline care.**

*Keep reading to learn how.*



## HYPERTENSION

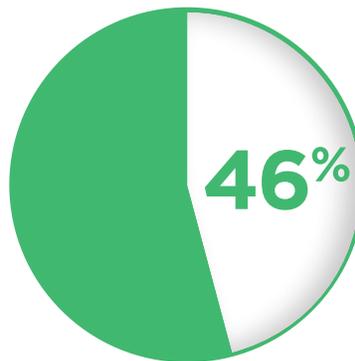
# THE CHALLENGE



High blood pressure is the **#1 risk factor** for heart attack, stroke and kidney disease.<sup>1,2</sup>



**Nearly 1 in 2 U.S. Adults** have high blood pressure.<sup>3</sup>



**46% of people with high blood pressure** do not have the condition under control.<sup>3</sup>

# THE SOLUTION

Welch Allyn offers solutions that extend beyond the four walls of your practice to help you get a more accurate view of a patient's blood pressure in various settings.



# THE IMPACT

1

## Identify:

Better identify hypertension with accurate, automated and averaged blood pressure readings in the office.

2

## Diagnose:

Strengthen your diagnoses with multiple readings inside and outside the office. The U.S. Preventive Services Task Force calls ambulatory blood pressure monitoring "the best method for diagnosing hypertension."<sup>4</sup>

3

## Manage:

Effectively manage hypertensive patients to help them reach target blood pressure. Clinician-connected remote patient monitoring has been proven to help get patients to their target blood pressure.<sup>5</sup>



Connex® Spot Monitor



ABPM 7100 Ambulatory Blood Pressure Management System



Welch Allyn Home® Hypertension Program

<sup>1</sup> Mayo Clinic. High blood pressure dangers: Hypertension's effects on your body. Mayo Clinic website. <http://www.mayoclinic.org/diseases-conditions/high-blood-pressure/in-depth/high-blood-pressure/art-20045868>. February 18, 2014. Accessed October 17, 2016.

<sup>2</sup> World Heart Federation. Cardiovascular disease: Risk factors. World Heart Federation website. [http://www.world-heart-federation.org/fileadmin/user\\_upload/documents/Fact\\_sheets/2012/PressBackgrounderApril2012RiskFactors.pdf](http://www.world-heart-federation.org/fileadmin/user_upload/documents/Fact_sheets/2012/PressBackgrounderApril2012RiskFactors.pdf). Accessed October 17, 2016.

<sup>3</sup> American Heart Association and American Stroke Association. 2016 Heart Disease and Stroke Statistics Update

<sup>4</sup> Margaret A. Piper, PhD, MPH; Corinne V. Evans, MPP; Brittany U. Burda, MPH; Karen L. Margolis, MD, MPH; Elizabeth O'Connor, PhD; and Evelyn P. Whitlock, MD, MPH: Diagnostic and Predictive Accuracy of Blood Pressure Screening Methods With Consideration of Rescreening Intervals: An Updated Systematic Review for the U.S. Preventive Services Task Force

<sup>5</sup> Green B et al. Effectiveness of Home Blood Pressure Monitoring, Web Communication, and Pharmacist Care on Hypertension Control. JAMA 2008;299(24):2857-2867

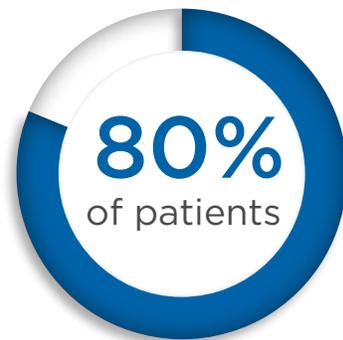


## DIABETIC RETINOPATHY

# THE CHALLENGE



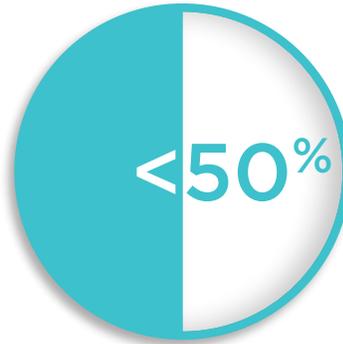
**414 million people** globally are living with diabetes.<sup>6</sup>



