

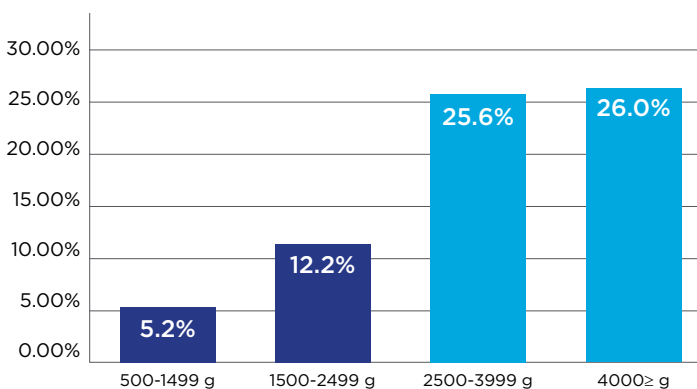
# PERIWATCH VIGILANCE™

## PRODUCT BRIEF

### THE POTENTIAL TO REDUCE AVOIDABLE NEONATAL INJURIES

In the U.S., NICU admission rates are increasing for newborns in all birth weight categories. The group of newborns experiencing the most significant increase in NICU admissions are the normal weight newborns (2,500 gm – 4,000g), who comprise 97% of all births.<sup>1</sup> The root cause of many of these unexpected NICU admissions has been attributed to delayed treatment of the at-risk mother and baby. There is a mounting demand for new tools to automate early detection of a patient’s worsening condition and a move from reactive care to more proactive and timely interventions in Labor & Delivery.

#### INCREASE IN NICU ADMISSIONS (2007 - 2012)



Source: Epidemiologic Trends in Neonatal Intensive Care, 2007-2012. JAMA Pediatr.2015

#### DELAYED RESPONSE ASSOCIATED WITH POOR OUTCOMES IN L&D

Failure to recognize and act was a contributing factor in 52% of perinatal asphyxia cases.<sup>2</sup>

