volpara®analytics™

Screening performance metrics™

VolparaAnalytics™ is a centralized dashboard which presents key mammography metrics, to support breast centers in delivering high quality screening services to women. VolparaAnalytics™ works by automatically collating data from digital mammography and tomosynthesis units to enable cross-comparison of patient populations, x-ray units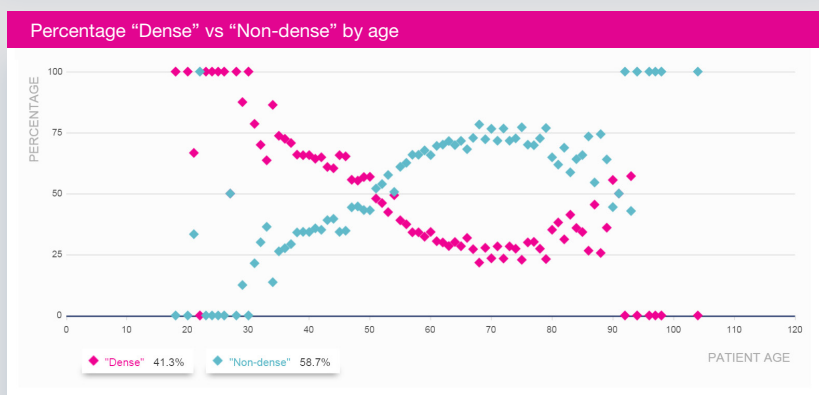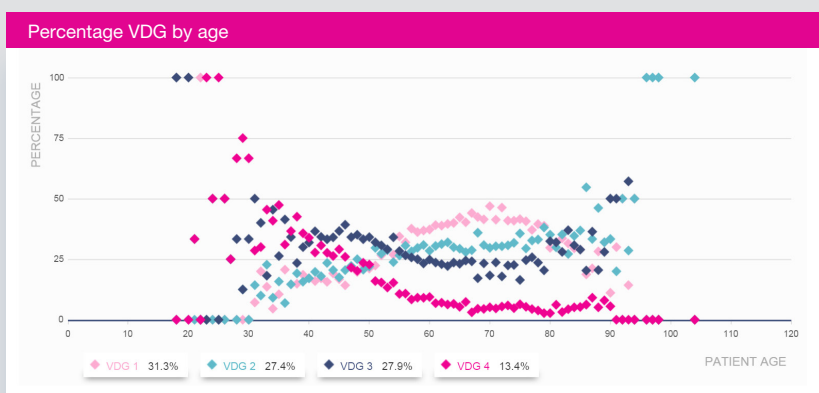 and operator performance. Utilizing the unique quantitative information provided by Volpara®, breast centers can improve quality assurance, do better resource planning, and better understand the population that they serve.

- Scalable, from a single mammography unit to a large, multi-site network
- Compatible across all major digital mammography and tomosynthesis units
- Gives insights into previously hidden data around dose and compression

> UNDERSTAND YOUR POPULATION

For the first time, you can view the populations that you serve in terms of physical breast size and breast density. This facilitates a deeper understanding of reader performance based around the breast densities of the women they see, and allows objective, density-based consideration of your population for adjunctive imaging purposes.

Population Statistics		Total
Number of Images		64779
Number of Studies		16140
Number of Unique Patients		15970
Mean Images Per Study	▶	4.0
Mean Studies Per Active Day	▶	66.7
Median Patient Age (years)	▶	58
Median Compressed Breast Thickness (mm)	▶	60.5
Median Breast Volume (cm³)	▶	782.4
Median Fibroglandular Tissue Volume (cm³)	▶	48.9
Median Volumetric Breast Density (%)	▶	6.2
VDG 1 (%)		31.3
VDG 2 (%)		27.4
VDG 3 (%)		27.9
VDG 4 (%)		13.4
Mean VDG	▶	2.23
Median Compression Force (N)	▶	74.6
Median Applied Pressure (kPa)	▶	7.8
Median Contact Area (mm²)	▶	9479.3
Median Mean Image Acquistion Time (seconds)	▶	46
Median Paddle Tilt Angle (degrees)	▶	1.0
Median MLO Pectoral Angle (degrees)	▶	18.1
Median MLO Positioner Primary Angle (degrees)	▶	45.0
Median Manufacturer MGD Per Image (mGy)	▶	1.5
Median VolparaDose Per Image (mGy)	▶	1.6
Median Exposure Time (ms)	▶	1076
Median X-ray Tube Current (mA)	▶	100.0
Median Exposure (mAs)	▶	82.8
Median Half Value Layer (mm)	▶	0.5