**80% of patients** with diabetes will develop diabetic retinopathy.<sup>7</sup>



With early detection, up to **95% of vision loss** cases are preventable.<sup>8</sup>



Yet documented compliance with annual retinal exams is often **less than 50%**.<sup>9</sup>

# THE SOLUTION

The RetinaVue® care delivery model makes diabetic retinal exams **SIMPLE** and **AFFORDABLE** for primary care.



RetinaVue 100 Imager

# THE IMPACT

## 1 Quality measures and clinical documentation of chronic conditions:

**Accurate documentation of chronic conditions** helps inform care planning, care delivery, appropriate coverage, and quality measure (HEDIS®) performance.<sup>10</sup> Intercepting patients during routine primary care office visits can achieve **up to 90% documented compliance in one year.**<sup>11</sup>

## 2 Patient outcomes:

The best weapon against diabetic retinopathy is early detection, but compliance with the diabetic eye exam is low<sup>12,13</sup> – nationally, only 20-to-50% of patients comply.<sup>13-16</sup> Yet, **up to 95% of vision loss can be prevented if caught and treated early.**<sup>12</sup>

## 3 Financial outcomes:

Most commercial healthcare plans **provide coverage for teleretinal exams in primary care settings** with remote ophthalmologist interpretation. Many providers can see a favorable return on investment within their first year. Consult your payer partners to understand coding and coverage options.



<sup>6</sup> IDF Diabetes Atlas, Seventh Edition 2015, page 50. [www.idf.org](http://www.idf.org)

<sup>7</sup> American Academy of Ophthalmology Retina/Vitreous Panel. Preferred Practice Pattern® Guidelines. Diabetic Retinopathy. San Francisco, CA: American Academy of Ophthalmology; 2014. [www.aao.org/ppp](http://www.aao.org/ppp).

<sup>8</sup> National Eye Institute, Facts about Diabetic Eye Disease. <https://nei.nih.gov/health/diabetic/retinopathy>

<sup>9</sup> Monitoring Visual Status: Why Patients Do or Do Not Comply with Practice Guidelines; Frank A. Sloan, Derek S. Brown, Emily Streyer Carlisle, Gabriel A. Picone, and Paul P. Lee. Health Services Research, October 2004.

<sup>10</sup> Understanding the Role of HCCs in Risk-Adjustment Programs; A Comprehensive Primer for Hierarchical Condition Categories, ©2017 Advisory Board, [www.advisory.com](http://www.advisory.com)

<sup>11</sup> Comparing the Effectiveness of Telemedicine and Traditional Surveillance in Providing Diabetic Retinopathy Screening Examinations: A Randomized Controlled Trial; Mansberger et al, Telemedicine and e-Health, Vol. 19 No. 12, Dec. 2013.

<sup>12</sup> National Eye Institute. 2016. <https://nei.nih.gov/health/diabetic/retinopathy>. Accessed March 9, 2017.

<sup>13</sup> Sloan FA, Brown DS, Carlisle ES, et al. Health Serv Res. 2004; 39(5):1429-1448.

<sup>14</sup> Lehigh Valley Health Network. <http://scholarlyworks.lvhcn.org/cgi/viewcontent.cgi?article=1036&context=select-program>. Accessed March 1, 2016.

<sup>15</sup> Lee DJ, Kumar N, Feuer WJ, et al. BMJ Open Diabetes Res Care. 2014;2(1):e000031.