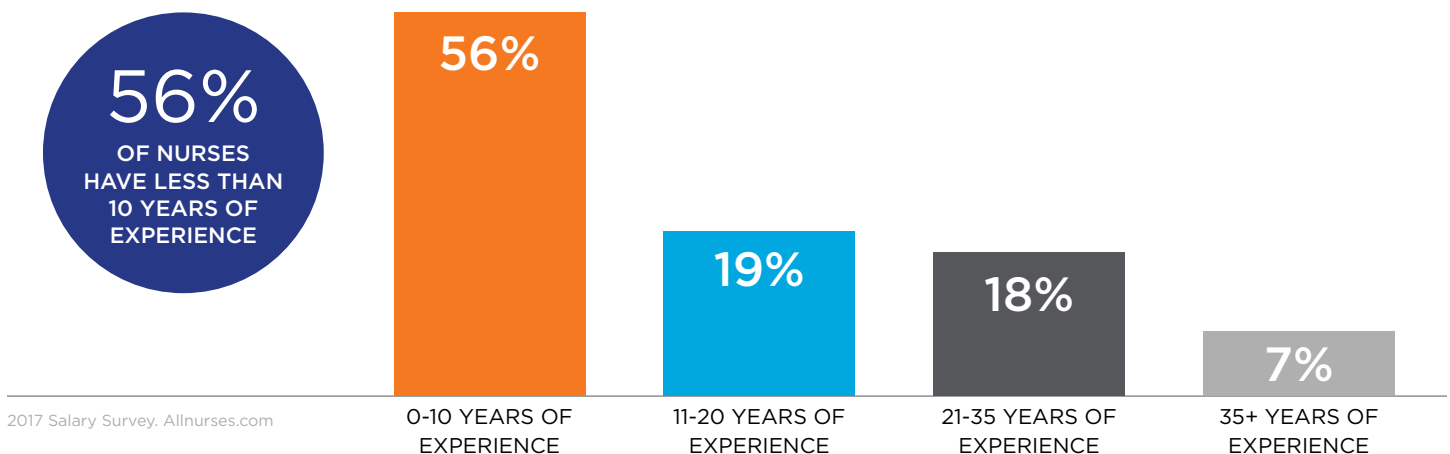
#### PERINATAL ASPHYXIA REMAINS A LEADING CAUSE OF MORTALITY AND MORBIDITY

Almost one in four neonatal deaths are a result of asphyxia.<sup>3</sup>

#### CURRENT PROCESS IS OFTEN REACTIVE, NOT PROACTIVE

Only 25% of US hospitals have deployed Early Warning Scoring Systems (EWSS) in their perinatal units.

#### NURSING 'EXPERIENCE GAP'



<sup>1</sup> Epidemiologic Trends in Neonatal Intensive Care, 2007-2012. JAMA Pediatr.2015.

<sup>2</sup> Sadler LC, Farquhar CM, Masson VL, Battin MR. Contributory factors and potentially avoidable neonatal encephalopathy associated with perinatal asphyxia. Am J Obstet Gynecol. 2016.

<sup>3</sup> Antonucci R, Porcella A, Pilloni MD. Perinatal asphyxia in the term newborn. J Pediatr Neonat Individual Med. 2014;3(2):e030269.

# ADVANCING THE STANDARD OF CARE FOR LABOR + DELIVERY

The PeriWatch® Vigilance software platform adds real-time, early warning capabilities to your existing EFM surveillance system. This enterprise-level system uses proprietary algorithm-based methods to continuously analyze fetal heart rate patterns and labor progression. It consolidates critical data in a single view, displaying the course of a patient's intrapartum stage, helping to improve the quality and timeliness of care for mother and fetus.

## INTELLIGENCE AT A GLANCE



### IMPROVES SITUATIONAL AWARENESS

- Reduces the 'watch and wait' approach to fetal-strip management, through continued analysis of key physiological parameters
- Allows the clinician to make informed and timely decisions with the support of objective data
- Identifies early warning signs of a patient's deteriorating condition, avoiding normalization of deviances



### ENABLES TIMELY INSIGHTS + INTERVENTIONS

- Tracks and identifies patients based on the degree and duration of abnormality
- Consolidates information on a single dashboard for a complete view of both patients, including long-term trends
- Automates early warning to improve recognition and intervention

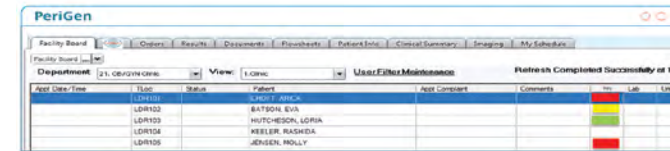


### REDUCES PATIENT RISK + MALPRACTICE EXPOSURE

- Utilizes algorithm-based fetal heart rate (FHR) analysis that is validated by NICHD researchers
- Assesses labor progression with greater precision through multifactor adaptive model
- Early Warning Systems are associated with lower rates of term NICU transfers<sup>4</sup>

## AT-A-GLANCE DASHBOARDS

Quickly and consistently identify patients who may be developing a potentially worsening condition.

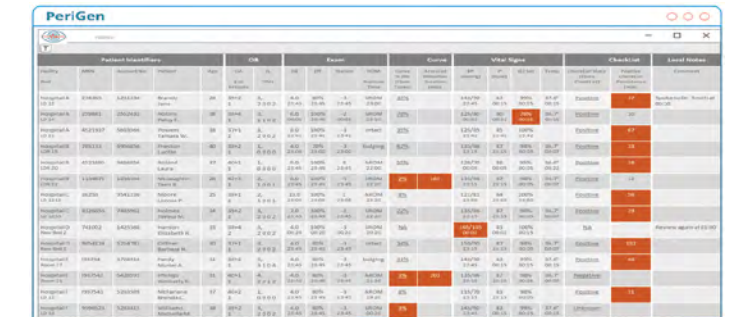


### EMR NOTIFICATION

Enables real-time notifications to the institutional EMR, alerting clinicians to any breaches in pre-established parameters.

