Purdue University

1/1/2014 Summary of Benefits – Purdue Health Plan

Plan Highlights	In-Network	Out-of-Network
Lifetime Maximum	Unlimited	Unlimited
Coinsurance	Plan pays 80% coinsurance	Plan pays 60% coinsurance
Calendar Year Deductible: • The amount you pay for in-network covered expenses counts towards your in-network deductible. The amount you pay for out-of-network covered expenses counts toward your out-of-network deductible. (If you have out-of-network expenses, please contact Purdue University Human Resources to arrange for combined deductible.) • All eligible family members contribute towards the family plan deductible. Once the family deductible has been met, the plan will pay each eligible family member's covered expenses based on the coinsurance level specified by the plan.	$750 Individual $1,500 Family	$1,500 Individual $3,000 Family
Calendar Year Out-of-Pocket Maximum: • The amount you pay for in-network covered expenses counts towards your in-network out-of-pocket maximum. The amount you pay for out-of-network covered expenses counts toward your out-of-network out-of-pocket maximums. (If you have out-of-network expenses, please contact Purdue University Human Resources to arrange for combined out-of-pocket.) • Plan deductibles and copayments contribute towards your out-of-pocket maximum. • All eligible family members contribute towards the family plan out-of-pocket maximum. Once the family out-of-pocket maximum has been met, the plan will pay each eligible family member's covered expenses at 100%.	$2,400 Individual $4,800 Family	$4,800 Individual $9,600 Family

Pre-Existing Condition Limitation	Not Applicable	Not Applicable
Pre-certification • Required for inpatient procedures and selected outpatient procedures/diagnostic testing • In order to avoid denial of services for hospital/medical benefits please call before receiving services (if physician has not coordinated precertification) or no later than 2 business days after admission for an emergency admission	Coordinated by your physician	Member is responsible to confirm pre-certification is secured. If claims are not pre-certified they will be denied for no pre-certification. Claims may be reopened based on medical information provided.
Benefit	**In-Network**	**Out-of-Network**
Physician Services		
Primary Care Physician (PCP) Office Visit (includes OB/GYN, Internal Medicine, Pediatrician) • Office visits rendered by a PCP are covered at the coinsurance level with no deductible. All other services rendered in conjunction with the office visit are subject to deductible and coinsurance.	Plan pays 80% coinsurance, no deductible	Plan pays 60% coinsurance after deductible is met
Specialty Care Physician Office Visit	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Campus Clinics		
• **Center For Healthy Living – W. Lafayette**	$10 copay then plan pays 100% coinsurance	Not applicable
• **IPFW Center for Healthy Living and Wellness Programs – Ft. Wayne**	Plan pays 80% coinsurance after deductible is met	Not applicable
Retail Health Clinic	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Office Visits only related to tobacco cessation	Plan pays 100%, not subject to deductible	Plan pays 60% coinsurance after deductible is met
Surgery performed in Physician's Office	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Allergy Treatment/Injections/Serum (when rendered in physician office)	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met

Preventive Care Benefits		
• **Women's Health Provisions** • **Preventive Colon Cancer Screenings** • **Preventive Lab Tests/X-Rays** • **Preventive Adult Physical** • **Well Child Care** • **Child/Adult Preventive Immunizations (including travel immunizations)** • **Preventive Mammography** • **Preventive Pap Testing** • **Preventive PSA Testing**	Plan pays 100% coinsurance, not subject to deductible	Plan pays 60% coinsurance after deductible is met
Outpatient Services – Professional		
Allergy Testing/Treatment	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Anesthesia • **Hospital-based provider services rendered by non-network providers are covered at the in-network benefit level** • **All colorectal services are covered at 100%, not subject to deductible, regardless of diagnosis when rendered in-network**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Assistant Surgeon	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Chiropractic Care • **26 visit maximum combined network and non-network, per calendar year (includes all services performed by a chiropractor)**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Consultation, Second Opinion • **Outpatient/Office/Clinic**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Dental • **Covered for treatment of an injury to sound and natural teeth** • **Covered only if treatment is completed within 12 months of the accident**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met