<sup>16</sup> Rajput Y, Fisher M, Gu T, et al. IOVS. 2015; 56(7):1440



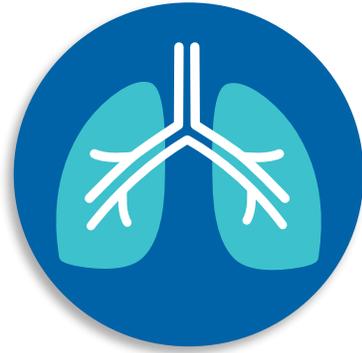
## CARDIOLOGY SCREENING AND DIAGNOSIS



# THE CHALLENGE



Heart disease is the **leading cause of death** in the United States.<sup>17</sup>



**COPD** is a major cause of disability, and the **third leading cause of death** in the United States.<sup>18</sup>

1. Heart disease
2. Cancer
3. COPD
4. Diabetes
- 5. STROKE**
6. Alzheimer's disease
7. Kidney disease



Stroke is the **fifth leading cause of death** in the United States, killing more than 130,000 Americans each year—that's **1 of every 20 deaths**.<sup>19</sup>

# THE SOLUTION

Welch Allyn cardiology devices help clinicians quickly detect signs of heart disease, stroke and COPD, and connect data to the specialists who can help patients effectively manage and treat their conditions.



Q-Stress® Cardiac Stress Testing System



ELI™ 280 Resting ECG



CP 150™ Resting ECG



H3+™ Holter Recorder

# THE IMPACT

1

## Patient outcomes:

Help improve patient outcomes by offering resting ECG, stress ECG, spirometry, holter and other cardiology screening solutions that are simple enough for use in primary care, yet equipped with comprehensive tools a specialist needs.



2

## Efficiency:

A variety of connectivity options, including WiFi® and DICOM® communication, make it easy to send timely, accurate data directly to your EMR.



3

## Financial outcomes:

Help maximize your return on investment by keeping reimbursable procedures in house, rather than referring to another provider.



With the industry's broadest range of diagnostic cardiology solutions, we help people get better care, inside and outside the hospital. Backed by **clinical excellence, connected solutions and continuous innovation**, Welch Allyn Cardiology is proud to be powered by Mortara.

<sup>17</sup> Mozafarian D, Benjamin EJ, Go AS, et al. on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2016 update: a report from the American Heart Association. *Circulation*. 2016;133:e38-e360.

<sup>18</sup> <https://www.nhlbi.nih.gov/health/health-topics/topics/copd>

<sup>19</sup> Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2013 on CDC WONDER Online Database, released 2015. Data are from the Multiple Cause of Death Files, 1999-2013, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program: <http://wonder.cdc.gov/ucd-icd10.html>. Accessed on Feb 3, 2015.



## AMBLYOPIA AND VISION DISABILITIES IN CHILDREN

# THE CHALLENGE



Vision disability is the **single most prevalent** disabling condition among children.<sup>20</sup>



**Only one in three U.S. children** has had a vision screening before kindergarten.<sup>21</sup>



The AAP recommends instrument-based vision screening at as **early as 12 months of age**, if available.<sup>22</sup>



Yet **70% of pediatricians** are not doing automated vision screening.<sup>23</sup>

# THE SOLUTION



Spot™ Vision Screener

- Hyperopia
- Myopia
- Astigmatism
- Anisometropia
- Strabismus
- Anisocoria

# THE IMPACT

1

## Efficiency:

In one study, use of the Spot Vision Screener at Pediatric Physicians' Organization at Boston Children's Hospital helped staff increase completion rates in three- to five-year-old children over chart-based screening. Improvement was observed for each age, but the most impressive result was among three-year-old children—increasing from **38.6% to 87.1%**.<sup>24</sup>