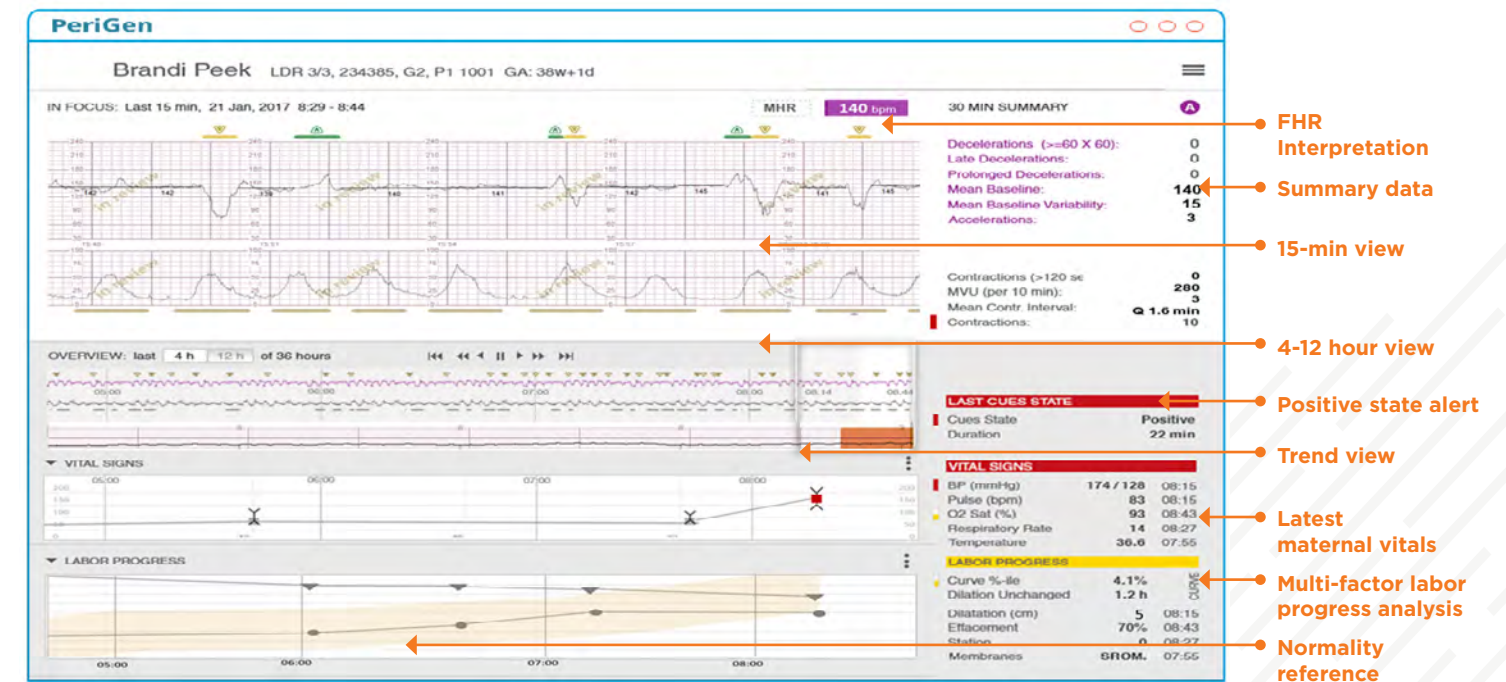
### MULTI-PATIENT HUB

Dynamically sorts and filters the patient list and, with one click, provides details on highlighted abnormal findings. Capable of spanning multiple facilities.



### SINGLE PATIENT VIEW

Consolidates and transforms data to reduce subjectivity. Consistently and quantitatively highlights the degree and duration of abnormality relative to expected norms for maternal vital signs, fetal status and labor progress.