Infertility – Diagnosis Only • **Treatment for underlying medical conditions is covered as medical.**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Infertility – Treatment	Not covered	Not covered
Injections • **Includes administration charge**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Maternity Care (professional) • **Includes therapeutic abortion. Elective abortion is not covered.**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Sterilization (services that do not meet Women's Health Provision requirements) • **Reversals of sterilization procedures are not covered**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Surgery – Professional • **In an outpatient hospital setting** • **All colorectal services are covered at 100% regardless of diagnosis for in-network**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
TMJ Treatment • **Covered for medical treatment (surgical and non-surgical)** • **Appliances not covered; orthodontic treatment not covered**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Outpatient Services – Institutional/Professional		
Cardiac Rehabilitation • **No limit for cardiac rehabilitation services**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Chemotherapy	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Contraceptives (services not included in Women's Health Provision)	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Diagnostic X-rays/Diagnostic Services (non-routine)	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met

Diagnostic Lab Tests		
• **Tier 1 lab providers**	Plan pays 100%, not subject to deductible	Not applicable
• **Tier 2 lab providers**	Plan pays 80% coinsurance after deductible is met	Not applicable
• **Tier 3 lab providers**	Not applicable	Plan pays 60% coinsurance after deductible is met
Dialysis/Hemodialysis	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Infusion Therapy – subject to medical necessity	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Therapies • **Occupational/Physical/Speech Therapies, Pulmonary Rehabilitation and Cognitive Therapy limited to 50 visits per calendar year combined in-network and out-of-network** • **Multiple services in one day count as one visit**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
ABA Therapy	Not covered	Not covered
Pre-Surgical/Pre-Admission Testing	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Radiation Therapy	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Respiratory Therapy	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Vision Therapy	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Medical Hearing Exam (non-routine)	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Outpatient Services – Institutional		
Clinic – Institutional	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met

Outpatient Hospital Services – Institutional • **All colorectal services are covered at 100%, not subject to deductible, regardless of diagnosis for in-network**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Surgery – Institutional • **All colorectal services are covered at 100%, not subject to deductible, regardless of diagnosis for in-network**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Inpatient Services		
Inpatient Physical Medical Rehab • **Limited to 30 days per calendar year, combined in-network and out-of-network**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Skilled Nursing Facility • **Limited to 120 days per calendar year, combined in-network and out-of-network**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Anesthesia • **Hospital-based provider services rendered by non-network providers are covered at the in-network benefit level**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Assistant Surgeon • **Covered if medically necessary**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Diagnostic X-Rays/Lab Tests • **Hospital-based provider services rendered by non-network providers are covered at the in-network benefit level**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Inpatient Medical Care	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Inpatient Therapies	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Surgery • **Cosmetic/reconstructive surgery covered subject to medical necessity**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Bariatric Surgery	Not covered	Not covered

Behavioral Health/Substance Abuse		
Alcohol/Substance Abuse/Behavioral Health Treatment - Outpatient Office Visit	Plan pays 80% coinsurance, no deductible	Plan pays 60% coinsurance after deductible is met
Alcohol/Substance Abuse/Behavioral Health Treatment – Inpatient/Outpatient • **Includes Detox** • **Residential Treatment is covered subject to medical necessity**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Emergency Care		
Air/Ground Ambulance • **All services will be paid at the in-network level of benefit**	Plan pays 80% coinsurance after deductible is met	Covered at the in-network benefit level
Emergency Room • **All services will be paid at the in-network level of benefit**	Plan pays 80% coinsurance after deductible is met	Covered at the in-network benefit level
Urgent Care • **All services will be paid at the in-network level of benefit**	Plan pays 80% coinsurance after deductible is met	Covered at the in-network benefit level
Other Services		
Blood – processing/storage	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Durable Medical Equipment	Plan pays 80% coinsurance after deductible is met	Covered at the in-network benefit level
Medical Supply	Plan pays 80% coinsurance after deductible is met	Covered at the in-network benefit level
Diabetic Supply • **Diabetic supplies covered by pharmacy plan are not covered under medical**	Plan pays 80% coinsurance after deductible is met	Covered at the in-network benefit level
Home Health Care • **Limited to 120 visit maximum per calendar year, combined in-network and out-of-network** • **Private duty nursing only covered in the home and visits count towards the home health care visit maximum**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met