2

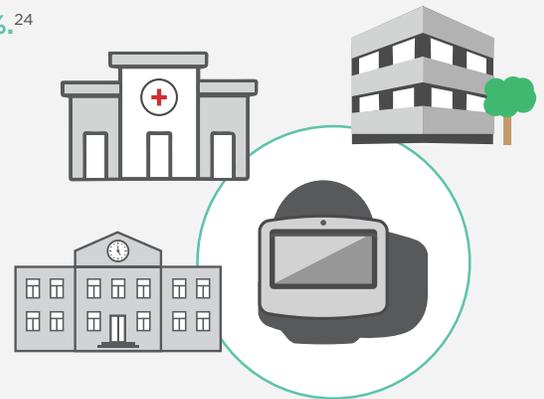
## Financial outcomes:

Instrument-based vision screening is a smart investment. Practices can realize immediate economic benefits through reimbursement with **CPT Code 99177**<sup>25</sup> and reduce the rate of unnecessary referrals to specialists.

3

## Standardization:

A fast, objective and consistent approach to vision screening across the healthcare network can help enhance operational efficiency and patient outcomes. 11 out of 12 practices in the Boston Children's project experienced a statistically significant improvement in completed vision screening with instrument screening compared to chart-based screening.<sup>24</sup>



<sup>20</sup> Centers for Disease Control and Prevention: Improving the Nations' Vision Health: A Comprehensive Public Health Approach. [http://www.cdc.gov/visionhealth/pdf/improving\\_nations\\_vision\\_health.pdf](http://www.cdc.gov/visionhealth/pdf/improving_nations_vision_health.pdf)

<sup>21</sup> Zabba, Joel N. "Children's Vision Care in The 21st Century & Its Impact on Education, Literacy, Social Issues & the Workplace: A Call to Action." Journal of Behavioral Optometry (2011)

<sup>22</sup> Source: <http://www.aappublications.org/news/2015/12/07/Vision120715>

<sup>23</sup> Welch Allyn Market Research 2016

<sup>24</sup> Louis Vernacchio, MD, MSc; Jonathan Modest, MPH; Katherine Majzoub, RN, MBA; Bruce Moore, OD; Vijeta Bhamhani, MS, MPH; Emily K Trudell, MPH; Temitope Osineye, MBBS, MPH; Glenn Focht, MD; Jean Santangelo, RN, BSN (2015). INSTRUMENT-BASED VISION SCREENING FOR PRESCHOOL AGED CHILDREN: AN IMPLEMENTATION STUDY. Poster presented at the Healthcare Improvement 27th Annual Summit, December 2015

<sup>25</sup> CPT 99177: Instrument-based ocular screening (e.g., photoscreening, automated refraction), bilateral; with on-site analysis.

# Advancing Frontline Care Together

Your patients expect you to offer the portfolio of services they need to help address increasingly serious conditions. You can expect the same from us.

Welch Allyn offers a wide range of solutions designed with your most pressing patient needs in mind—all from the name primary care clinicians have relied on for more than 100 years.

Talk to your Welch Allyn representative today, or learn more at [www.welchallyn.com](http://www.welchallyn.com).

Condition(s)	Procedure	Welch Allyn Solution	Selected CPT Code(s)*
<b>Diabetic Retinopathy</b>	Diabetic Retinal Exam	RetinaVue® Care Delivery Model	92250
<b>Amblyopia</b>	Automated Vision Screening	Spot™ Vision Screener	99177
<b>Heart Disease and Stroke</b>	Resting ECG	CP 150 ECG	93000
		Connex Cardio ECG	93005 93010
	Stress ECG	Q-Stress® Cardiac Stress Testing System	93015 93016 93017 93018
		Holter Monitoring	Vision™ Express Holter Analysis System
<b>Chronic Obstructive Pulmonary Disease (COPD)</b>	Spirometry	SpiroPerfect® PC-Based Spirometry	94010 94060 94070 94150 94200 94375
<b>Hypertension</b>	Ambulatory Blood Pressure Monitoring	ABPM 7100 Ambulatory Blood Pressure Monitoring System	93784 93786 93788 93790
	In-Office Blood Pressure Averaging	Connex® Spot Monitor	n/a
	Remote Blood Pressure Monitoring	Welch Allyn Home® Hypertension Program	n/a

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