Background

At the 2008 Clinical Aphasiology Conference, Holland et al. (2008) presented a general introduction to the AphasiaBank project that had recently been funded by NIH. That report covered: AphasiaBank's goals, rationale, and discourse samples; the demographic and test data being collected; and brief descriptions of the coding and analysis systems that had been modified from the very well established Child Language Data Exchange (CHILDES, MacWhinney, 2000) for use with persons with aphasia (PWA). The goal was both to explain the project to the CAC audience and to encourage their participation as researchers and educators.

Now entering its 8th year of funding, the database has grown to contain 302 transcribed discourse samples from PWA and 161 transcribed discourse samples from non-aphasic comparison participants. AphasiaBank is currently the largest shared database of multi-media interactions for the study of communication in aphasia. The standardized protocol guarantees maximal comparability across the database. Some participants have been retested a second and third time at intervals of a year or more. Transcriptions of the discourse samples are linked to digitized audio/video, all of which are password protected at the website and can be downloaded by AphasiaBank members. Additionally, other data sets at the website include media files of the Famous People Protocol (Holland, Fromm, Forbes & MacWhinney 2013), transcripts and media for several aphasia script treatment protocols, media for aphasia group treatment sessions, a variety of non-standardized transcripts linked to media contributed by other aphasia researchers, plus media and transcripts from aphasia participants whose native language is French, Spanish, Greek, and Mandarin.

The purpose of this paper is to present an updated summary of the following:
1) current demographic and test data on PWA who have completed the standardized protocol;
2) professional membership in the database;
3) published clinical research using the database; and
4) educational applications of the database.

In addition, performance on the Western Aphasia Battery (WAB, Kertesz, revised, 2007) by the AphasiaBank sample will be compared with that of the norming sample published for the WAB. The larger AphasiaBank WAB data set comprises a different participant pool in that it represents people with chronic aphasia who seek continued support services.

Method

Participants in the AphasiaBank database were studied at 19 different sites around the United States and Canada. All sites are described in the Database Guide at the AphasiaBank website (http://talkbank.org/manuals/AphasiaBank.pdf).
Most are academic centers or centers for individuals with chronic aphasia that focus

on their well-being. Over 50 fields of demographic data are recorded for all participants. These demographic spreadsheets (for participants and controls) are also password protected and available at the website.

The standard protocol includes a variety of discourse types: 1) free speech; 2) picture descriptions; 3) story narrative; and 4) procedural discourse. In addition, several tests are administered to each participant who completes the standard protocol. Those tests are: 1) the short form of the Boston Naming Test (Kaplan, Goodglass, & Weintraub, 2001); 2) the Aphasia Quotient (AQ) subtests of the WAB; 3) the Verb Naming Test from the Northwestern Assessment of Verbs and Sentences-Revised (Thompson, 2010); 4) and the AphasiaBank Repetition test, developed to assess word level and sentence level repetition skills. Recently, in an effort to obtain more auditory comprehension information, two more tests were added to the protocol: 1) the Complex Ideational Material subtest from the Boston Diagnostic Aphasia Examination (Goodglass, Kaplan, & Barresi, 2001); and 2) Sentence Comprehension Test, adapted from Philadelphia Comprehension Battery (Saffran et al., 1988). Test results are in another password protected spreadsheet at the website.

Results and Discussion

At present, the database includes 295 participants with complete WAB AQ test results. (Concurrent WAB results are unavailable for seven participants' discourse samples.) The mean age of this group is 61 years (range = 29-92), mean education is 15 years (range = 10-25), and 60% are male. All were considered by a speech-language pathologist (and themselves) to be aphasic.

The mean AQ for the AphasiaBank group is 69.1 (range = 16.1-99.6, standard deviation = 16.1). In comparison, the mean AQ for the WAB norming sample was 48.2 (standard deviation = 28.8). The frequency of occurrence of aphasia types for both samples is given in Table 1 and illustrated in Figure 1. The WAB norming sample was approximately half the size of the AphasiaBank database and had a different composition. Over half (56%) of the PWA represented an acute population from a teaching hospital, 25% were from a VA neurological unit (not specified as acute or chronic), and 19% were from a general hospital (also not specified as to time post-onset). All had been diagnosed as aphasic by a physician or speech-language pathologist.