Hospice Care	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Nutritional Counseling	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Oral surgery • **Includes removal of impacted teeth** • **Dental anesthesia is covered only if related to a payable oral surgery**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
• **Medical Vision Exam (non-routine)**	Plan pays 80% coinsurance after deductible is met	Plan pays 60% coinsurance after deductible is met
Transplant Services		
Services are not covered unless services rendered at Blue Distinction Centers for Transplants		
Live Donor Health Services • **Donor benefits limited to benefits not available to the donor from any other source. Medically necessary charges for the procurement of an organ from a live donor are covered, including complications from the donor procedure for up to six weeks from the date of procurement.**	Plan pays 80% coinsurance after deductible is met (When BDCT Facility used)	Not applicable
Bone Marrow Donor Search Fee • **$30,000 limit per transplant**	Plan pays 80% coinsurance after deductible is met (When BDCT Facility used)	Not applicable
• **Organ Transplants**	Plan pays 80% coinsurance after plan deductible is met (When BDCT Facility used)	Not applicable

Travel and Lodging • **Includes hotel/motel/apartment rental** • **Air/train/bus fares** • **Car rental** • **Gas** • **Parking (excluding valet)** • **Tolls** • **Mileage: car rental (as long as charged by car rental agency)** • **Personal car mileage (only if the individual does not fly – covered to and from facility)**	Plan pays 80% coinsurance after deductible is met (When BDCT Facility used)	Not applicable

Plan Exclusions
ACT OF WAR/MILITARY DUTY:
Any disease or Injury resulting from a war, declared or not, or any military duty or any release of nuclear energy. Also excluded are charges for services directly related military service provided or available from the Veterans' Administration or military facilities except as required by law.
CUSTODIAL/CONVALESCENT CARE:
Services for Custodial Care
Services for confinement for custodial or convalescent care, rest cures or long-term custodial Hospital care.
DENTAL SERVICES:
Dental care and treatment and oral surgery (by Physicians or dentists) including dental surgery; dental appliances; dental prostheses such as crowns, bridges, or dentures; implants; orthodontic care; operative restoration of teeth (fillings); dental extractions; endodontic care; apicoectomies; excision of radicular cysts or granuloma; treatment of dental caries, gingivitis, or periodontal disease by gingivectomies or other periodontal surgery. Any treatment of teeth, gums or tooth related service except otherwise specified as covered. Dental implants are not covered for ay condition.
ELIGIBILITY:
Charges for treatment received before coverage under this option began or after it is terminated.

EXPERIMENTAL/INVESTIGATIONAL:
Treatments, procedures, equipment, drugs, devices or supplies (hereafter called "services") which are in our judgment, Experimental or Investigational for the diagnosis for which the Participant is being treated.
Services, treatment or supplies not generally accepted in medical practice for the prevention, diagnosis or treatment of an illness or injury, as determined by the Claims Administrator.
FOOT CARE:
Foot care only to improve comfort or appearance, routine care of corns, bunions (except capsular or related surgery), calluses, toe nails (except surgical removal or care rendered as treatment of the diabetic foot or ingrown toenail), flat feet, fallen arches, weak feet, chronic foot strain, or asymptomatic complaints related to the feet. Coverage is available, however, for Medically Necessary foot care required as part of the treatment of diabetes and for Members with impaired circulation to the lower extremities.
Shoe inserts, orthotics (will be covered if prescribed by a physician for diseases of the foot or systemic diseases that affect the foot such as diabetes when deemed medically necessary).
GOVERNMENT AGENCY/LAWS/PLANS:
Treatment where payment is made by any local, state, or federal government (except Medicaid), or for which payment would be made if the Member had applied for such benefits. Services that can be provided through a government program for which you as a member of the community are eligible for participation. Such programs include, but are not limited to, school speech and reading programs.
Services paid under Medicare or which would have been paid if the Member had applied for Medicare and claimed Medicare benefits. With respect to end-stage renal disease (ESRD), Medicare shall be treated as the primary payer whether or not the Member has enrolled Medicare Part B.
Services covered under Workers' Compensation, no-fault automobile insurance and/or services covered by similar statutory programs
Court-ordered services, or those required by court order as a condition of parole or probation [unless Medically Necessary and approved by the Plan].