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<sup>4</sup> Smith S, Bunting C, Hamilton E. Using Intelligent Electronic fetal Monitoring Software to Reduce Iatrogenic Complications of Childbirth. JHIM 2014;28(4):28-33.

# SYSTEM REQUIREMENTS

## SERVER REQUIREMENTS FOR STANDARD / ENTERPRISE MODEL (MULTI-FACILITIES)

A full enterprise setup of Vigilance modules requires a base configuration of 2 server VMs as follows:

- Vigilance/DB/HL7 Interface VM
- Vigilance Test/Train/ VM
- System sizing is based on peak utilization and as a function of total monitored areas. Sizing below is based on projected requirements for approximately 5 years.
- Final configuration and optimization based on actual enterprise layout will be determined at system implementation planning stage.
- VMware is currently supported on version 6.x and 7.x. Other platforms may require extra validation services.
- If required, physical server(s) option should be equivalent to the VM specifications below.

## VIGILANCE – ENTERPRISE MAIN DB/APPLICATION SERVER (VM)

# of Monitored Locations	50	200
# of vCPUs	4	8
GB RAM	12	16
Volume C: OS	60 GB	60 GB
Volume D: Applications	40 GB	40 GB
Volume E: SQLData	260 GB	400 GB
Volume F: SQLTransactionLog	50 GB	50 GB
Volume G : SQLBackup	260 GB	260 GB

- Gigabit Ethernet (Number of NICs may change depending on load and storage considerations)
- Microsoft Windows 2008 R2 Service Pack 1 or Windows Server 2012 R2
  - Internet Information Services (IIS) installed
  - ASP.NET
  - Windows Authentication
- MS SQL 2014 SP2
- The following ports should be free and available for use:  
TCP: 91, 92, 2506, 7100, 7200, 7802, 7803, 8000-8020,  
UDP: 11002
- Microsoft Web Services Enhancements (WSE) 3.0
- VC++ 2008 SP1 Redistributable, VC++ 2010 SP1 Redistributable
- Net 3.5 SP1, .Net 4.7.1

## NETWORK (FOR WORKSTATIONS AND DATA ACQUISITION)

Switched Ethernet network, 100 Mbit or better

## TRACING DATA ACQUISITION

PeriGen® provides a proprietary, secure and resilient solution dedicated to collecting data from existing terminal server hardware used by the existing surveillance system:

For sites using DIGI ConnectPort or PortServer hardware, PeriGen provides a Network Redirector (NR) hardware to acquire the vital signs traffic. Network Redirector has the following requirements:

- POE capable switch. NR is a port-powered device and needs to be directly connected to a port where POE is enabled
- The NR must be connected to the same switch where the third-party DIGI device is connected

For sites using MOXA terminal server, com port mirroring must be enable on the MOXA device directly in order to allow a parallel data acquisition.

## FETAL MONITOR COMPATABILITY

VENDOR	PROTOCOL COMPATIBILITY	TYPE	INTERFACE CARD/ FIRMWARE	DESCRIPTION
Philips	1371	* 1350A and B * 50XM series	M1350-66532 or M1350-66536 * Firmware: C01.03 and above	DB9 pin serial connector for RS232 interface Firmware software must support option C13
Philips	1371	Avalon FM20 Avalon FM30 Avalon FM40 Avalon FM50	Firmware: F.OX and above	DB9 pin serial connector for RS232 interface Firmware software must support option C13
GE/ Corometrics	1371	118	J09-J10	DB9 RS232 serial interface
GE/ Corometrics	1371	120/170/250 Series	J09-J10-J11	RJ11 RS232 serial interface

\* Philips 1350 A/B and 50XM are presently out of support by Philips. Although the serial protocol is still supported, PeriGen cannot be held responsible for known issues with these fetal monitors with firmware versions lower than C01.03. Known issues include a very high frequency of SPO2 measurements sent to the electronic tracing when the paper recorder door is open and no paper is in the-0 tray.

## FOR MORE INFORMATION, CONTACT US

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