Percentage VDG by age

VDG 1 31.3%   VDG 2 27.4%   VDG 3 27.9%   VDG 4 13.4%

PATIENT AGE

Percentage "Dense" vs "Non-dense" by age

"Dense" 41.3%   "Non-dense" 58.7%

PATIENT AGE

> TEMPORAL ANALYSIS REPORTING

A new feature of VolparaAnalytics 1.2 is temporal analysis reporting, which allows you to view compression force, applied pressure, mean glandular dose, and detector temperature results over time. Results can be filtered by x-ray unit, operator, referring physician and the study type, to quickly identify inconsistencies that might have developed.

> IMPROVING QUALITY CONTROL

VolparaAnalytics is in use supporting quality assurance at sites around the globe, with current users identifying inappropriate automated mammography unit settings, broken thickness gauges, dose variations in differing manufacturer's x-ray units, and technologists who might benefit from additional training.

> ACCESS KEY QUALITY DATA WITH VOLUMETRIC CONTEXT

Comparative reports allow you to view data by site, x-ray unit (as shown on the right), operator, or referring physician, and lets you quickly spot inconsistencies and thus opportunities for quality improvements.

In addition to Volpara's industry leading volumetric breast density profiles, the system also provides key physics parameters such as patient-specific mammography dose, paddle tilt, compression force, pressure applied and other quality metrics. That critical data is now actionable, thanks to the volumetric context.

Mammography Unit Report	Vendor A	Vendor B	Vendor C
Number of Images	4876	19574	19685
Number of Studies	1229	4785	4970
Number of Unique Patients	1226	4742	4933
Mean Images Per Study	4.0	4.1	4.0
Mean Studies Per Active Day	13.7	23.6	30.9
Median Patient Age (years)	61	55	56
Median Compressed Breast Thickness (mm)	61.8	61.0	60.0
Median Breast Volume (cm³)	820.7	764.6	762.9
Median Fibroglandular Tissue Volume (cm³)	47.1	48.6	52.3
Median Volumetric Breast Density (%)	5.4	6.6	6.9
VDG 1 (%)	33.3	29.2	28.3
VDG 2 (%)	38.3	27.0	24.6
VDG 3 (%)	22.9	29.8	30.1
VDG 4 (%)	5.5	14.0	17.0
Mean VDG	2.01	2.29	2.36
Median Compression Force (N)	70.0	82.5	64.9
Median Applied Pressure (kPa)	7.0	8.7	6.9
Median Contact Area (mm²)	10116.6	9242.1	9184.9
Median Mean Image Acquistion Time (seconds)	42	56	43
Median Paddle Tilt Angle (degrees)	0.9	1.1	1.0
Median MLO Pectoral Angle (degrees)	17.8	16.5	18.9
Median MLO Positioner Primary Angle (degrees)	47.0	45.0	44.9
Median Manufacturer MGD Per Image (mGy)	1.3	1.5	1.9
Median VolparaDose Per Image (mGy)	1.4	1.4	2.1
Median Exposure Time (ms)	946	1000	1142
Median X-ray Tube Current (mA)	61.5	61.8	120.0

> REPORTING & REAL-TIME NOTIFICATIONS

Automated VolparaAnalytics reports can be scheduled for weekly, daily or monthly emails. Real-time event email alerts can be configured for force, pressure and dose, for rapid improvements to safety and quality control.

> IMPLEMENTATION

VolparaAnalytics™ is an add-on module to VolparaServer™ and is accessed via a secure login with a standard web browser.

Ask us for VolparaAnalytics Case Studies with examples using real data from actual sites.

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> CONTACT US FOR A DEMONSTRATION

info@volparasolutions.com

US +1 855 607 0478

EUROPE +44 203 051 1029

REST OF WORLD +64 4 499 6029

VOLPARASOLUTIONS.COM