MEDICATIONS:
Outpatient prescription drugs prescribed by a physician and purchased or obtained from a retail pharmacy or retail pharmacist or a mail service pharmacy are excluded. These may be covered by a separate drug card program but not under this medical plan. Although coverage for Outpatient Prescription Drugs obtained from a retail pharmacy or pharmacist or mail service Pharmacy is excluded, certain Prescription Drugs are covered under your medical benefits when rendered in a Hospital, in a Physician's office, or as part of a Home Health Care benefit. Therefore, this exclusion does not apply to prescription drugs provided as Ancillary Services during an Inpatient stay or an Outpatient Surgical procedure; to prescription drugs used in conjunction with a Diagnostic Service; Chemotherapy performed in the office; home infusion or home IV therapy, nor drugs administered in your Physician's office.
Drugs, devices, products, or supplies with over the counter equivalents and any Drugs, devices, products, or supplies that are therapeutically comparable to an over the counter Drug, device, product, or supply.
MEDICALLY NECESSARY:
Care, supplies, or equipment not Medically Necessary, as determined by us, for the treatment of an Injury or illness. This includes, but is not limited to, care which does not meet Our medical policy, clinical coverage guidelines, or benefit policy guidelines.
Vitamins, minerals and food supplement, as well as vitamin injections not determined to be medically necessary in the treatment of a specific illness. Nutritional supplements; services, supplies and/or nutritional sustenance products (food) related to enteral feeding, except when determined to be medically necessary.
Services for Hospital confinement primarily for diagnostic studies.
Cosmetic Surgery, reconstructive surgery, pharmacological services, nutritional regimens or other services for beautification, or treatment relating to the consequences of, or as a result of, Cosmetic Surgery, except for reconstructive surgery following a mastectomy or when medically necessary to correct damage caused by an accident, an injury or to correct a congenital defect.
MISCELLANEOUS:
Donor Search/Compatibility Fee (except as otherwise indicated on the Plan Design)
Hearing aids, hearing devices or examinations for prescribing or fitting them. Includes, but not limited to semi-implantable hearing devices, audiant bone conductors and Bone Anchored Hearing Aids (BAHA's). A hearing aid is any device that amplifies sound.
Contraceptive Drugs, except for any above stated covered contraceptive services.
In-vitro Fertilization and Artificial Insemination.
Hair transplants, hair pieces or wigs (except when necessitated by disease) wig maintenance, or prescriptions or medications related to hair growth.

Services and supplies primarily for educational, vocational or training purposes, including but not limited to structured teaching, applied behavioral analysis, or educational interventions, except as expressly provided under "Covered Services".
Religious and sex counseling, including services and treatment related to religious counseling and sex therapy.
Christian Science Practitioner
Services and supplies for tobacco cessation and treatment of nicotine addiction, including gum, patches, and prescription drugs to eliminate or reduce the dependency on or addiction to tobacco and tobacco products unless otherwise required by law. (Tobacco cessation programs that are approved and/or offered by the University are covered. Prescriptions and supplies may be covered under the prescription benefits but not under this medical plan.)
Services provided in a Halfway House.
Treatment or services provided by a non-licensed Provider, or that do not require a license to provide; services that consist of supervision by a Provider of a non-licensed person; services performed by a relative of a Member for which, in the absence of any health benefits coverage, no charge would be made; services provided to the Member by a local, state, or federal government agency, or by a public school system or school district, except when the plan's benefits must be provided by law; services if the Member is not required to pay for them or they are provided to the Member for free.
SPECIAL CHARGES/SERVICES:
Services or supplies provided by a member of your family or household.
Charges or any portion of a charge in excess of the maximum allowable amount as determined by the Claims Administrator.
Fees or charges made by an individual, agency or facility operating beyond the scope of its license.
Services and supplies for which you have no legal obligation to pay, or for which no charge has been made or would be made if you had no health insurance coverage.
Services for any form of telecommunication.
Administrative Charges - Charges for any of the following: failure to keep a scheduled visit; completion of claim forms or medical records or reports unless otherwise required by law; for Physician or Hospital's stand-by services; for holiday or overtime rates; membership, administrative, or access fees charged by Physicians or other Providers. Examples of administrative fees include, but are not limited to, fees charged for educational brochures or calling a patient to provider their test results; specific medical reports including those not directly related to the treatment of the Participant, e.g., employment or insurance physicals, and reports prepared in connection with litigation.
Separate charges by interns, residents, house Physicians or other health care professionals who are employed by the covered facility, which makes their services available.
Personal comfort items such as those that are furnished primarily for your personal comfort or convenience, including those services and supplies not directly related to medical care, such as guest's meals and accommodations, barber services, telephone charges, radio and television rentals, homemaker services, travel expenses, and take-home supplies.