The most interesting difference in aphasia type distribution between the AphasiaBank sample and the WAB norming sample is the much higher percentage of PWA with Global aphasia in the latter group (17% compared to 2%). The WAB norming sample also had more PWA with Wernicke aphasia. In the AphasiaBank sample, more participants received a WAB type of Broca aphasia and Conduction aphasia, and almost 10% earned AQ scores that were above the WAB's normal cutoff (93.8). Kertesz (2007) referred to these participants as "recovered or mild aphasics" and did not include them in the first standardization sample, though he

commented that their "… normal performance was probably below their usual language ability" (p. 92). The differences in aphasia type distributions between the WAB norming sample and the AphasiaBank sample reflect what is known about the evolution of aphasia types during the recovery process (Laska et al., 2001; Pashek & Holland, 1989; Pederson et al., 2004). It also reflects the types of participants who are likely to be in acute hospital settings versus aphasia treatment facilities for chronic aphasia. Other test result data will be summarized and discussed in the presentation.

Currently, AphasiaBank has 312 members (researchers, professors, and clinicians) from 27 countries. At this writing, AphasiaBank data have been used in 35 articles, covering a range of topics including: comparing productive vocabulary across discourse types in young versus older adults (Fergadiotis et al., 2011); comparing lexical diversity across discourse types in PWAs and non-aphasic participants (Fergadiotis & Wright, 2011); gesture production and aphasia type (Sekine & Rose, 2013); noun and verb usage in discourse tasks (Johnson et al, 2012); presence and absence of *that* in aphasia (Llinàs-Grau & Martínez-Ferreiro, 2013); and participants' attitudes about their communication (Fromm et al., 2011). A number of conference presentations and poster sessions have also made use of the database. In particular, undergraduate and graduate students have examined topics such as test performance in aphasia, paraphasic errors, noun and verb use in aphasia, confrontational naming and discourse in aphasia, core vocabularies, age and gender bias in the Cinderella task, and new discourse analysis tools. When made available, posters and published papers are posted at the AphasiaBank website (http://talkbank.org/AphasiaBank/publications/, http://talkbank.org/AphasiaBank/posters/).

Educators are also using the database for a variety of purposes such as demonstration of types of aphasia and specific aphasic behaviors in communication, transcription training, and automatic language analysis techniques.

The presentation will include summaries of all test results and demographic data on the current AphasiaBank database, descriptions of published clinical research and educational applications that use the database, and the potential for further growth in the study of clinical aphasia.

References

Fergadiotis, G. & Wright, H.H. (2011). Lexical diversity for adults with and without

aphasia across discourse elicitation tasks. *Aphasiology, 25 (11),* 1414-1430.

Fergadiotis, G., Wright, H.H., & Capilouto, G. (2011). Productive vocabulary across

discourse types. *Aphasiology, 25 (10),* 1261-1278.

Fromm, D., Holland, A., Armstrong, E., Forbes, M. MacWhinney, B., Risko, A., &

    Mattison, N. (2011). "Better but no cigar": Persons with aphasia speak about

    their speech. *Aphasiology 25 (11),* 1431-1447.

Goodglass, H., Kaplan, E. & Barresi, B. (2001). *The assessment of aphasia and related*

    disorders (3rd ed.). Philadelphia: Lippincott Williams and Wilkins.

Holland, A., Forbes, M., Fromm, D., & MacWhinney, B. (2008). *AphasiaBank.*

    Presented at the Clinical Aphasiology Conference, Jackson Hole, WY.

Holland, A., Fromm, D., Forbes, M., & MacWhinney, B. (2013). Developing a new

    procedure for assessing communication in severe aphasia: The Famous People

    Protocol. Poster presented at the 51st annual meeting of the Academy of

    Aphasia, Luzern, Switzerland, October 22, 2013.