SURGERY:
Charges for or related to sex change surgery or to any treatment of gender identity disorders.
Reversal of vasectomy or tubal ligation.
Salabrasion, chemosurgery and other such skin abrasion procedures associated with the removal of scars, tattoos, actinic changes and/or which are performed as a treatment for acne.
THERAPIES:
Services for outpatient therapy or rehabilitation other than those specifically noted. Excluded forms of therapy include, but are not limited to: massage therapy, primal therapy, chelation therapy, rolfing, psychodrama, megavitamin therapy, purging, bioenergetic therapy, in-home wrap around treatment, wilderness therapy, and boot camp therapy.
VISION CARE:
Vision care services and supplies, including but not limited to eyeglasses, contact lenses, and related or routine examinations and services. Eye refractions. Analysis of vision or the testing of its acuity. Service or devices to correct vision or for advice on such service. Orthoptic training is covered. This Exclusion does not apply for initial prosthetic lenses or sclera shells following intraocular surgery, or for soft contact lenses due to a medical condition, i.e. diabetes.
Vision Surgeries - Related to radial keratotomy or keratomileusis or excimer laser photo refractive keratectomy; and surgery, services or supplies for the surgical correction of nearsightedness and/or astigmatism or any other correction of vision due to a refractive problem.
WEIGHT REDUCTION PROGRAMS:
Services for weight reduction programs, services and supplies. Weight loss programs, including but not limited to, commercial weight loss programs (Weight Watchers, Jenny Craig, LA Weight Loss).
GENERAL EXCLUSIONS:
Treatment for medical and surgical services, initial and repeat, intended for treatment or control of obesity, including clinically severe (morbid) obesity, including: medical and surgical services to alter appearances or physical changes that are the result of any surgery performed for the management of obesity or clinically severe (morbid) obesity; and weight loss programs or treatments, whether prescribed or recommended by a physician or under medical supervision.
Any medications, drugs, services or supplies for the treatment of male or female sexual dysfunction such as, but not limited to, treatment of erectile dysfunction (including penile implants), anorgasmia, and premature ejaculation.
Medical and hospital care and costs for the infant child of a Dependent, unless this infant child is otherwise eligible under the Agreement.

Therapy or treatment intended to improve or maintain general physical condition or for the purpose of enhancing job, school, athletic or recreational performance, including, but not limited to routine, long-term or maintenance care which is provided after the resolution of the acute medical problem and when significant therapeutic improvement is not expected.
Consumable medical supplies other than ostomy supplies and urinary catheters. Excluded supplies include, but are not limited to bandages and other disposable medical supplies, skin preparations and test strips, except as specified in the "Inpatient Hospital Services," "Outpatient Facility Services," "Home Health Services" or "Breast Reconstruction and Breast prostheses" sections of "Covered Services and Supplies."
Private hospital rooms and/or private duty nursing except as provided in the Home Health Services section of "Covered Services and Supplies".
Artificial aid, including but not limited to corrective orthopedic shoes, arch supports, elastic stockings, garter belts, corsets, dentures and wigs.
Treatment by acupuncture.
Genetic screening or pre-implantation genetic screening. General population-based genetic screening is a testing method performed in the absence of any symptoms or any significant, proven risk factors for genetically-linked inheritable disease.
Fees associated with the collection or donation of blood or blood products, except for autologus donation in anticipation of scheduled services where in the Healthplan Medical Director's opinion the likelihood of excess blood loss is such that transfusion is an expected adjunct to surgery.
Blood administration for the purpose of general improvement in physical condition.
Abortions, unless a physician certifies in writing that the pregnancy would endanger the life of the mother, or the expenses are incurred to treat medical complications due to abortion.
Health club expenses, cosmetics, and health and beauty aids.
Aids or devices that assist with nonverbal communications, including but not limited to communication boards, prerecorded speech devices, laptop computers, desktop computers, Personal Assistants (PDA's), Braille typewriters, visual alert systems for the deaf and memory books.