Kaplan E., Goodglass H., & Weintraub S. (2001). *The Boston Naming Test, 2nd ed.*

    Philadelphia: Lippincott, Williams & Wilkins.

Kertesz, A. (2007). *Western Aphasia Battery Revised.* San Antonio, TX: Psychological

    Corporation.

Laska, A.C., Hellblom, A., Murray, V., Kahan, T., & Von Arbin, M. (2001). Aphasia in

    acute stroke and relation to outcome. *Journal of Internal Medicine, 249,* 413-

    422.

Llinàs-Grau, M. & Martínez-Ferreiro, S. (2014). On the presence and absence of *that*

    in aphasia. *Aphasiology, 28,* 62-81.

MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk. Third Edition.*

    Mahwah, NJ: Lawrence Erlbaum Associates.

Pashek, G., & Holland, A., (1989). Evolution of aphasia in the first year post onset.

Cortex, 24, 411-423.

Pederson, P., Vinter, K., Olsen, T.S. (2004). Aphasia after stroke: Type, Severity, and

Prognosis. *Cerebrovascular Disorders, 17,* 35-43.

Sekine, K. & Rose, M. (2013). The relationship of aphasia type and gesture

production in people with aphasia. *American Journal of Speech-Language

Pathology,* 662-672.

Thompson, C. K. (2010). Northwestern assessment of verbs and sentences –

experimental version. Evanston, IL: Northwestern University Press.

Table 1.

Aphasia types (in percentages) in AphasiaBank database and WAB Norming samples

	AphasiaBank (n=295)	WAB Norming Sample (n=150)
Anomic	34.0	27
Broca	26.4	16
Conduction	16.3	10
Global	2.0	17.3
Isolation	0	3
Transcortical Motor	3.0	2.7
Transcortical Sensory	1.0	5.3
Wernicke	8.1	18.7
Not aphasic by WAB	9.1	0*

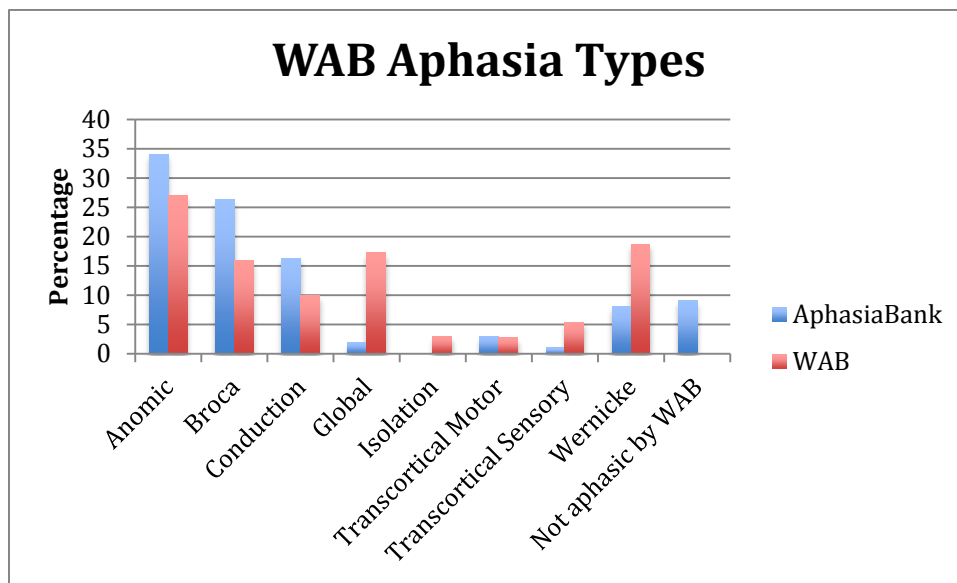*This category was not included in the WAB norming sample.

Figure 1. WAB Aphasia Types (in percentages) for AphasiaBank database and WAB norming sample.